Addendum No. 1
CSO-GC-SFS-OH CP3 - CSO Facilities for Gowanus Canal Construction Package CP3
October 12, 2026

ADDENDUM NO. 1 TO CONTRACT DOCUMENTS

PROJECT:	CSO Facilities for Gowanus Canal, OH CP3	**PROJECT NO.:**	CSO-GC-SFS-OH-CP3
OWNER:	NYCDEP	**DATE:**	October 12, 2026

To All Bidders:

Contractors submitting bids for the above-named project shall take note of the following changes, additions, deletions, clarifications, etc., in the Contract Documents, which shall become a part of and have precedence over anything contrarily shown or described in the Contract Documents, and all such shall be taken into consideration and be included in the Contractor's bid proposal.

(Please see attached pages.)

Plan holders wishing to submit bids should acknowledge receipt of this and all Addenda by listing the Addendum Numbers on the appropriate line of the Bid Booklet – Section B2, Acknowledgment of Addenda.



Addendum No. 1
CSO-GC-SFS-OH CP3 - CSO Facilities for Gowanus Canal Construction Package CP3
October 12, 2026

Changes to the Bid Documents

CONTRACT TERMS

Item 1. REPLACE Schedule A with the file shown in Attachment No. 1.

SPECIFICATIONS

Item 2. Specification Section 01 11 00 – Summary of Work, REPLACE list of documents available for inspection under Section 1.05.E.1 with the following:

a. Existing Conditions Report – OH, 2026, includes:
    1. Utility Information and As-builts
    2. Subsurface Survey Information
    3. Pre-Demolition Survey (PDS) Report
    4. NYC DSNY Site Improvements to Accommodate Community Composting – December 2014
    5. Geotechnical Investigation Report including:
        1. OH-007 Bulkhead Geotechnical Report (2020)
        2. OH-007 Preliminary Geotechnical Investigation Report (2017)
        3. OH-007 Geotechnical Information from EPA
    6. As-builts for the OH Bulkhead
b. Pre-Design Investigation (PDI) Report (March 2018)
    1. Supplemental PDI (October 2026)
    2. Phase II Investigation Report (February 2026)
c. Construction Protection Plan (CPP)
d. Construction Waste Estimate Report (CWER)
e. Sustainable Material Content Plan (SMCP)
f. Stormwater Pollution Prevention Plan (SWPPP)
g. Green Remediation Plan
h. Community Air Monitoring Plan (CAMP).

Item 3. Specification Section 01 51 00 – Temporary Water and Sanitary, DELETE paragraph 1.02.A, and REPLACE with "No separate payment should be made for performing work required under this Section. All costs for Work required by this Section and the costs/fees for setting up accounts with DEP for the provision and use of potable water to perform the Work included in this Contract shall be included in the applicable lump sum prices, unit prices or allowances as set forth in Section 01 27 00 - Measurement and Payment."

Item 4. Specification Section 01 73 12 – Maintenance of Operations and Construction Staging, ADD the following under Paragraph 3.02.A.5:

d. The pump station control system shall continuously monitor and record wet well and pump operating data. At a minimum, the system shall record the wet well level, pump run status, pump starts and stops, and cumulative run time. The 2nd Ave PS controls shall connect and transmit all recorded data to the Contractor supplied SCADA system for real-time monitoring, alarm management and storing historical data. The SCADA system shall provide trending of wet well level versus pump run time to allow operators to evaluate the flow rates, pump cycling frequency, station utilization, and changes in system performance over time.

Item 5. Specification Section 02 43 10 – Relocation of Utilities, ADD the Con Edison Section U package after Attachment A at the end of the Specification section. Section U package is provided as Attachment No. 2 of this Addendum.

Item 6. Specification Section 07 17 00 – Bentonite Waterproofing and 40 05 07 – Hangers and Supports for Process Piping, REPLACE spec reference throughout from 03 30 10 – Low Carbon Cast-in-place Concrete to Specification 03 30 00 – Cast in Place Concrete.

Item 7. Specification Section 27 42 19 – Public Information Systems, DELETE specification section in its entirety.

Item 8. Specification Section 40 67 16 – PMCS Panels and Enclosures – DELETE "Section 26 43 13 – Low-Voltage Surge Protection Devices" in the second sentence of Paragraph 2.03E.1.c and INSERT "Section 26 35 24 Power Conditioners".

Item 9. Specification 46 21 12 – Mechanically Cleaned Bar Screens, apply the following changes:

1. ADD the following under Section 2.01.C.

   C. Compliance with the requirements of this specification Section may necessitate modifications to the manufacturer's standard equipment. Equipment which is a "standard product" with the manufacturer shall be modified or redesigned from the standard mode, if necessary, or shall be furnished with special features, accessories, special material or finishes, etc. as may be necessary to conform with the requirements shown on the drawings and as specified herein.

2. ADD the word "Minimum" before Screenings removal capacity, cf/hr under Table in Section 2.04.E.1.

Item 10. Specification 41 22 13.13 – Bridge Cranes, DELETE "Hoist inching control" under Section 2.02.J.3.a.2).i.

Item 11. Specification 40 05 56 – Process Valves, Smaller than Four-inch Diameter, apply the following changes to Schedule 40 05 56-2:

a. REPLACE "Actuator Type" with "Operation" in the column headings
b. ADD "316L SS" under the column heading titled "Remarks"

EXHIBITS

Item 12. Include full versions of two of the Exhibits listed in 01 11 00 – Scope of Work, Section 1.05.E.1.b.1 and 2. These reports are provided as Attachment 3 and 4 of this Addendum.

1. Supplemental PDI (October 2026) – The Supplemental PDI is currently shown as draft; however, the data will be treated as final.
2. Phase II Investigation Report (February 2026) – Includes full Appendix B.

DRAWINGS

NONE

Addendum No. 1
CSO-GC-SFS-OH CP3 - CSO Facilities for Gowanus Canal Construction Package CP3
October 12, 2026

LIST OF ATTACHMENTS

Attachment 1. Schedule A
Attachment 2. Con Edison Section U Package
Attachment 3. Supplemental PDI (October 2026
Attachment 4. Phase II Investigation Report (February 2026)

SCHEDULE A

GENERAL CONDITIONS TO CONSTRUCTION CONTRACT
(INCLUDING GENERAL CONDITIONS RELATING TO ARTICLE 22 -- INSURANCE)

CONTRACT CSO-GC-SFS-OH CP3

PART I. REQUIRED INFORMATION

INFORMATION FOR BIDDERS **BID BOND** The **Contractor** shall obtain a bid bond in the amount indicated to the right.	5 % of Bid
INFORMATION FOR BIDDERS **PERFORMANCE AND PAYMENT BONDS** The **Contractor** shall obtain performance and payment bonds in the amount indicated to the right.	100 % of Bid
CONTRACT ARTICLE 14. **DATE FOR SUBSTANTIAL COMPLETION** The **Contractor** shall substantially complete the **Work** in the number of calendar days indicated to the right.	1,333 consecutive calendar days
CONTRACT ARTICLE 15. **LIQUIDATED DAMAGES** If the **Contractor** fails to substantially complete the **Work** within the time fixed for substantial completion plus authorized time extensions or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the amount indicated to the right.	$ 32,800 for each consecutive calendar day over substantial completion time
Section 01 32 10 – Progress Schedule Liquidated Damages	$ 500 per day for delay of submittals
Section 01 33 00 - Submittal Procedures Liquidated Damages	$1,500 per each additional submission of a Shop Drawing after the third submission.

CONTRACT ARTICLE 17. **SUB-CONTRACTOR** The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price indicated to the right.	Not to exceed __49_% of the **Contract** price
CONTRACT ARTICLE 21. **RETAINAGE** The **Commissioner** shall deduct and retain until the substantial completion of the **Work** the percent value of the **Work** indicated to the right.	__5_% of the value of the **Work**
CONTRACT ARTICLE 22. **(Per Directions Below)**	
CONTRACT ARTICLE 24. **DEPOSIT GUARANTEE** As security for the faithful performance of its obligations, the **Contractor**, upon filing its requisition for payment on **Substantial Completion**, shall deposit with the **Commissioner** a sum equal to the percentage of the **Contract** price indicated to the right.	1% of **Contract** price
CONTRACT ARTICLE 24. **PERIOD OF GUARANTEE** Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.	Section 32 90 00 – 2 years from Substantial Completion
CONTRACT ARTICLE 74. **STATEMENT OF WORK** The **Contractor** shall furnish all labor and materials and perform all **Work** in strict accordance with the **Contract Drawings**, **Specifications,** and all **Addenda** thereto**.**	Insert the Required Information Below.

CONTRACT ARTICLE 75. **COMPENSATION TO BE PAID TO CONTRACTOR** The **City** shall pay and the **Contractor** shall accept in full consideration for the performance of the **Contract**, subject to additions and deductions as provided herein, the total sum **shown in the column to the right,** this said sum being the amount at which the **Contract** was awarded to the **Contractor** at a public letting thereof, based upon the **Contractor's** bid for the **Contract.**	Amount for which the **Contract** was awarded: $ _____ [Agency: If the Bid Price, or any portion thereof, is based on unit prices, insert the words "Not to Exceed" before the amount.]

(GENERAL CONDITIONS RELATING TO ARTICLE 22 -- INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- **For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;**
- **Policy limits consistent with the requirements listed below;**
- **Additional insureds or loss payees consistent with the requirements listed below; and**
- **The number assigned to the Contract by the City (in the "Description of Operations" field).**

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Commercial General Liability Art. 22.1.1	The minimum limits shall be $__10,000,000____ per occurrence, $__20,000,000__ for personal and advertising injury, and $__20,000,000___ per project aggregate applicable to this Contract unless the Work requires a permit from the Department of Buildings and greater limits of Commercial General Liability Insurance are required pursuant to 1 RCNY section 101-08. Additional Insureds: 1. City of New York, including its officials and employees, with coverage at least as broad as ISO Forms CG 20 10 and CG 20 37, and 2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the **Contract** requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager). 3. U.S. Environmental Protection Agency 4. New York State Environmental Facilities Corporation 5. New York City Municipal Water Finance Authority

■ Workers' Compensation Art. 22.1.2 ■ Disability Benefits Insurance Art. 22.1.2 ■ Employers' Liability Art. 22.1.2 ☐ Jones Act Art. 22.1.3 ☐ U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.3	Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction. **Note**: The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (3) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance. Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. law.
■ Builders Risk Art. 22.1.4	100 % of total value of **Work** **Contractor** the Named Insured; the **City,** New York State Environmental Facilities Corporation, and New York City Municipal Water Finance Authority, both an Additional Insured and one of the loss payees as its interests may appear. If the **Work** does not involve construction of a new building or gut renovation work, the **Contractor** may provide an installation floater in lieu of Builders Risk insurance. Note: Builders Risk Insurance may terminate upon **Substantial Completion** of the **Work** in its entirety.
■ Commercial Auto Liability Art. 22.1.5	$ 2,000,000 per accident combined single limit If vehicles are used for transporting hazardous materials, the **Contractor** shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90

■ Contractors Pollution Liability Art. 22.1.6	$_2,000,000__ per occurrence $_4,000,000__ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. U.S. Environmental Protection Agency 3. New York State Environmental Facilities Corp. 4. New York City Municipal Water Finance Authority
■ Marine Protection and Indemnity Art. 22.1.7(a)	$_1,000,000_per occurrence $_2,000,0000_ aggregate Note: Contractor shall be required to provide this insurance only should he have deliveries or need access to work from the Gowanus Canal. Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
■ Hull and Machinery Insurance Art. 22.1.7(b)	$_1,000,000_per occurrence $_2,000,000_ aggregate Note: Contractor shall be required to provide this insurance only should he have deliveries or need access to work from the Gowanus Canal. Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

■ Marine Pollution Liability Art. 22.1.7(c)	$_1,000,000__ each occurrence Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

[OTHER] Art. 22.1.8 □ _____	*[If other type(s) of insurance need to be required under the **Contract**, the Contracting Agency should (a) check the box and fill in the type of insurance in left-hand column, and (b) in this right-hand column, specify appropriate limit(s) and appropriate Named Insured and Additional Insured(s). Note that if Railroad Protective Liability Insurance is required, the appropriate Named Insured is the owner of the railroad and there are no additional insureds.]*
[OTHER] Art. 22.1.8 □ _____	*[See directly above.]*

SCHEDULE A

GENERAL CONDITIONS TO CONSTRUCTION CONTRACT

PART III. BROKER'S CERTIFICATION

CERTIFICATES OF INSURANCE

Instructions to New York City Agencies, Departments, and Offices

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

(1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

(2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

SCHEDULE A

CITY OF NEW YORK
CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

_____
[Name of broker or agent (typewritten)]

_____
[Address of broker or agent (typewritten)]

_____
[Email address of broker or agent (typewritten)]

_____
[Phone number/Fax number of broker or agent (typewritten)]

_____
[Signature of authorized official, broker, or agent]

_____
[Name and title of authorized official, broker, or agent (typewritten)]

State of …….)
) ss.:
County of …….)

Sworn to before me this _____ day of _____ 20___

_____
NOTARY PUBLIC FOR THE STATE OF _____

SCHEDULE A
(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)

PART IV. ADDRESS OF COMMISSIONER

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth below or, in the absence of such address, to the **Commissioner's** address as provided elsewhere in this **Contract**.

[**Note to Contracting Agency**: Fill in Risk Manager, ACCO or other person responsible for insurance]

NYC Department of Environmental Protection
Office of the Agency Chief Contracting Officer
59-17 Junction Blvd., 17th Floor Bid Room
Flushing NY, 11373
Email: insurance@dep.nyc.gov

NO TEXT ON THIS PAGE

SCOPE OF WORK

submitted by

CONSOLIDATED EDISON OF NEW YORK, INC.

for inclusion of utility items under the Utility Interference "UI" Section

into the New York City Construction Contract

CSO-OH-007 - CP3

CSO Facilities for Gowanus Canal CP3

for the purpose of

SUPPORT, PROTECTION AND RELOCATION

OF ELECTRIC FACILITIES

Prepared By: Felix Wong
September 16, 2026

REFER TO CET SPECIFICATION MANUAL ISSUED NOVEMBER 2010

Consolidated Edison Company of New York, Inc.
Public Improvement Planning and Engineering
30 Flatbush Avenue, Brooklyn, New York 11217

LETTER OF TRANSMITTAL

To NYC Environmental Protection
96-05 Horace Harding Exp., 5th Floor LR
Corona, NY 11368

Date : **9/16/2026**	Contract No : **CSO-OH-007 - CP3**
ATTENTION : **Jesse Goldin PE, ENV SP**	
Bureau of Engineering Design and Construction	

Attached is Con Edison Utility Interference (UI) Package for Inclusion in N.Y.C. Contract

DESCRIPTION	No. of Pages
Con Edison Schedule U-1	1
Con Edison Letter of Inclusion	1
Con Edison Title Page	1
Con Edison Scope of Work	4
Con Edison Estimated Quantities	2
Con Edison Specs	10
Con Edison Utility Maps	5
Con Edison General Notes and Conditions	1
Con Edison Capital Relocation Plan	1
CONST-029 - Guideline Document for Public Improvement	29

Remarks _____

Submitted By : Calmore Alman **Received By :** _____

SCHEDULE U-1

CSO-OH-007 - CP3

CSO FACILITIES FOR GOWANUS CANAL CP3

LISTING OF COMPANIES NAMED FOR THIS CONTRACT

COMPANY NAME	CONTACT NAME	CONTACT TELEPHONE
CONSOLIDATED EDISON	DENNIS BRADY	(917) 608-3435
TIME WARNER	JOHN PIAZZA	(718) 977-8173
NATIONAL GRID	NEVILLE JACOBS	(718) 963-5612
VERIZON	AUBREY MAKHANLAL	(718) 977-8165
CABLEVISION OF N.Y.	SIMON GOMEZ	(917) 578-2695
RCN COMMUNICATIONS	JOEY MAISONET	(718) 577-3279

Consolidated Edison Company of New York, Inc.
Public Improvement Planning and Engineering
30 Flatbush Avenue, Brooklyn, New York 11217

"STANDARD UTILITY LETTER OF AGREEMENT"

September 16, 2026

Jesse Goldin, P.E., ENV SP
Accountable Manager, Bureau of Engineering Design
and Construction
NYC Department of Environmental Protection Low
Rise Building, 5th Floor
96-05 Horace Harding Expressway
Corona, NY 11368

RE : City Work Performed in the Presence of Private Utility Facilities
Project No.: CSO-OH-007 - CP3 - CSO Facilities for Gowanus Canal CP3

Dear Jesse Goldin:

This letter is to certify that **Consolidated Edison** , has requested the inclusion of the attached "Utility Interference (UI) Section: Additional contract requirements applying to work performed in the presence of privately owned utility." The company agrees to abide by the terms of the UI Section and to submit a schedule listing the scope of work, including the items and estimated quantities, and types of utility facilities to be supported and protected at the company's own expenses due to interferences with the Public work.

Sincerely,

Calmore Alman
By: Authorized Company Representative

Project Engineer, Public Improvement Engineering
Title

UTILITY INTERFERENCE

FOR INFORMATION ONLY

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR CONSOLIDATED EDISON

CSO-OH-007 - CP3

CSO FACILITIES FOR GOWANUS CANAL CP3

CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 101.1	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1)	EA	13
CET 101.2	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .2)	EA	2
CET 101.3	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3)	EA	1
CET 101.4	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .4)	EA	1
CET 300	SPECIAL CARE EXCAVATION AND BACKFILING	CY	107
CET 301	SPECIAL CARE HAND EXCAVATION OIL-O-STATIC ENCROACHMENT	CY	33
CET 303 T	FURNISH, DELIVER AND INSTALL THERMAL SAND BACKFILL (SPECIAL ITEM)	CY	33
CET 306	EXCAVATION REQUIRING SPECIAL CARE ON ACCOUNT OF ENCROACHMENT & PARALLELING UTILITY FACILITIES UNDER CITY TRENCH (SPECIAL ITEM)	CY	33
CET 330E-A.1	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/O SHEETING (TYPE .1)	LF	100
CET 400	TEST PITS FOR UTILITY FACILITIES	CY	25
CET 450.1	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1)	CRHRS	8
CET 450.2	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2)	CRHRS	24
CET 450.3	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3)	CRHRS	16
CET 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	LF	325
CET 501	REMOVAL OF ABANDONED MASONRY FOR ELEC. AND TEL. FACILITIES	CY	13
CET 636 RM	REBUILDING & MODIFICATIONS OF UTILITY STRUCTURE	CY	2
CET 700	SPECIAL MOD. OF WORK METHODS TO ACCOMM./ PROTECT U.G. FACILITIES WITH LIMITED COVER	CY	73

UTILITY INTERFERENCE

FOR INFORMATION ONLY

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR CONSOLIDATED EDISON

CSO-OH-007 - CP3

CSO FACILITIES FOR GOWANUS CANAL CP3

CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 803.1	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED W/ ROADWAY REMOVAL (ASPHALT)	LF	100

CET 101.1 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1)** **EA**

At the following locations:

N/W/C 2nd Ave. and 5th St.
W/S 2nd Ave. Btwn. 5th St. and 6th St.
W/S 2nd Ave. Btwn. 6th St. and 7th St.
W/S 2nd Ave. Btwn. 8th St. and 7th St.
N/S 8th St. Btwn. 2nd Ave. and 3rd Ave.

Total Quantity for CET 101.1 = 13

CET 101.2 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .2)** **EA**

At the following locations:

W/S 2nd Ave. and 5th St.
W/S 2nd Ave. and 6th St.

Total Quantity for CET 101.2 = 2

CET 101.3 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3)** **EA**

At the following locations:

Int. 2nd Ave. and 8th St.

Total Quantity for CET 101.3 = 1

CET 101.4 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .4)** **EA**

At the following locations:

Int. 3rd Ave. and 8th St.

Total Quantity for CET 101.4 = 1

CET 300 **SPECIAL CARE EXCAVATION AND BACKFILING** **CY**

At the following locations:

W/S 2nd Ave. and 5th St.
N/W/C 2nd Ave. and 5th St.
Various Locations
Int. 3rd Ave. and 8th St.
Int. 2nd Ave. and 8th St.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 300 = 107

CET 301 **SPECIAL CARE HAND EXCAVATION OIL-O-STATIC ENCROACHMENT** **CY**

At the following locations:

Int. 3rd Ave. and 8th St.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 301 = 33

CET 303 T **FURNISH, DELIVER AND INSTALL THERMAL SAND BACKFILL (SPECIAL ITEM)** **CY**

At the following locations:

Int. 3rd Ave. and 8th St.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 303 T = 33

CET 306 **EXCAVATION REQUIRING SPECIAL CARE ON ACCOUNT OF ENCROACHMENT & PARALLELING UTILITY FACILITIES UNDER CITY TRENCH (SPECIAL ITEM)** **CY**

At the following locations:

Int. 3rd Ave. and 8th St.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 306 = 33

CET 330E-A.1 **SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/O SHEETING (TYPE .1)** **LF**

At the following locations:

Various Locations

Total Quantity for CET 330E-A.1 = 100

CET 400 **TEST PITS FOR UTILITY FACILITIES** **CY**

At the following locations:

Various Locations
Int. 3rd Ave. and 8th St.

Total Quantity for CET 400 = 25

CET 450.1 **CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1)** **CRHRS**

At the following locations:

Various Locations

Total Quantity for CET 450.1 = 8

CET 450.2 **CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2)** **CRHRS**

At the following locations:

Various Locations

Total Quantity for CET 450.2 = 8

CET 450.3 **CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3)** **CRHRS**

At the following locations:

Various Locations

Total Quantity for CET 450.3 = 8

CET 500 **REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)** **LF**

At the following locations:

N/W/C 2nd Ave. and 5th St.
W/S 3rd Ave. and 8th St.
W/S 2nd Ave. Btwn. 8th St. and 7th St.
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 500 = 325

CET 501 **REMOVAL OF ABANDONED MASONRY FOR ELEC. AND TEL. FACILITIES** **CY**

At the following locations:

W/S 2nd Ave. Btwn. 8th St. and 7th St.
W/S 3rd Ave. and 8th St.
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 501 = 13

CET 636 RM **REBUILDING & MODIFICATIONS OF UTILITY STRUCTURE** **CY**

At the following locations:

Int. 2nd Ave. and 8th St.
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 636 RM = 2

CET 700 **SPECIAL MOD. OF WORK METHODS TO ACCOMM./ PROTECT U.G. FACILITIES WITH LIMITED COVER** **CY**

At the following locations:

Various Locations

Int. 3rd Ave. and 8th St.

Int. 3rd Ave. and 8th St.

AS SHOWN ON CONTRACT DRAWINGS AND DIRECTED BY A CON EDISON REP.

Total Quantity for CET 700 = 73

CET 803.1 **LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED W/ ROADWAY REMOVAL (ASPHALT)** **LF**

At the following locations:

Int. 3rd Ave. and 8th St.

Total Quantity for CET 803.1 = 100

GENERAL NOTES AND CONDITIONS

GENERAL

1. THE CONTRACTOR SHALL BE REQUIRED, WHEN WARRANTED BY FIELD CONDITIONS, AND AT LOCATIONS DESIGNATED BY THE RESIDENT OR BOROUGH ENGINEER, TO CHANGE THE VERTICAL OR HORIZONTAL ALIGNMENT OF WATER MAINS INCLUDING BUT NOT LIMITED TO ALL ADDITIONAL LABOR, FURNISHING, DELIVERING, AND LAYING OFFSET FITTINGS AND PIPES NECESSARY IN ORDER TO COMPLETE WATER MAIN INSTALLATION AND AVOID ELECTRIC, TELEPHONE, NON COST SHARING GAS, STEAM AND CABLE TV INTERFERENCES IN THE PROJECT AREA. SUCH WORK SHALL BE PERFORMED AS DIRECTED BY THE RESIDENT ENGINEER AND IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND LATEST EDITION OF THE BUREAU OF WATER SUPPLY STANDARD SPECIFICATIONS. SUCH WORK SHALL BE PAID UNDER APPROPRIATE CITY CONTRACT BID ITEMS AS DETERMINED BY THE RESIDENT ENGINEER.
2. EACH FACILITY OPERATOR SHALL PROVIDE INSPECTORS AT THE WORK SITE TO MONITOR AND INSPECT METHODS OF WORK INCLUDING THE MAINTENANCE AND SUPPORT AND RELOCATION OF UTILITY FACILITIES, VERIFY QUANTITIES AND ITEMS OF UTILITY WORK, COORDINATE ALL PHASES OF THE FACILITY OPERATOR'S OPERATIONS, AND PROVIDE GUIDANCE WITH RESPECT TO BOTH UTILITY INTERFERENCE AND RELOCATION WORK. THE CITY RESIDENT ENGINEER SHALL CONSULT WITH THE FACILITY OPERATOR AND SHALL HAVE COMPLETE AUTHORITY FOR THE ADMINISTRATION OF ALL WORK UNDER THE CONSTRUCTION CONTRACT.
3. ALL PRIVATE UTILITY FACILITY WORK (SUPPORT, PROTECTION, REMOVAL) ASSOCIATED WITH THE NEW YORK CITY TRANSIT AUTHORITY PORTION OF THIS PROJECT SHALL BE PAID DIRECTLY BY THE TRANSIT AUTHORITY AND NOT THE PRIVATE UTILITY FACILITY OPERATORS.
4. ANY REQUESTS FOR ADDITIONAL AND/OR MODIFICATIONS TO THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) PLAN, FOR THE PRIVATE UTILITIES, SHALL REQUIRE THE APPROVAL OF THE RESIDENT ENGINEER IN CONSULTATION WITH THE FACILITY OPERATOR. MODIFICATIONS REQUIRED TO PERFORM JB ITEMS, INCLUDED THE UTILITY JOINT BID SCOPE OF WORK, BEYOND THOSE ESTABLISHED IN THE CONTRACT MPT PLAN IS DEEMED INCLUDED IN THE COSTS ASSOCIATED WITH THE APPLICABLE JB CONTRACT BID ITEM.
5. WHEN UTILITY FACILITIES LIE WITHIN OR AT THE LIMITS OF THE PROPOSED CITY TRENCH, THE CONTRACTOR SHALL MODIFY THE SHEETING METHOD, SUBJECT TO THE APPROVAL OF THE FACILITY OPERATOR AND THE RESIDENT ENGINEER. ALL WORK SHALL BE PERFORMED WITHOUT RISKING THE INTEGRITY OF THE UTILITY FACILITIES AND SHALL BE DONE IN ACCORDANCE WITH JB 330E AND ALL SAFETY STANDARDS AS DIRECTED BY THE FACILITY OPERATOR.
6. PAVEMENT RESTORATION FOR ANY CON EDISON WORK PERFORMED OUTSIDE THE CONTRACT LIMITS, SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNMENTAL AUTHORITY HAVING JURISDICTION. USING APPLICABLE BID ITEMS 4.02AG, 4.02CA, AND 4.04HD AS DIRECTED BY THE FACILITY OPERATOR IN CONSULTATION WITH THE RESIDENT ENGINEER.
7. OUTSIDE OF JB 100 SPECIFICATIONS, ANY SUPPORT DESIGN REQUIREMENT SHALL BE PROVIDED BY THE CITY CONTRACTOR AND APPROVED BY THE PRIVATE FACILITY OPERATORS.
8. WHEN OIL-O-STATIC LINES LIE WITHIN OR IN THE LIMITS OF THE PROPOSED MASS EXCAVATION, THE CONTRACTOR SHALL SUPPORT, PROTECT AND MAINTAIN THE OIL-O-STATIC LINES. THE SUPPORT OF THE OIL-O-STATIC LINES INCLUDING THE DESIGN OF THE SUPPORT SYSTEMS, WHICH ARE SUBJECT TO THE APPROVAL OF CON EDISON, SHALL BE INCLUDED IN THE JB 410 ITEM.
9. THE "DIGITAL DATA" IS AN INFORMATIONAL RECORD OF THE APPROXIMATE LOCATIONS OF THE FACILITIES OF CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. ("CON EDISON") BASED ON AVAILABLE RECORDS AND TESTING DATA. NO REPRESENTATION IS MADE AS TO THE ACCURACY OF THE LOCATIONS OF CON EDISON'S FACILITIES AS SHOWN ON THE DIGITAL DATA AND CON EDISON EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY WITH RESPECT TO ANY INFORMATION INCLUDED IN THE DIGITAL DATA.

APPLICABLE CODES AND STANDARDS

1. WHERE DOCUMENTS ARE REFERENCED IN THE GENERAL AND/OR DESIGN NOTES THEY SHALL BE THE LATEST EDITIONS, UNLESS OTHERWISE NOTED.
2. ALL UTILITY WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE APPLICABLE UTILITY COMPANY. CONTRACTOR SHALL REVIEW COPIES OF APPLICABLE UTILITY STANDARDS AS THEIR REQUIREMENTS MAY EXCEED/DIFFER FROM THOSE REQUIRED BY NYC, NYS OR OSHA. IN ALL CASES THE STRICTER REQUIREMENT SHALL CONTROL.
3. CHANGES/MODIFICATIONS TO CITY SEWERS, CATCH BASINS, CHUTE CONNECTIONS, AND WATER MAINS SHALL CONFORM TO NYCDDC SPECIFICATIONS AND AS SHOWN ON APPLICABLE JOINT BID SPECIFICATIONS.
4. THE CONTRACTOR WILL ADHERE TO ALL CODE 753 REQUIREMENTS PRIOR TO PERFORMING ANY EXCAVATIONS.
5. IN AREAS WHERE CONGESTED UNDERGROUND INFRASTRUCTURES EXIST, THE CITY RESIDENT OR BOROUGH ENGINEER MAY WAIVE CITY STANDARD MINIMUM CLEARANCE REQUIREMENTS. WHEN CLEARANCES ARE LESS THAN 12 INCHES, A NEOPRENE/POLYETHYLENE SHIELD, FURNISHED BY THE APPLICABLE FACILITY OPERATOR(S) SHALL BE INSTALLED BY THE CONTRACTOR, AS DIRECTED BY THE RESIDENT ENGINEER IN CONSULTATION WITH THE FACILITY OPERATOR AND IS CONSIDERED PART OF ALL WORK ITEM SPECIFICATIONS. PAYMENT FOR THIS WORK SHALL BE DEEMED INCLUDED IN THE APPROPRIATE BID ITEM.
6. THE FOLLOWING SPECIFICATIONS ARE AVAILABLE FOR CONTRACTOR REVIEW WITH THE DDC:
   - A. CON EDISON STEAM SPECIFICATION 122, LATEST REVISION
   - B. CON EDISON TRENCHING MANUAL, LATEST REVISION
   - C. CON EDISON GAS GENERAL SPECIFICATION NO. 117, LATEST REVISION
   - D. GAS CONSTRUCTION SPECIFICATION NO. 900, LATEST REVISION
   - E. BELL SYSTEM PRACTICE 622-505-210, DATED APRIL 1974 – MANHOLES
   - F. BELL SYSTEM PRACTICE 919-240-300, DATED DEC. 1974 – MANHOLES
   - G. CON EDISON CONSTRUCTION STANDARDS, SPECIFICATIONS AND DRAWINGS FOR EXCAVATING TRENCHES AND OPENINGS AND INSTALLING OUTSIDE PLANT ELECTRIC FACILITIES.

PROJECT DOCUMENTS

1. THIS SET OF UTILITY DRAWINGS TOGETHER WITH THE CONTRACT AND NOTED UTILITY SPECIFICATIONS, CONSTITUTES THE COMPLETE DOCUMENTATION BY WHICH ALL CONTRACT WORK SHALL FOLLOW.
2. IN PROJECTS WITH UNDEFINED SCOPE, THE CONTRACTOR SHALL REQUEST UTILITY MAPS & PLATES FROM THE UTILITY OPERATOR FIELD REPRESENTATIVE. ALL INFORMATION CONTAINED IN SUCH DOCUMENTS IS SUBJECT TO FIELD VERIFICATION.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE PROPER SHORING AND BRACING DURING CONSTRUCTION WHENEVER AND WHEREVER NECESSARY, WHICH SHALL NOT BE REMOVED AS LONG AS REQUIRED FOR SAFETY AS DIRECTED BY THE RESIDENT ENGINEER.
4. IN THE EVENT THAT CERTAIN DETAILS OF CONSTRUCTION ARE NOT FULLY SHOWN OR NOTED ON DRAWINGS, CONSTRUCTION SHALL BE OF THE SAME TYPE AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR NOTED, SUBJECT TO THE APPROVAL OF THE FACILITY OPERATOR REPRESENTATIVE AND RESIDENT ENGINEER.

MATERIALS

1. ALL MATERIALS SUPPLIED BY THE FACILITY OPERATOR(S) SHALL BE DELIVERED FREE ON BOARD (F.O.B.) TO THE CONTRACTOR'S REQUESTED LOCATION. IT SHALL THEN BE THE CONTRACTOR'S RESPONSIBILITY AND EXPENSE TO THE DELIVER AND/OR DISTRIBUTE THE MATERIAL SUPPLIED BY THE FACILITY OPERATOR(S) TO THE REQUIRED JOB LOCATION(S) THEREAFTER.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY, TO INSPECT, UNLOAD AND VERIFY THE QUANTITIES OF FURNISHED SPECIALIZED MATERIAL IMMEDIATELY UPON DELIVERY AND ADVISE THE FACILITY OPERATOR(S) OF ALL DAMAGED MATERIAL. THE CONTRACTOR, AT NO ADDITIONAL EXPENSE TO THE CITY OR THE FACILITY OPERATOR(S), SHALL REPLACE ANY MATERIAL, WHICH IS DAMAGED OR LOST AFTER THE CONTRACTOR'S INSPECTION AND ACCEPTANCE. ALL ASSOCIATED COSTS ARE DEEMED INCLUDED IN THE APPLICABLE JOINT BID ITEMS.
3. GENERAL BACKFILL AND BEDDING MATERIALS FOR EXCAVATION AROUND CON EDISON FACILITIES SHALL BE PERFORMED IN ACCORDANCE WITH EO-1180, EO-1181, EO-8085, AND THE APPROPRIATE FACILITY INSTALLATION SPECIFICATION. ALL OTHER BACKFILLING SHALL SATISFY NYCDOT METHODS AND STANDARDS. ALL COSTS ASSOCIATED SHALL BE INCLUDED IN THE APPLICABLE JB ITEMS.

CONSTRUCTION SEQUENCE NOTES

THE FOLLOWING CONSTRUCTION SEQUENCING NOTES ARE ISSUED TO SUPPLEMENT THE CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO THE MAINTENANCE AND PROTECTION OF TRAFFIC PLANS AND JOINT BID ITEM SPECIFICATIONS. THE NOTES PROVIDED BELOW SHALL BE USED IN CONJUNCTION WITH SAID CONTRACT DOCUMENTS TO ESTABLISH THE SEQUENTIAL ORDER OF INSTALLATION OF NEW COMMUNICATION AND ELECTRIC UTILITIES, NON COST SHARING GAS, STEAM, AND CABLE TV AND THE CITY PLANNED WORK AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE THAT WILL INCLUDE THE UTILITY WORK TO VERIZON, CON EDISON, TIME WARNER CABLE AND RCN, FOR APPROVAL BY THE UTILITY FACILITY OPERATORS IN CONSULTATION WITH THE RESIDENT ENGINEER.

CONSTRUCTION SEQUENCING FOR PRIVATE UTILITY FACILITIES AND CITY WORK WITHIN THE ABOVE REFERENCED PROJECT

1. PRIOR TO MASS EXCAVATING, THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY FACILITY OPERATORS AND APPLICABLE CITY AGENCIES INCLUDING THE NEW YORK CITY TRANSIT AUTHORITY (NYCTA).
2. THE CONTRACTOR SHALL REMOVE THE EXISTING SURFACE AND BASE PAVEMENT FOR A WIDTH OF ROADWAY SPECIFIED IN THE MPT PLANS. CITY CONTRACT BID ITEMS, FOR THIS WORK, SHALL APPLY. AS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE ABANDONED TROLLEY TRACKS, INCLUDING YOKES AND OTHER APPURTENANCES.
3. THE CONTRACTOR SHALL PERFORM MASS EXCAVATION AS SPECIFIED IN JOINT BID ITEM NUMBER JB 410 – "MASS EXCAVATION", AND INDICATED IN THE THE MASS EXCAVATION PLAN. THE WIDTH OF EXCAVATION SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS IN ACCORDANCE WITH THE MPT PLANS AND AS DIRECTED BY ECS AND CON EDISON REPRESENTATIVES IN CONSULTATION WITH THE RESIDENT ENGINEER. THE LENGTH OF THE EXCAVATION SHALL BE AS REQUIRED TO FACILITATE THE DISPOSAL OF ALL EXCAVATED AND/OR REMOVAL OF MATERIALS. THE TOTAL LENGTH OF MASS EXCAVATION OPEN AT ANY ONE TIME SHALL BE CONSISTENT WITH THE MPT PLANS.
4. VERIZON, TIME WARNER CABLE, RCN AND CON EDISON REPRESENTATIVES, IN CONSULTATION WITH THE RESIDENT ENGINEER AND, IN COOPERATION WITH THE CONTRACTOR SHALL DETERMINE A SUITABLE LOCATION FOR INSTALLATION OF THE NEW PRIVATE UTILITY FACILITIES. ONCE THE LOCATIONS HAVE BEEN ESTABLISHED, THE CONTRACTOR WILL ASSUME FULL RESPONSIBILITY FOR THE LANES SELECTED AND WILL THEREBY GUARANTEES THAT THE NEW FACILITIES SHALL NOT OBSTRUCT THE PLANNED CITY CONTRACT WORK. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMMUNICATE IN WRITING, FOR EACH UTILITY LANE SELECTED, WHERE IN THE CONTRACTOR'S OPINION A LOCATION FOR THE INSTALLATION OF THE NEW UTILITY FACILITIES WILL OBSTRUCT THE PLANNED CITY WORK, SO THAT AN ALTERNATE APPROACH IS EVALUATED TO MITIGATE THE IMPENDING INTERFERENCE(S).
5. THE MASS EXCAVATION AND CONSTRUCTION OF NEW UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STAGED IN ACCORDANCE WITH THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) PLANS.
6. THE CONTRACTOR SHALL REMOVE EXISTING OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO RETIRED AND ABANDONED EXISTING FACILITIES AND STRUCTURES, AS REQUIRED FOR INSTALLATION OF THE NEW UTILITY FACILITIES, CATCH BASINS, CHUTE CONNECTIONS, WATER MAINS, ETC. THE REMOVAL AND RELOCATION WORK SHALL BE COVERED UNDER APPROPRIATE CITY AND/OR JOINT BID ITEMS AND SHALL BE COORDINATED WITH VERIZON, TIME WARNER CABLE AND CON EDISON REPRESENTATIVES, IN CONSULTATION WITH THE RESIDENT ENGINEER.
7. THE CONTRACTOR SHALL PERFORM MODIFICATIONS TO EXISTING UTILITY FACILITIES AND/OR STRUCTURES TO ACCOMMODATE THE NEW UTILITY FACILITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE FACILITY OPERATOR IN CONSULTATION WITH THE RESIDENT ENGINEER.
8. THE CONTRACTOR SHALL INSTALL THE NEW FACILITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. UPON COMPLETION OF THE INSTALLATION OF THE UTILITY WORK, THE CONTRACTOR SHALL BACKFILL, COMPACT AND INSTALL TEMPORARY PAVEMENT AS DIRECTED BY THE FACILITY OPERATOR IN CONSULTATION WITH THE RESIDENT ENGINEER.
10. WHERE APPROPRIATE, AND AS DIRECTED BY THE FACILITY OPERATORS IN CONSULTATION WITH THE RESIDENT ENGINEER, THE CONTRACTOR SHALL BE PERMITTED TO INSTALL THE CITY WATER MAINS, CATCH BASINS, CATCH BASIN CONNECTIONS, SEWERS, SEWER MANHOLES, AND OTHER CITY CONTRACT WORK ITEMS AND APPURTENANCES IN COORDINATION AND DURING THE MASS EXCAVATION OPERATION, ONLY IF THIS PHASING SERVES TO BENEFIT THE SEQUENCING OF THE PROJECT THAT WILL REDUCE THE OVERALL PROJECT TIME DURATION AND DOES NOT ADDITIONALLY BURDEN THE PRIVATE UTILITIES WITH UNANTICIPATED FINANCIAL EXPENSES, AND ONLY IF APPROVED BY THE PRIVATE FACILITY OPERATORS IN CONSULTATION WITH THE RESIDENT ENGINEER.
11. THE CONTRACTOR EXPLICITLY ASSUMES FULL RESPONSIBILITY AND ANY AND ALL ADDITIONAL COSTS INCURRED IF HE CHOOSES TO MODIFY THIS SEQUENCING PLAN WITHOUT THE CONSENT OF THE FACILITY OPERATORS IN CONSULTATION WITH THE RESIDENT ENGINEER.
12. ALTERNATE SEQUENCING IN PART OR TOTAL WILL BE CONSIDERED FOR APPROVAL, IF PROPOSED BY THE CONTRACTOR IN WRITING, TO THE FACILITY OPERATORS AND THE RESIDENT ENGINEER.
13. SEQUENCING OF LAYOUT WORK FOR PRIVATE UTILITIES, WHICH RELIEVES DIRECT INTERFERENCE, SHALL BE SCHEDULED, SEQUENCED AND PERFORMED PRIOR TO THE INSTALLATION OF CITY IMPROVEMENTS THAT ARE IMPACTED BY THE DIRECT INTERFERENCE.

SPECIAL CONDITIONS

1. TIME REQUIRED TO ACCOMPLISH ALL UTILITY SPECIALTY WORK, WHICH SHALL BE PERFORMED BY OTHERS HIRED BY THE FACILITY OPERATOR(S), HAS BEEN INCLUDED AS INDICATED IN SCHEDULE A, ALLOCATED FOR THIS PROJECT. UTILITY SPECIALTY WORK INCLUDES BUT IS NOT LIMITED TO ALL CABLE WORK INCLUDING; INSTALLATION, REMOVAL, SPLICING VERIFICATION OF LIVE/DEAD FACILITIES, INSTALLATION OF ALL TYPES OF GAS PIPING, CUTTING AND CAPPING GAS MAINS, LIVE GAS CONNECTIONS, SERVICE REPLACEMENTS, TESTING LIVE/DEAD GAS MAINS, ALL LIVE STEAM WORK, FLANGE REMOVAL, PIPE REPLACEMENT, WELDING, STEAM TRAP REPLACEMENTS, STEAM SERVICE REPLACEMENTS, ALL ASSOCIATED STEAM STRUCTURES REPLACEAND STEAM ANCHORS. THE CONTRACTOR WILL ENSURE THAT COMPLETE AND SAFE ACCESS TO THE PROJECT SITE IS MADE AVAILABLE TO THE SPECIALTY CONTRACTOR UPON REQUEST BY THE FACILITY OPERATOR REPRESENTATIVE AND IN WITH RESIDENT ENGINEER. THE CONTRACTOR MAY BE REQUIRED TO ASSIST THE FACILITY OPERATOR'S SPECIALTY CREWS (ELECTRIC, GAS, STEAM AND TELECOMMUNICATIONS) PERFORMING SPECIALTY WORK NOT INCLUDED IN CONTRACT BID ITEMS. THIS WORK MAY INCLUDE BUT IS NOT LIMITED TO, SUPPORTING, PROTECTING AND REMOVING EXISTING AND INSTALLING NEW FACILITIES. WHERE APPLICABLE, CONTRACTOR CONSTRUCTION FIELD SUPPORT WILL BE PAID UNDER CONTRACT BID ITEMS JB 450.1,JB 450.2 AND 450.3.
2. THE PRICE TO COVER FOR ALL JOINT BID ITEMS SHALL NOT INCLUDE ITEMS OF WORK WHICH ARE PAID FOR BY THE UTILITIES UNDER THE APPLICABLE SHARED COST ITEMS, INCLUDING, BUT NOT LIMITED TO, MPT ITEMS, TRAFFIC ENFORCEMENT AGENTS, FIELD OFFICE, ETC.
3. SPECIALTY WORK WHICH SHALL BE PERFORMED BY THE FACILITY OPERATOR(S) OR OTHERS HIRED BY THE FACILITY OPERATOR(S) SHALL INCLUDE BUT IS NOT BE LIMITED TO:

   3.1 VERIZON

   A. ALL CABLE WORK – EX. PLACING, SPLICING, VERIFICATION OF LIVE/DEAD FACILITIES, FAILURES, ETC. – SHALL BE PERFORMED BY VERIZON TENANTS.

   3.2 TIME WARNER CABLE

   A. RINGING AND RIPPING IRON/STEEL CONDUITS WHEN CABLES MUST BE REMOVED FROM THE CONDUITS SHALL BE PERFORMED BY TWC FORCES.
   B. ALL CABLE WORK – EX. PLACING, SPLICING, VERIFICATION OF LIVE/DEAD FACILITIES, FAILURES, ETC. – SHALL BE PERFORMED BY TWC TENANTS.

   3.3 AT&T AND RCN

   A. RINGING AND RIPPING ANY CONDUIT CONTAINING AN ACTIVE "LIVE" CABLE SHALL BE PERFORMED BY AT&T FORCES
   B. ALL CABLE WORK – EX. PLACING, SPLICING, VERIFICATION OF LIVE/DEAD FACILITIES, FAILURES, ETC. – SHALL BE PERFORMED BY AT&T FORCES.

   3.4 CON EDISON

   A. FREE, CLEAR, AND UNIMPEDED ACCESS TO ALL CON EDISON FACILITIES LOCATED INSIDE THE PROJECT LIMITS AND CONTRACTOR'S WORK ZONE/MPT SHALL BE DEEMED INCLUDED IN THE CONTRACT PRICES. NO ADDITIONAL PAYMENTS WILL BE FURNISHED FOR ACCESS TO THE SITE.
   B. UPON COMMENCENT OF THE WORK THE CONTRACTOR SHALL PROVIDE THE UTILITY OPERATOR, IN WRITING, THE NAME OF THE DESIGNATED ELECTRICALLY COMPETENT QUALIFIED MUNICIPAL CONTRACTOR EMPLOYEE.
   C. CON EDISON SHALL PERFORM ALL CABLE WORK – INSTALLATION, REMOVAL, SPLICING, AND VERIFICATION OF LIVE/ DEAD FACILITIES AND/OR FAILURE REPLACEMENTS.
   D. WHEN APPLICABLE, GAS WORK SHALL BE PERFORMED BY APPROVED AND QUALIFIED CONTRACTOR(S). THE CONTRACTOR(S) SHALL BE "GAS QUALIFIED CONTRACTOR(S)" AND/OR "GAS QUALIFIED SUB-CONTRACTOR(S)" AS DEFINED BY THE UTILITY OPERATOR(S). THE CONTRACTOR SHALL PERFORM INSTALLATION OF ALL TYPES OF GAS PIPING INCLUDING BUT NOT LIMITED TO CUTTING AND CAPPING GAS MAINS, LIVE GAS CONNECTIONS, SERVICE REPLACEMENTS, AND TESTING LIVE GAS MAINS, AS NEEDED.
   E. WHEN APPLICABLE, TRENCHING FOR GAS WORK WILL BE COVERED BY ITEM 6.09 UNDER THE EP-7 SPECIFICATIONS.
   F. DURING THE PERIOD FROM JUNE 1ST TO SEPTEMBER 15TH, SCHEDULING OF CON EDISON CABLE WORK WILL BE CONTINGENT UPON SYSTEM AND WEATHER CONDITIONS.
   G. DURING THE PERIOD FROM OCTOBER 1ST TO APRIL 15TH, SCHEDULING OF CON EDISON GAS AND STEAM WORK WILL BE CONTINGENT UPON SYSTEM AND WEATHER CONDITIONS.
   H. PERFORM ALL APPLICATION OF FIELD COATING AND WRAPPING ON OIL-O-STAIC FEEDER PIPES AT VARIOUS LOCATIONS, AS DIRECTED BY CON EDISON REPRESENTATIVES.
   I. ANY QUESTION ABOUT THE NATURE, TYPE, VOLTAGE AND LOCATION OF ENERGIZED OVERHEAD ELECTRICAL LINES OR EQUIPMENT WITHIN THE GEOGRAPHICAL LIMITS OF A NYCDDC PROJECT WORK SHALL BE DIRECTED TO THE AUTHORIZED CON EDISON REPRESENTATIVE. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR BE PERMITTED TO CONNECT OR TIE OFF OTHER UTILITY CABLES AND WIRES, SUCH AS TELEPHONE, CABLE TV AND FIRE ALARM, TO CON EDISON OVERHEAD FACILITIES.

   CON EDISON OVERHEAD ELECTRICAL DISTRIBUTION SYSTEMS

   CON EDISON'S OVERHEAD ELECTRIC DISTRIBUTION SYSTEM CONSISTS OF TWO VOLTAGE CLASSIFICATIONS, PRIMARY AND SECONDARY SYSTEMS. THE PRIMARY SYSTEM HAS VOLTAGES IN EXCESS OF 2,000 VOLTS BETWEEN ANY SINGLE CONDUCTOR AND GROUND, AND A VOLTAGE DIFFERENTIAL GREATER THAN 4,000 VOLTS BETWEEN ANY PAIR OF CONDUCTORS. THE SECONDARY SYSTEM HAS VOLTAGES RANGING FROM 120 TO 477 VOLTS.

   PRIMARY SYSTEMS

   PRIMARY SYSTEM CONDUCTORS ARE FOUND IN THE UPPER PART OF POLES AND ARE SOMETIMES CONNECTED TO TRANSFORMERS. PRIMARY CONDUCTORS MAY BE JACKETED OR BARE WIRE. THE JACKETING IS NOT INTENDED TO OFFER ANY PERSONAL PROTECTION OR INSULATING VALUE AGAINST ELECTRICAL HAZARD. THEREFORE, CONTRACTOR PERSONNEL AND EQUIPMENT SHALL MAINTAIN A 10 FEET CLEARANCE FROM THE CLOSEST PRIMARY CONDUCTOR, UNLESS APPROVED CONDUCTOR PROTECTION IS INSTALLED AND A 3 FEET MINIMUM CLEARANCE CAN BE OBTAINED.

   CON EDISON ALSO UTILIZES AN AERIAL CABLE SYSTEM THAT OPERATES AT PRIMARY VOLTAGES. AERIAL CABLE IS ELECTRICALLY INSULATED UNDERGROUND-TYPE CABLE, WHICH IS INSTALLED ON A MESSENGER WIRE AND HAS A GROUNDED EXTERIOR METALLIC SHEATH. CONTRACTOR PERSONNEL AND EQUIPMENT SHALL MAINTAIN A MINIMUM CLEARANCE OF 3 FEET FROM THESE FACILITIES.

   SECONDARY SYSTEMS

   CON EDISON'S SECONDARY SYSTEM CONDUCTORS ARE NORMALLY FOUND ON POLES ABOVE THE TELEPHONE CABLES AND CABLE TV WIRES. THEY PROVIDE POWER TO CUSTOMER SERVICE POINTS THROUGH SEVERAL CONFIGURATIONS THAT MAY CONSIST OF SINGLE OR MULTIPLE CONDUCTORS, STREETLIGHTS AND TRAFFIC SIGNALS.

   CONTRACTOR PERSONNEL AND EQUIPMENT SHALL MAINTAIN A 10 FEET CLEARANCE FROM THE CLOSEST SECONDARY CONDUCTOR, UNLESS APPROVED CONDUCTOR PROTECTION IS INSTALLED AND A 3 FEET MINIMUM CLEARANCE CAN BE OBTAINED.

   PRIMARY AND SECONDARY RISERS

   THE CONTRACTOR MAY ENCOUNTER LOCATIONS WHERE THERE IS A TRANSITION OF CABLE SYSTEMS FROM OVERHEAD TO UNDERGROUND. THE CONDUCTORS ARE INSULATED AND HOUSED IN CONDUIT. CONTRACTOR PERSONNEL AND EQUIPMENT ARE TO AVOID CONTACT WITH THESE FACILITIES.

   CONTRACTOR SHALL REFER TO SKETCHES JB 350A AND 350B FOR ADDITIONAL INFORMATION ABOUT THE TYPICAL ARRANGEMENT AND CLEARANCE REQUIREMENTS OF OVERHEAD ENERGIZED CONDUCTORS.

	SIGNATURES	DATE		SIGNATURES	DATE		SIGNATURES	DATE		SIGNATURES	DATE
conEdison	AUTHORIZED REPRESENTATIVE SIGNATURE	10/4/26	PSEG We make things work for you.			CABLEVISION			at&t		
	PRINT NAME CALMORE ALMAN	10/4/26									
verizon			nationalgrid HERE WITH YOU. HERE FOR YOU.			RCN BUSINESS			new york TIME WARNER CABLE at its best		

CITY OF NEW YORK
DEPARTMENT OF DESIGN + CONSTRUCTION
DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

GENERAL NOTES AND CONDITIONS
FOR UTILITY WORK

CSO FACILITIES FOR GOWANUS CANAL
CONSTRUCTION PACKAGE 3 - OH-007
BOROUGH OF BROOKLYN

PROJECT ID: **CSO-GC-SFS-DES-OH CP3**

Guideline Document for Public Improvement

CONST- 029 Revision Number 5

Purpose:	To update the Public Improvement Contractor Guideline document for safe work practices on Con Edison underground electric systems.		
Revision Date:	11-01-2022	Next Revision Due Date:	11-01-2027
Supersedes Date:	7-30-2020	Revision Cycle Period:	Once every 5 years

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EH&S	Glenn D. Newell	11/01/2022
Technical	S. Bux & E. Chiarelli	11/01/2022
Legal	Joeann Walker	11/01/2022

Summary of Changes:
1. Updated/Revised All Sections
2. Added New Appendices A & B

Training Requirements - N/A

DOJT/Course #, etc. Associated with this Operating Document:
None

Subject Matter Expert:	Eduardo Chiarelli	Approved Date:	11/01/2022	E. Chiarelli 11/3/2022
Approver Name:	Cherno Cham	Approved Date:	11/01/2022	11/03/2022

Paper copies of Operating Documents are uncontrolled and therefore may be outdated. Verify current version prior to use.

Consolidated Edison Company of New York, Inc.

Guideline

For

Safe Entry into Sub-Surface Structures (Electrical Enclosed Space),

Moving Energized Underground Cables

Removal of Conduit from Cables, and

Sub-Surface Structure Break Out, Rebuild & Breaking Out a Point of Entry (POE's) Into Sub-Surface Structures

Performed by

Municipal Contractors

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1.0 Definitions

1.1 Competent Person – As a general rule, a Competent Person is an individual who, by way of training and/or experience, is knowledgeable of OSHA and other applicable standards, can identify workplace hazards relating to the specific operation and is designated by the employer with the authority to take all appropriate actions necessary to comply with all applicable standards and take prompt corrective measures to eliminate the hazards. Some OSHA standards add additional specific requirements that must be met by the Competent Person.

1.2 Attendant – An authorized individual who is stationed outside a sub-surface structure or an Electrical Enclosed Space to monitor the authorized entrants and to perform duties assigned including aiding individual(s) inside the sub-surface structure or Electrical Enclosed Space.

1.3 Electrical Enclosed Space – OSHA defines an Electrical Enclosed Space as a working space, such as a manhole, vault, tunnel, service box, or shaft, used for the operation and maintenance of electric power generation, transmission, and distribution lines and equipment. An Electrical Enclosed Space has a limited means of egress or entry and is designed for periodic entry under normal operating conditions. Under normal conditions, an Electrical Enclosed Space does not contain a hazardous atmosphere but may contain a hazardous atmosphere under abnormal conditions.

1.4 CET Specification – CET Specification defining private utility work within Municipal Construction Contracts.

1.5 JB Specification – Joint Bid specification defining private utility work within a NYC DDC Capital contract.

1.6 Public Improvement Representative – Con Edison employee, (Inspector, Construction Representative, Chief Construction Inspector, Project Specialist, or Manager) assigned to the Public Improvement section.

1.7 Municipal Contractor – Construction municipal contractor performing work for Municipal, State or other Public Agencies or Authorities.

1.8 Electrically Competent Qualified Municipal Contractor – is a Municipal Contractor employee designated and documented by the Municipal Contractor employer, in writing, as the electrically competent and qualified person who, by way of training and/or experience has the skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment, can identify non-insulated conductors from insulated conductors and/or cables and has the knowledge of the precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools that are required for working on or near exposed energized electrical equipment. The Electrically Competent Qualified Municipal Contractor (ECQMC) employee can identify varying workplace electrical hazards relating to the specific operation and has the authority to take appropriate actions, as required. To meet the task specific qualifications of this guideline, the ECQMC employee must be familiar with this document, be able to demonstrate adherence, conduct job briefings and be present during critical tasks and/or operations to ensure that all crew members understand hazards associated with the job, work

procedures involved, special precautions, energy source controls and personal protective equipment requirements. The ECQMC should be onsite during the performance of all tasks in which ECQMC employees may be exposed to electrical hazards either noted in applicable sections of this guideline and/or listed in Appendix B – PI Check Point Tasks.

2.0 References

2.1 OSHA Section 1910.269 – Electric Power Generation, Transmission & Distribution & 1926 Subpart V –Electric Power Transmission and Distribution

2.2 Training

The OSHA Office of Training and Education (OTE) develops, directs, oversees, manages and ensures implementation of OSHA's national training and education policies and programs in support of OSHA's strategic goals with the objective of reducing occupational hazards through direct intervention, promoting a safety and health culture through compliance assistance, cooperative programs and strong leadership and maximizing OSHA effectiveness and efficiency by strengthening capabilities and infrastructure.

All Municipal Contractor employees shall be trained in and familiar with the safety-related work practices, safety procedures, and other safety requirements in section 1910.269(a)(2) and 1926 Subpart V that pertains to the Municipal Contractor employees' respective job assignments. Municipal Contractor employees shall also be trained in and familiar with any other safety practices, including emergency procedures, such as manhole rescue, that are not specifically addressed by this referenced section but that is related to their work and is necessary for their safety.

Con Edison manhole inspection and underground awareness training can be scheduled through the Con Edison TLC upon request of the municipal contractor. OSHA 10 certification cards and CPR / First Aid training are prerequisites.

2.2.1 Electrically Competent Qualified municipal contractors shall also be trained and competent in:

a- The skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment

b- The skills and techniques necessary to determine exposed live parts from other parts, (determination of non-insulated conductors from insulated conductors / cables).

c- The knowledge of the precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools that are required for working on or near exposed energized parts of electrical equipment. Generally, the Municipal Contractor will not be required to work on or near exposed/non-insulated energized parts of electrical equipment or cables. In the event special conditions exist requiring working near exposed/non insulated energized parts of electrical equipment or

cables, the Municipal Contractor shall cease working and immediately contact the authorized Con Edison Inspector so that a further assessment of the condition can be evaluated, and appropriate guidance provided.

d- The Electrically Competent Qualified Municipal Contractor employee shall determine, through regular supervision and through inspections conducted on at least an annual basis that each Municipal Contractor employee is complying with the safety-related work practices outlined in this guidance document. Prior to entry into structures outlined in this procedure, the ECQMC employee shall ensure that any employee entering is trained and qualified.

2.2.2 A Municipal Contractor employee shall receive additional training (or retraining) by the Electrically Competent Municipal Contractor under any of the following conditions:

a- If the Electrically Competent Qualified Municipal Contractor employee indicates that the Municipal Contractor employee is not complying with safety-related work practices

b- If new technology, new types of equipment, or changes in procedures necessitate the use of safety-related work practices that are different from those which the Municipal Contractor employee would normally use

c- If the Municipal Contractor employee must employ other safety-related work practices that are not normally used or that require modification from those stated in this guidance document

Note: OSHA requires retraining before commencing with a task that has not been performed within one year.

The required training shall be of the classroom and/or on-the-job type. The training shall establish Municipal Contractor proficiency in the work practices required and shall introduce the procedures necessary for compliance. The Electrically Competent Qualified Municipal Contractor shall certify that each Municipal Contractor employee has received the training required and retains records of this training to be supplied upon request by Con Edison.

3.0 Safe Entry into Sub-Surface Structures, (Electrical Enclosed Space)

All subsurface electric cable systems and related components shall be considered to be energized until they have been verified as being de-energized by qualified Con Edison electrical personnel. Prior to the state of conduit removal operations, the identity and content of the facility (conduit and cable contained therein) shall be

verified utilizing applicable Con Edison maps & plates. In case of any safety concern, the option of de-energizing shall be discussed with the PI Representative. Caution shall always be employed whenever conduits are opened to expose the interior, even if the Con Edison maps and plates indicate no live facilities.

3.1 Purpose

To establish a guideline that shall be employed for safe entry into Con Edison sub-surface structures by Municipal Contractors.

3.2 Application

Municipal Contractor personnel

3.3 Guideline

This guideline provides the requirements for practices that shall be employed for safe entry into Con Edison sub-surface structures. Municipal Contractor personnel requiring entry into Con Edison sub-surface structures shall adhere to this guideline.

3.4 Inspection/Testing

Prior to entry into a Con Edison sub-surface structure, properly trained and qualified Con Edison electrical personnel must conduct an inspection. The inspection will determine if the condition of the electrical facilities contained therein is sufficient to allow need based unrestricted access. The Con Edison electrical personnel will communicate to both PI Representative and to the ECQMC personnel any safety precautions to be taken and that the subsurface structure is safe for entry and document such findings. Any condition deemed to be un-safe through this formal inspection process would preclude granting access.

An inspection must take place daily prior to Municipal Contractor entry. Once the cover is placed on the electric subsurface structure another inspection must occur prior to Municipal Contractor entry unless the ECQMC has met the requirements outlined in Section 4.7.a. Inspections include but are not limited to:

1) Testing for stray voltage by a qualified Con Edison employee or an ECQMC employee who has completed applicable Con Edison training courses.

2) Completion of atmospheric testing.

3) Determination that it is safe to enter the space.

4) A visual inspection for any abnormalities previously defined.

5) Communication of inspection results and hazards to the Con Edison inspectors and the municipal contractor supervisor.

6) A copy of the underground inspection form can be reviewed in the field with the PI Representative in consultation with the qualified Con Edison electrical personnel upon request by the ECQMC.

3.5 Job Briefing

The Electrically Competent Qualified Municipal Contractor in charge shall conduct a job briefing with the municipal contractor's employees involved before they start the job. The briefing shall cover: the hazards associated with the job; work procedures involved; special precautions; and personal protective equipment requirements. The Electrically Competent Qualified Municipal Contractor shall instruct that all cables are to be treated as energized. Additional briefings shall be held if significant changes, which might affect the safety of the municipal contractor's employees, occur during performance of the work. The Electrically Competent Qualified Municipal Contractor shall document completion of the job briefing. A copy of the documented job briefing shall be available upon request by Con Edison.

3.6 Attendants

While work is performed in a Con Edison sub-surface structure, a Municipal Contractor Attendant shall be available in the immediate vicinity to render emergency assistance. Sub-surface structure Attendants shall comply with applicable OSHA requirements.

3.7 Hazardous Atmosphere

Municipal Contractor personnel shall perform a documented hazardous atmosphere test before entry into any Con Edison sub-surface structure and perform continuous air monitoring in compliance with applicable OSHA requirements. Any atmospheric reading deemed to be un-safe would prohibit access to the structure. The Municipal Contractor shall immediately notify the authorized Con Edison Inspector.

3.8 Personal Protective Equipment

Municipal Contractor personnel requiring entry into Con Edison sub-surface structures shall refer to and comply with applicable OSHA requirements regarding the use of Personal Protective Equipment when performing this work. Con Edison also requires that Municipal Contractor personnel assigned to work inside Con Edison sub-surface structures shall always wear Flame Resistant (FR) Clothing with a rating of 8 cal/cm^2 or HR2, wear a retrieval harness, and that a retrieval device be on location. In addition, an atmospheric tester must be in use continuously anytime a structure is occupied. See section 3.9 for Matrix on Con Edison's Personal Protective Equipment Guideline.

3.9 Con Edison Personal Protective Equipment Guideline

	Task	Class 0 Gloves	FR Clothing	FR Hood	Blast Goggles	Face Shield	Safety Glasses
1	Pavement breaking	N	N				Y
2	Breaking out concrete encased duct	Y	Y			Y	Y
3	Moving energized primary cables that are located outside a structure while in proximity to joints	Y	Y	Y	Y		

4	Moving primary cables outside a structure (no joints involved)	Y	Y				Y
5	Moving energized secondary cables	Y	Y				Y
6	Hand excavate to locate precast ducts	N	N				Y
7	Hand excavate to locate direct buried cables	Y	Y				Y
8	Removing cable from conduit	Y	Y				Y
9	Breaking structure for POE from outside/inside	Y	Y			Y	Y
10	Breaking sub-structure walls	Y	Y				Y
11	Pulling rope within structure with energized cable	Y	Y				Y
12	Pulling rope in enclosed spaces	Y	Y				Y
13	Building a bench or platform within a subsurface structure to support or protect cables.	Y	Y				Y
14	Breaking out unknown precast electric duct	Y	Y				Y
15	Using digging bar over electric facility	Y	N				Y
16	Using digging bar over direct buried cables	Y	Y				Y
17	Using Pneumatic clay digger in vicinity of electric facility	Y	Y				Y
18	Installing forms for field-constructed sub- surface structures from inside the designed footprint when connected cables are present	Y	Y				Y
19	Installing forms for field-constructed subsurface structures from outside the designed footprint when connected cables are present	N	N				Y
20	Installing forms for field-constructed subsurface structure prior to first energization of new cables	N	N				Y
21	Saw cutting operation	Y	N				Y
22	Hand excavate to locate cable fault	Y	Y				Y
23	Hand excavating to find service dead leg	Y	Y				Y
24	Removing underground silo	Y	Y				Y
25	Regrade	Y	N				Y
26	Build/remove shunt box w/ energized cable inside	Y	Y				Y

3.10 Access

Municipal Contractor personnel shall not climb into or out of Con Edison sub-surface structures by stepping on cables or hangers.

4.0 Removal of Conduit from Cables, Moving Energized Underground Cables & Working in Open Trenches / Excavations that Contain a D-Fault.

4.1 Purpose

Establish a guideline that shall be employed by Electrically Competent Qualified Municipal Contractor personnel, meeting OSHA & Con Edison training requirements, when removing conduit from cables and moving Con Edison energized underground cables located outside or inside structures and working in open trenches / excavations that contain a cable with a D-Fault condition.

4.2 Application

Municipal Contractor personnel

4.3 Guideline

This guideline details the requirements for practices that shall be employed when moving Con Edison energized underground cables located inside or outside of Con Edison structures. Only Electrically Competent Qualified Municipal Contractor personnel who have been trained and meet necessary OSHA & Con Edison requirements for moving energized underground cables in accordance with the following directions shall perform movement of energized cables on the Con Edison system.

4.4 Job Briefing

The Electrically Competent Qualified Municipal Contractor in charge shall conduct a documented job briefing with the Municipal Contractor's employees involved before the start of the job. The briefing shall cover: the hazards associated with the job; work procedures involved; special precautions; and personal protective equipment requirements. The Electrically Competent Qualified Municipal Contractor shall instruct that all cables are to be treated as energized. Additional briefings shall be held if significant changes, which might affect the safety of the Municipal Contractor's employees, occur during the course of the work. The Electrically Competent Qualified Municipal Contractor shall document completion of the job briefing. A copy of the documented job briefing shall be available upon request by Con Edison.

4.5 Removal of Conduit from Cables

All subsurface electric cable systems and related components shall be considered energized. Caution shall always be employed whenever conduits are opened to expose the interior cable. Refer to Appendix A for additional requirements and resources.

4.5.1. Pre-cast Concrete Conduit

a- The conduit shall be fractured by striking the top end corner of the conduit with a 3 lb. hammer equipped with a non-conductive handle. When fracturing the conduit, all impact/chipping action shall be performed in such a manner to be directed across the top of the conduit away from any cable that may be inside of the conduit.

b- A small piece of the concrete conduit shall be chipped away so that a visual examination of the interior of the conduit can be made to verify the presence of cable. All impact/chipping actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

c- If cable is present, concrete-chipping operations shall continue until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operations. The remainder of the conduit shall be fractured using the 3 lb. hammer equipped with a non-conductive handle. Care shall be taken to avoid any impact upon the cable, either by direct or indirect hammer blows.

d- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 4.7, below.

4.5.2 Concrete Encased Conduit

a- The concrete encased conduit (including but not limited to pre-cast, fiber, tile, clay), shall be fractured by striking the top end corner of the conduit with a 3 lb. hammer equipped with a non-conductive handle. When fracturing the conduit, all impact/chipping action shall be performed in such a manner to be directed across the top of the conduit away from any cable that may be inside of the conduit.

b- For concrete encased conduit, it may be necessary to employ a handheld cold chisel (in conjunction with the 3 lb. hammer) to remove concrete encasement. If a chisel is utilized, all impact/chipping actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

c- If the concrete encasement is so dense as to render the use of a hammer and handheld chisel non-effective, an 8-pound sledgehammer may be employed. If neither of these devices proves effective, the use of a pneumatic chipping hammer will be permitted. The weight/size of the pneumatic chipping hammer shall not exceed 20 lbs. When utilizing a pneumatic chipping hammer, the device shall be securely positioned and be under close operator control at all times. The tool bit used for these operations shall be chisel shaped with a minimum width of two (2") inches. All impact/chipping actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

e- A small piece of the concrete conduit shall be chipped away to permit verification of the presence of cable inside the conduit.

f- If cable is present, concrete-chipping operations shall continue until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operation.

g- After installation of the shield material has been completed, continue removal of remaining conduit and encasement, using handheld and power tools.

h- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 4.7, below.

4.5.3 Wood Conduit

a- Wooden conduit shall be split using a handheld cold chisel and a 3 lb. hammer equipped with a non-conductive handle. All impact/chipping action shall be performed in such a manner to be directed across the top of the conduit away from the cable.

b- The chisel shall use to create a small window in the conduit that will permit a visual inspection of the conduit interior for the presence of cable.

c- If cable is present, wood conduit material shall continue to be removed until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operation.

d- After installation of the shield material has been completed, continue removal of remaining conduit

e- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 4.7, below.

4.5.4 HDPE Conduit

a- HDPE conduit shall be split using hand tools or a handheld pneumatic rotary cutting tool. All splitting/cutting actions shall be performed in such a manner to be directed across the top of the duct, away from the cable.

b- Pneumatic Rotary Cutting Tool – A pneumatic rotary cutting tool, with a depth guide, shall be used to score an access area in the surface of the conduit. Prior to application of the cutting tool to the surface of the conduit, the depth collar on the pneumatic rotary cutting tool shall be set so that the cutting bit will penetrate approximately ¾ of the wall thickness of the conduit. After the conduit has been cut to the maximum depth allowable (such that the bit does not fully penetrate the thickness of the conduit), a 3 lb. hammer shall be used to knock out the access area (window) outlined by the cutting tool. This will permit visual inspection of the conduit interior for the presence of cable.

c- If inspection of the interior of the conduit reveals that cable is present, a non-conductive protective shield barrier shall be inserted into the conduit between the conduit and cable. This shield material shall provide protection for the cable during the remaining conduit removal operations. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g., Norplex Micarta NEMA Grade G-3 or G-10) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operations.

d- If inspection of the conduit interior does not reveal the presence of cable, the remaining conduit may be removed using the tool choices mentioned in 4.5.4.a.

4.5.5 Metal Conduit

a. When removing metal conduit, the Municipal Contractor shall first excavate and expose a collar connecting two sections of conduit. Once the collar is accessible, split and/or cut the collar off with a cutting tool that has a depth guide to inspect the conduit interior for the presence of cable. If a metal conduit collar is NOT easily accessible or found within 20 to 40 feet of open excavation, proceed to section 4.5.5.b. Note: If the work to be performed is in response to a suspected natural gas leak or in the presence of natural gas, only the use of non-powered hand tools is allowed. If work is required in the presence of a natural gas leak, further guidance will be provided by the PI Representative in consultation with Con Edison's Gas Engineering Department

b. If a collar connecting two sections of conduit cannot be found, metal conduit will be split using hand tools and/or a handheld rotary cutting tool. All splitting actions will be directed across the top of the conduit, away from the cable. Note: If the work to be performed is in response to a suspected natural gas leak or in the presence of natural gas, only the use of non-powered hand tools is allowed. Further guidance will be provided by Gas Engineering.

c. Score the outline of an access area onto the surface of the conduit. Do not fully penetrate the conduit with the tool while making this outline.

d. Use this outline as a guide for further splitting and cutting operations that will eventually create a viewing window into the conduit.

e. If inspection of the conduit interior reveals the presence of cable, insert a non-conductive protective barrier between the cable and conduit wall. The barrier will provide physical protection for the cable during remaining conduit removal operations. Materials including, but not limited to, exterior grade plywood, lumber, and Norplex Micarta are acceptable. After the installation of the non-conductive protective barrier, the removal of the remaining conduit may proceed using the tool choices mentioned in section 4.5.5.b.

f. If inspection of the conduit interior does not reveal the presence of cable, the remaining conduit may be removed using the tool choices mentioned in section 4.5.5.b.

4.6 Visual Inspection

a- A visual inspection of cables located outside Con Edison structures that will be moved, shall be performed by Electrically Competent Qualified Municipal Contractor personnel or the authorized Con Edison Inspector.

b- After the conduits have been broken out (removed from the cables), the exposed cable(s) shall be inspected by the Electrically Competent Qualified Municipal Contractor personnel.

c- The cables shall be visually inspected by the Electrically Competent Qualified Municipal Contractor personnel and determined to be free from any of the defects that would prevent relocation. Cable(s) shall be free of cracks, tears, and evidence of oil stains, swelling, or melting of the insulation. Cables shall not have any exposed conductor.

4.7 Cable Moving Operations

a- Municipal Contractor personal shall not move any cables or splices within an electrical manhole. Moving cables within an electrical manhole and splices regardless of location may only be performed by qualified Con Edison electrical personnel unless the Municipal Contractor personnel has completed applicable Con Edison training courses and has provided written proof of said training to the PI Representative. Whenever cables located in open excavations are moved, the Municipal Contractor shall protect the cables by ensuring the cable jacketing is not subjected to sharp edges or over bending as it exits the existing structure or the footprint of the existing structure if said structure has been demolished or is in the process of being demolished and/or rebuilt.

b- Prior to moving any cables outside of a subsurface structure, the cables located within the associated connecting subsurface structures shall be inspected in accordance with Section 3.4 of this guideline.

c- Municipal Contractor personnel meeting the training requirements and experienced in moving Con Edison cables only shall move cables.

d- Cables shall not be moved until plastic “fair-leaders” are positioned at the duct edges to prevent chaffing damage.

e- Synthetic web slings having a minimum width of two (2) inches shall support cables that have been removed from conduit. Slings shall be used in a basket hitch configuration.

f- Conduit which house cables shall be supported using slings, cable, or rope. Conduits shall be supported in such manner as to maintain alignment with one another.

g- Maximum distance between support points shall be four (4) feet.

h- To prevent inadvertent over bending of the cables, the maximum vertical or horizontal offset between supports shall be one foot (1’) for cable that is supported outside of conduit. For cable that is being moved while still installed in conduit, the conduit shall not be offset more than one foot per four-foot section of conduit.

i- Each set of cables (cables from one duct/conduit) shall be moved individually. Cables from multiple ducts/conduits shall not be moved as a bundle.

j- Relocation of cables shall always be performed in a careful manner with the movement of cable under complete control. There shall be no sudden movements of the cable or the conduit that contains cable.

k- An observer shall be positioned to determine proper slack in structures and to ensure that joints remain properly supported on rack arms and specified offsets are maintained. This observation shall be performed from outside of the structure while the cable is being moved.

l- Allowable horizontal and vertical offsets shall be determined based on applicable CET or JB item sketches and/or as directed by the authorized Con Edison Inspector.

m- Cables shall not be permitted to fall freely from temporary supports.

n- All cables supported by slings shall be visually inspected by the ECQMC personnel at the beginning and end of each work shift to ensure that no cracks, leaks, or other defects have developed.

o- Cables shall be repositioned with care when being moved into their final position for the installation of split conduit.

4.8 Working in Open Trenches/Excavations that Contain an Energized a D-Fault

4.8.1 A D-Fault is defined as an abnormal condition found on an energized primary cable or splice that is presumed to be an indication of an impending fault. If the ECQMC personnel notices an abnormal condition on cable in a trench or excavation work must stop and the PI Representative shall be notified immediately to provide further guidance. If the PI Representative in consultation with qualified Con Edison electrical personnel deem the cable condition a D-Fault, the ECQMC personnel shall follow the directions noted below to continue work.

4.8.2 At distances greater than 20 feet from the energized D-Fault, no additional personal Protective Equipment (PPE) other than that referenced in Section 3.9 is required.

4.8.3 At distances greater than 10 feet but less than 20 feet from the D-Fault, a hard-hat mounted face shield is required in addition to PPE referenced in Section 3.9 above.

4.8.4 At distances greater than eight feet but less than 10 feet from the energized D-Fault, a hard-hat mounted full-face shield and a FR Hood in required in addition to PPE referenced in Section 3.9 above.

4.8.5 At distances less than eight feet from the D-Fault, no work shall be performed.

4.8.6 Movement of D-Faulted cable is strictly prohibited.

4.9 Personal Protective Equipment

Municipal Contractor personnel moving Con Edison energized cables shall refer to and comply with applicable OSHA requirements regarding the use of Personal Protective Equipment when performing this work. See Section 3.9 for Matrix on Con Edison's Personal Protective Equipment Guideline.

5.0 Sub-Surface Structure Break Out/Rebuild or Breaking Out a Point of Entry (POE's) in an Electrical Enclosed Space

The ECQMC must be present onsite with the municipal contractor crew to conduct the documented job briefing on each day any breakout operations are to be performed. This includes structure entry for POE, structure break out and/or rebuilds. The ECQMC shall address hazards, live cables, necessary PPE with other municipal contractor employees & request assistance from the PI Representative to arrange any required inspections with qualified Con Edison electrical personnel for any cable movement or adjustments. The ECQMC should refer to section 3.0 through 3.10 & section 4.7 of this procedure for all activities required prior to sub-surface structure entry and cable moving operations respectively. A copy of the documented job briefing shall be available upon request by Con Edison.

5.1 Activities Prior to Sub-Surface Structure Break Out, Rebuild or Creating POE's

5.1.1 Prior to the start of breakout operations, the location of all conduit and cable passing through the section of the wall and beneath the structure floor that is going to be broken out shall be visually identified inside and outside the structure.

5.1.2 When there is a potential for contact between the existing cables that have been visually identified and the tool being used to break the structure, the ECQMC shall discuss with the Public Improvement Representative if there is a possibility that Electric Operations can de-energize the cables that are in the potential zone of contact prior to breaking out the structure.

5.1.3 When the cables cannot be de-energized by Electric Operations then they must be protected by using acceptable non-conductive materials as noted in Section 5.2.

5.1.4 After cables have been protected, they shall be moved by qualified Con Edison electrical personnel or an ECQMC who has met the requirement of Section 4.7 above.

5.1.5 All primary cables shall be moved by or under the direct supervision of qualified Con Edison electrical personnel.

5.2 Structure or POE Break Out Operations

5.2.1 Using caution, expose the exterior sections for the structure that is required to be broken out typically done in 2' – deep vertical sections) by carefully excavating on the outside of the structure. If conduit has been identified to be passing under the structure, take necessary precautions noted below.

5.2.2 Visually identify all conduits and cables passing through the structure and beneath the structure floor as well.

5.2.3 When there is a potential for contact between the existing cables that have been visually identified and the tool being used to break out the structure walls, roof floor and/or POE, protect the cables using fire rated (FR) wood, phenolic board, cable shields or other acceptable non-conductive materials., Cables on the walls in the POE area shall also be protected from falling debris using FR wood even if there is no potential for contact with said cables and the tool being utilized to break the structure.

5.2.4 Once all conduits and cables have been identified and protected on both the inside and the outside of the structure walls and beneath

the structure floor; and the structural integrity of the proposed break out area has been confirmed using hand tools, use the appropriate tool (up to and including a 90-pound jackhammer) to break out the section of structure wall, roof or floor that was previously prepared for break out

5.2.5 If a jackhammer is being used for the structure wall, roof, floor or POE breakout operation, where feasible, support the tool from underneath to prevent slippage.

5.2.6 Where possible, the use of a 90 lb. jackhammer shall be avoided within 8" of a live conduit. If the ECQMC's competent person determines that the breakout can only be made using a jackhammer within 8" of live conduit, a physical barrier must be placed between the jackhammer and all facilities that could possibly come in contact with the jackhammer. The Municipal Contractor may then begin utilizing the 90 lb. jackhammer using a 3" bit or wider.

5.2.7 After the top sections of roof or wall has been broken out, continue to excavate down to expose the next section of that wall to be broken out and repeat the process starting with section 5.2.1

5.2.8 For all additional walls in the structure that need to be broken out, resume operation starting with section 5.1 of this procedure.

APPENDIX – A – Breaking Out Conduit Checklist, On-the-Job Training (OJT) & Video

Breaking-Out Conduit Pre-Job Checklist

Contractor	
Location	
Date and Time	

A new Breaking-Out Conduit Pre-Job Checklist must be completed by the Foreperson each time individuals enter or change roles, and each time a Job Briefing is administered.

Roles Review	*Name(s) of Individuals who will remain continuously on-site throughout this task's progress*	*Training in Compliance and Qualified for task?*	*Lead Person's Initials*	
			Con Edison	*Contractor*
Foreperson		Yes / No		
Individual Completing On-site Peer Check		Yes / No		
Laborer(s) performing break-out		Yes / No		
Con Edison On-Site Representative		Yes / No		

Layout and Activity Review	
Layout #	
Duct(s) in Trench/Manhole	
Duct Type (CD, CED, HDPE, Metal)	
Are there Primary / Secondary electric lines? - What is energized? At what voltages?	
Are duct banks clear of all debris?	
Is there line of sight and all edges and corners?	
Will cable be moved? If so, to where and how will it be supported?	
How will bodies and tools be positioned?	

Personal Protective Equipment	
☐ Safety Boots	☐ 0 kV Gloves (Test Date on gloves: _____)
☐ Hard Hat	☐ Leather Gauntlets
☐ Safety Glasses	☐ Is a Harness Required? (EO-10130)
☐ Face Shield	☐ FR Hood and Goggles (if Primary in structure)
☐ Flame Retardant Coveralls	

Tools - *All tools to be laid out in work area prior to start of activity*	
☐ Claw Hammer	☐ Chipping Gun, must be less than 20 lbs. - Recommended 2"-4" piston stroke and < 1,500 BPM
☐ Chisel with at least 2" wide flat bit	
☐ 3 lbs. Hammer	☐ Micarta or similarly approved half-moon material
☐ 8 lbs. Sledgehammer	☐ Pneumatic Rotary Cutting Tool and Blade (HDPE pipe)

DOJT –OJT0070
PROCEDURE FOR REMOVING CONDUIT FROM UNDERGROUND DISTRIBUTION CABLE

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PROCEDURE FOR REMOVING CONDUIT FROM UNDERGROUND DISTRIBUTION CABLE

- Underground electric cables are protected by conduit pipes which are buried under the roadway in the ground. The conduit protects the high voltage cables placed inside them from damage from shovels, digging bars and other work activities when excavating in the area to install new equipment. Even when using these manual devices to unearth existing ducts, extreme care must be taken not to pierce, cut, or break open the duct unless the safeguards listed in the following pages are used for your safety and the protection of the cables on the inside.
- A mechanical machine such as a backhoe should never be used to excavate around electric or gas facilities. The likelihood of the facility being damaged increases significantly when such practices are used.

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GETTING PREPARED TO LOCATE DUCTS

- Before removing asphalt and concrete roadbase make sure a code 753 has been called in with the 811 center and spray marks are in place on the ground showing the path of the electric and gas lines.
- Check the spray painted mark outs against the Con Edison plates and prints. (Layout diagram, Conduit plate, Composite Feeder Plate, Low Tension mains & service and Gas Mains & Service Plate). Ask your Con Edison Representative to review these prints and the markouts with you.
- Remove concrete and asphalt within your new work zone with machine. Load out debris.
- Use a backhoe only to dig up areas where you have verified that there are no electric or gas facilities.

3

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DIGGING IN AREAS WHERE YOU HAVE ELECTRIC, GAS FACILITIES, OR HAVE DISCREPANCIES BETWEEN THE MARKOUTS AND PRINTS

- Dig only using shovels and blunt edge digging bars to find electric and gas facilities. Never strike a blunt edged digging bar straight down into the soil. Precast, HDPE, Cast Iron & plastic gas mains/services can lie a few inches under the surface and the bar can still penetrate through them if you are not careful.
- When using a digging bar on hard, compacted soil, use a sideways striking motion toward the sides of the excavation, never straight down.
- Continuously remove soil from area, keep area clean of debris, locate ducts edge to edge to keep line of sight.
- Use air lance to blow out tight areas between facilities to visualize work zone.

4

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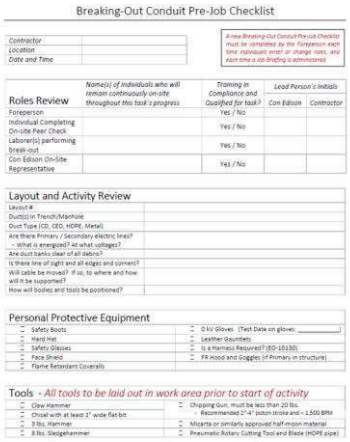
PRE-JOB CHECKLIST



Breaking-Out Conduit Pre-Job Checklist

Contractor	
Location	
Date and Time	

A new Breaking-Out Conduit Pre-Job Checklist must be completed by the Foreperson each time individuals enter or change roles, and each time a Job Briefing is administered.

Roles Review	Name(s) of individuals who will remain continuously on-site throughout this task's progress	Training in Compliance and Qualified for task?	Lead Person's Initials	
			Con Edison	Contractor
Foreperson		Yes / No		
Individual Completing On-site Peer Check		Yes / No		
Laborer(s) performing break-out		Yes / No		
Con Edison On-Site Representative		Yes / No		

Layout and Activity Review

Layout #	
Duct(s) in Trench/Manhole	
Duct Type (CD, CED, HDPE, Metal)	
Are there Primary / Secondary electric lines? - What is energized? At what voltages?	
Are duct banks clear of all debris?	
Is there line of sight and all edges and corners?	
Will cable be moved? If so, to where and how will it be supported?	
How will bodies and tools be positioned?	

Personal Protective Equipment

☐ Safety Boots	☐ 0 kV Gloves (Test Date on gloves: _____)
☐ Hard Hat	☐ Leather Gauntlets
☐ Safety Glasses	☐ Is a Harness Required? (EO-10130)
☐ Face Shield	☐ FR Hood and Goggles (if Primary in structure)
☐ Flame Retardant Coveralls	

Tools - *All tools to be laid out in work area prior to start of activity*

☐ Claw Hammer	☐ Chipping Gun, must be less than 20 lbs. Recommended 2"-4" piston stroke and ~ 1,500 BPM
☐ Chisel with at least 1" wide flat-bit	
☐ 3 lbs. Hammer	☐ Micarta or similarly approved half-moon material.
☐ 8 lbs. Sledgehammer	☐ Pneumatic Rotary Cutting Tool and Blade (HDPE pipe)

Adobe Acrobat Document

- A new Breaking-Out Conduit Pre-Job Checklist must be completed by the Foreperson each time individuals enter or change roles, and each time a Job Briefing is administered.
- All tools to be laid out in work area prior to start of activity

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PREPARE AREA FOR DUCT BREAK OUT

- Additional guidance for routine entry into electrical enclosed space is provided in GEHSI-S17.01 – Electrical Enclosed Space Entry.
- Once you have dug down and located duct banks make sure you clear all debris (soil, rocks) from the trench to visually have a line of site of all edges and corners.
- Determine if you need to remove the duct/s from the electrical conduit to move them to make room for the installation of additional new facilities. (WINGBACK).
- <u>If necessary to conduct a removal:</u> Address the PPE Requirements, work procedures and tools to be used on the following pages with the workers. Stress the importance of following procedures to avoid a high hazard injury such as shock or burns. Document in your safety briefing.

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PPE REQUIREMENTS DURING DUCT BREAKOUT IN A TRENCH OR ENCLOSED SPACE

NOTE: ONLY COTTON WORK CLOTHS UNDERNEATH FR SUITS

You must wear an FR coverall during all duct break out procedures. Remove jewelry (chains, watches, rings, earrings)



FR Coverall

You must wear Class 0 kV gloves, leather gauntlet leather protectors, helmet, safety glasses and face shield



Class 0 kV Gloves, Gauntlets, Safety Glasses, Face Shield, Helmet.

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PPE REQUIREMENTS DURING DUCT BREAKOUT IN AN ELECTRICAL ENCLOSED SPACE

NOTE: ONLY COTTON WORK CLOTHS UNDERNEATH FR SUITS

You must wear an FR coverall and rescue harness during all duct break out procedures inside the EES. Remove jewelry (chains, watches, rings, earrings)



FR Coverall & Rescue Harness

You must wear Class 0 kV gloves, leather gauntlet leather protectors, helmet, safety glasses and face shield



Class 0 kV Gloves, Gauntlets, Safety Glasses, Face Shield, Helmet.

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EQUIPMENT / TOOLS NEEDED FOR BREAKING OUT DUCTS

Precast Concrete Conduit



Only use small hammer to strike duct edges.

Insert Micarta to protect cable, keep striking away from center.

Slide Micarta along as you break off desired length of duct





Concrete Encased Duct

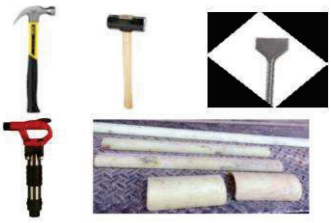


When breaking out concrete encased ducts the only tools to be used are: hammer, 3 lb. hammer With wood/plastic handle, chisel with 1.5" head, 8 lb. Sledgehammer by striking duct edges.

<u>If concrete is not breaking</u> with these tools, a 20 lb. chipping gun with a 1.5" head can be used.

Make a window in the Duct, slide in a Micarta board and continue breaking out the remaining duct.

See sequence on next page:



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CONCRETE ENCASED DUCT BREAKOUT SEQUENCE



Use a 3 lb. hammer striking edges.

Advance to hammer & chisel with 1.5" head

If this is still not working, go to #2

1



Use 8 lb. sledgehammer striking Edges, not center.

If this is still not working, go to #3

2



Use a **<u>lightweight Chipping gun</u>** with a 2 to 4" piston stroke with a **<u>1.5" head</u>** breaking toward edges, never straight down.

NEVER USE A JACKHAMMER, A RIVET BUSTER CHIPPING GUN, OR A BIT IN THE CHIPPING GUN LESS THAN A 1.5" HEAD. If this is still not working, go to #4

3



Visualize work zone when breaking away Material. Keep work zone clean. Remember That electrical ducts are usually stacked in Multiple rows and levels.

4

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BREAKING OUT INTERIORS OF CONCRETE/CLAY DUCTS



Find edges & visualize all ducts. Remember that There could be several across and underneath. Keep area clean, so you can tell configuration.

5



Break out window on each top duct found. Strike Away From the center.

6



Insert Micarta "half moon" protective insert in windows on ducts, Continue breaking top rows of ducts in a horizontal direction sliding Protective Micara down the run while breaking the top & sides.

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HDPE (PLASTIC) CONDUIT & STEEL DUCTS

Tools Needed









PPE Needed













3 pd. Hammer, 2" chisel, Rotary Cutting Tool & Blade, Micarta protective "half moon"

FR Coverall, Class 0 kV Gloves, leather gauntlets, safety glasses, face shield and helmet

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MAKING A WINDOW IN HDPE



Visualize top of duct bank, remove excess concrete chips & dirt.

Have line of site for sections to be removed

1



Use a rotary cutting tool to score a window In the HDPE pipe top.

Do procedure slowly and carefully.

Only score 90% of the way through the conduit.

2



Use hammer & chisel to cut away remaining plastic.

Strike away from center toward sides.
Never strike straight down.

3



Insert Micarta "half moon" protection board.

Slide horizontally into conduit. Continue to cut open the top of conduit to desired length, Moving the Micarta as you go.

Do each duct individually,

Do not lose your line of sight.

4

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MAKING A WINDOW IN METAL CONDUIT



Visualize top of duct bank, remove excess concrete chips & dirt.

Have line of site for sections to be removed

1



If you find a coupling connecting two Sections of metal duct, slide collar over, or cut off.

There may be a large enough section underneath to insert Micarta protection board for conduit removal.

2



Use a rotary cutting tool to score a window In the steel conduit pipe top.

Do procedure slowly and carefully.
Only score through 90% of steel conduit.

Use chisel and hammer to break away the rest striking away from center toward the corners

3



Insert Micarta "half moon" protection board. Slide horizontally into conduit. Continue to cut open top of conduit to desired length, moving Micarta as you go.

Do each duct individually,
Do not lose your line of sight.

4

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NEVER USE THESE TO FIND ELECTRICAL OR GAS FACILITIES



Never use a pickaxe



Never use a backhoe Bucket, or ramhoe attachment by electric of gas facilities



Never use a sharp digging Bar.
Use blunt edge bar in a sideways motion – never straight down



Never use a jackhammer to break out ducts, or use in the vicinity of a gas main or service.

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QR Code for Video

Breakout Conduit

players.brightcove.net

Breakout Conduit (Spanish subtitles)

players.brightcove.net

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Breaking Out Conduit Video -
https://players.brightcove.net/6012566853001/default_default/index.html?videoId=6283610511001

Appendix B – PI Check Point Tasks

Public Improvement (PI) - Check Point Tasks

A PI Check Point Task is defined as a construction activity involving Con Edison facilities that warrant a briefing or discussion with the PI Representative and the Municipal Contractor. This briefing should be documented by the Municipal Contractor in accordance with the applicable sections of the PI Guideline (CONST-029) and OSHA.

Work Category	Task
Demolish Manhole (MH)	Inspect MH
	Build False Roof
	Remove Forms
	Demolish Walls
	Demolish MH Floor
Build MH	Install Forms
	Remove Forms
Wingback	Inspect Site
	Break Out Conduits / Duct Systems
Excavation	Reivew Mark-Outs
	Excavate
Backfill	Backfill Facilities
Roadway Restoration	Mill, Pave and/or Reconstruct Roadway
Electric Pipe Install	Install Conduit or Duct Systems
Structure POE's	Inspect MH or Service Box (SB)
	Move Cable(s)
MH or Service Box (SB) Regrade	Inspect MH or SB

DRAFT | Prepared for

New York City Department of Environmental Protection

BODR Validation Services, Design Services and Design Services During Construction for the

Construction of CSO Abatement Facility at Gowanus Canal OH-007

Supplemental Pre-Design Investigation Report - OH-007

Contract: CSO-GC-SFS DES OH | PIN: 82620WP01534

October 2026

Hazen

Brown AND Caldwell



Photo Credit: Audrey Gray

Supplemental Pre-Design Investigation Report for Site OH-007 Gowanus Canal OH-007 Outfall
CSO-GC-SFS-DES OH Construction of CSO Abatement Facility at Gowanus Canal

Prepared for
New York City Department of Environmental Protection
October 2026

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List of Abbreviations

ASTM	American Society for Testing and Materials
BCP	Brownfield Cleanup Program
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and xylenes
COC	Constituent of Concern
CP	construction package
CP-51	Commissioner's Policy 51
CRAIG	Craig Geotechnical Drilling Co., Inc.
CSO	combined sewer overflow
DEC	New York State Department of Environmental Conservation
DEP	New York City Department of Environmental Protection
DNAPL	dense non-aqueous phase liquid
DOH	New York State Department of Health
DSNY	New York City Department of Sanitation
DUSR	Data Usability Summary Reports
EDR	Environmental Data Resources
ELAP	Environmental Laboratory Approval Program
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
FDNY	New York City Fire Department
ft	feet
HSBC	Hazen and Sawyer/Brown and Caldwell
LCS	laboratory control sample
LNAPL	light non-aqueous phase liquid
MG	Million gallon(s)
Mg/L	milligram(s) per liter
MGP	manufactured gas plant
MOSF	major oil storage facility
MRCE	Mueser Rutledge Consulting Engineers
MTBE	methyl tert-butyl ether
NAPL	non-aqueous phase liquid
NFG	National Functional Guidelines
OH	Owls Head
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PDI	predesign investigation
PGW	Protection of Ground Water
PID	Photo-ionization Detector
RCRA	Resource Conservation and Recovery Act
RT	internal standard area and retention time
SCO	Soil Cleanup Objective
SCPT	seismic cone penetration test
SOP	standard operating procedure
SPDI	Supplemental Pre-design Investigation
SPT	standard penetration testing
SSCOs	Supplemental Soil Cleanup Objectives
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
USCS	Unified Soil Classification System
UST	underground storage tank
VOCs	Volatile Organic Compounds

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Section 1
Introduction

1.1 Overview

This Supplemental Pre-Design Investigation (SPDI) Report presents results of the environmental sampling conducted in conjunction with the geotechnical investigation conducted by Mueser Rutledge Consulting Engineers (MRCE) along the proposed force main alignment related to the construction of a 4-million-gallon (MG) combined sewer overflow (CSO) facility for the CSO outfall Owls Head OH-007 in Brooklyn, New York and in select locations elsewhere on the OH-007 site to fill data gaps in areas that could not be accessed during the original PDI. The site, referred to as OH-007, is located adjacent to the CSO Outfall between Second Avenue and Fifth Street, and is immediately adjacent to the east side of the Gowanus Canal. The proposed force main alignment originates at the OH-007 CSO tank site, extends south along 2nd Avenue to 8th Street, then turns east along 8th Street, terminating at the intersection of 8th Street and 3rd Avenue (See Figure 1).

Construction of the conveyance piping will require excavation in urban fill material and in some cases natural material along the proposed alignment. The area is heavily industrial and the footprint of the excavation area for the force main may encounter potential contamination.

1.2 Objectives

The specific objectives of the environmental sampling implemented during the geotechnical investigation along the force main alignment were:

1. Document any subsurface contamination encountered by the geotechnical borings along the proposed force main alignment.
2. Screen soil for evidence of contamination including staining, sheens, nonaqueous phase liquid (NAPL), odors, and elevated photo ionization detector (PID) readings.
3. Measure contaminant concentrations in soil so that provisions for proper handling, treatment, and disposal or reuse can be included in the design documents.
4. Compare chemical analytical results with regulatory criteria to support the management of contaminated media and ensuring health and safety during construction.

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Section 2
Site Background

The area surrounding the Gowanus Canal, originally the natural water body known as the Gowanus Creek, was settled in the 1600s for farming and fishing. The Gowanus Canal was constructed on the Gowanus Creek between 1853 and 1869. The canal was used for transport of materials, including coal, lumber, petroleum, and asphalt to industries that were developed along the canal. Industries in the area included manufactured gas plants (MGPs), coal yards, cement makers, lumber yards, metal and woodworking operations, tanneries, paint and ink factories, chemical plants, oil refineries, and a variety of other industries.

2.1 Potential Contamination

Much of the proposed force main alignment corridors are in areas that has been and continue to be heavily industrialized. A Phase I Environmental Site Assessment (ESA) was conducted by Hazen and Sawyer/Brown and Caldwell, a Joint Venture (HSBC) in 2022. The Phase I ESA of the Site (HSBC, 2022) identified several historical and present-day industrial uses that potentially released hazardous substances or petroleum products into soils and groundwater. Below is a summary of sites that could potentially impact subsurface soil in the area of the proposed force main alignment.

Leaking UST and Free Phase Petroleum Product. The Site consists of Block 990 Lots 1 and 16 and the owner entered the two parcels in New York State Department of Environmental Conservation's (DEC) Brownfield Cleanup Program (BCP) in 2015. The BCP application describes a subsurface investigation conducted by the applicant to investigate potential impacts associated with an underground storage tank (UST) on one of the parcels. The investigation included a geophysical survey to locate the UST, and soil borings to evaluate soil quality in the vicinity of the tank. The geophysical survey identified an anomaly consistent with a UST, which was located adjacent to a fill port with a "fuel oil" cap and a vent pipe on the sidewalk in front of the building along 2nd Avenue. Free phase petroleum product, a light non-aqueous phase liquid (LNAPL), was observed in two soil borings. The BCP application also states that five petroleum spills were reported on the Site between 1994 and 2015. One spill, reporting gross soil contamination and free-phase petroleum-like material in soils, is currently open. Constituent of Concern (COCs) associated with leaking UST and petroleum include:

- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- Naphthalene
- Polycyclic aromatic hydrocarbons (PAHs)

Manufacturing Gas Plant. The former Citizens MGP is located directly across the Gowanus Canal from the Site to the west. It operated for approximately 100 years from the 1860s through the early 1960s. The 2017 PDI conducted on the New York State Department of Sanitation (DSNY) property documented the presence of MGP dense non-aqueous phase liquid (DNAPL) at several boring locations across the property. In addition, MGP DNAPL was also identified during the Phase II investigation activities in the privately owned parcel south of 5th Street. This DNAPL likely migrated within deeper strata (below the Gowanus Canal) from the Citizens MGP to locations on the DSNY property and south of 5th Street. In addition, MGP DNAPL migrated into one of the newly installed monitoring wells and accumulated in the 2-foot sump of the monitoring well two weeks after installation. The mobility of the DNAPL indicates a potential for impacts beyond the DSNY property, including areas to the south (i.e., the Site). COCs associated with MGP DNAPLs include:

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- BTEX
- Naphthalene
- PAHs

Marine Fuel Terminal. Historical aerial photographs and Sanborn fire insurance maps (Appendix A) indicate a large marine fuel terminal operated on the south shore of the 6th Street Turning basin from at least 1961 to 1991. The 1969 Sanborn map indicates the combined capacity of the terminal's above ground and underground storage tanks was in excess of 845,000 gallons. The current regulatory programs for permitting, spill control, and spill reporting that govern a major oil storage facility (MOSF) did not exist in the 1960s. Therefore, it is not uncommon for older marine terminals to have large volumes of residual and mobile product remaining in the zone of water table fluctuation. Although product spills from storage tanks and barge unloading operations might have been partially isolated from the Site by the intervening turning basin, substantial releases to the basin could have permeated the Site's bulkheads and impacted the soils beneath the existing buildings and parking area. Product may also have migrated on the water table directly to the Site near 2nd Avenue. COCs associated with fuel oils and older gasolines include:

- BTEX
- Methyl tert-butyl ether (MTBE)
- Lead
- Naphthalene
- PAHs

Upgradient Database Listings. The EDR search identified 531 listings within the minimum search distances from the Site (0.25 to 1 mile). In the Phase I ESA, a total of 23 upgradient listings were judged to be close enough to potentially impact Site soil and groundwater. One listing had a spill of No. 2 Fuel oil in 2004 with no record of a cleanup. A second site had a spill of waste oil in 2004 when the New York City Fire Department (FDNY) responded to a fire. Waste oil may contain solvents, polychlorinated biphenyls (PCBs), and heavy metals in addition to ordinary petroleum constituents. No details of a purported cleanup were provided. COCs associated with these spills include:

- BTEX
- Naphthalene
- PAHs
- Solvents
- PCBs
- Heavy metals

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Section 3

Supplemental Pre-Design Investigation Scope of Work

The environmental sampling related to the OH-007 SPDI scope of work was implemented to characterize soil contamination along the anticipated force main alignment for the CSO retention tank and select locations elsewhere at the OH-007 site so that provisions for proper handling, treatment, and disposal or reuse can be established and included in the design documents for construction of the CSO facility.

HSBC collaborated with MRCE to collect the soil samples necessary for this SPDI during their geotechnical investigation of the force main alignment. The scope of work cited below describes MRCE's geotechnical investigation in accordance with the following workplan.

- "Draft Geotechnical Investigation Work Plan, CSO-GC-SFS-DES OH, Gowanus Canal CSO Tank OH-007 Site", prepared by Mueser Rutledge Consulting Engineers (MRCE), dated March 24, 2022.

SPDI activities were also conducted in accordance with the following documents:

- "Health and Safety Plan for Gowanus Canal Tank Siting and Superfund Support, CSO-GC-SFS-DEC, Brooklyn, New York" prepared by the Hazen/BC project team (November 2016).

3.1 Scope of Work – Implemented

Table 1 provides a summary of the soil borings drilled during the SPDI field activities and includes specifics on depth of drilling and sampling, analytical sample intervals, and other details for each location.

Field activities were implemented in accordance with the Geotechnical Investigation Work Plan for the OH-007 Site prepared by MRCE as cited above. The scope of field activities conducted during the geotechnical investigation included the following:

- Drilled and collected soil samples from 17 soil borings (MR-101, MR-102, MR-105, MR-201 through MR-210, and MR-301 through MR-304.
- Visual observations to identify contamination such as petroleum, coal tar, and other contamination or waste
- Laboratory analyses of soil samples to quantify contaminant concentrations and for waste characterization considerations.

The methods and procedures for the field investigation activities are described below.

3.2 Soil Investigation

Drilling services during the field activities were provided by Craig Geotechnical Drilling Co., Inc. (CRAIG). A total of 17 borings were drilled and sampled as part of the geotechnical investigation. Thirteen of the 17 borings were drilled and sampled along or in the vicinity of the force main alignment and the locations are shown in Figure 1. Borings were advanced using mud rotary drilling equipment. The initial 5 to 6 feet of each boring location were advanced by hand auger to verify that subsurface utilities were not present. Standard Penetration Testing (SPT) was conducted in accordance with American Society for Testing and Materials (ASTM) D1586. SPT sampling was conducted continuously from 6 feet (ft) to

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12 ft below ground surface (bgs). Below 12 ft, SPT samples were generally conducted at 5-ft intervals to a depth of 100 ft bgs, and in 10-ft intervals thereafter. Undisturbed samples of cohesive soils were collected at each boring location in accordance with ASTM D1587. Soils extracted from these borings were visually examined, characterized, logged, and screened in the field for organic vapors using a photoionization detector (PID). Soil descriptions were documented for physical properties such as color, sorting, layering, etc. The grain size distribution of soils was visually characterized in the field and logged in accordance with the Burmister Soil Classification System (1959). The Burmister classification was then also converted to the Unified Soil Classification System (USCS) for preparation of the final boring logs (see Appendix B). The field team recorded observations, prepared logs, and collected soil samples for laboratory analyses during the drilling and sampling of all borings.

At a minimum, one sample was collected from each of the stratigraphic units (fill, meadow mat, and underlying glacial deposits) encountered during drilling. The sampling was biased to the interval with the greatest observed impacts within each stratigraphic unit or 1-ft interval directly above the base of a stratigraphic unit, if no impacts were observed. If no impacts were observed in the glacial sand, a sample was collected directly above the target total depth of that boring. Each soil sample collected was analyzed for the following parameters:

- Volatile organic compounds (VOC) by United States Environmental Protection Agency (EPA) Method 8260B including methyl tert-butyl ether (MTBE)
- Semi-volatile organic compounds (SVOC) by EPA Method 8270C including naphthalene
- PCBs by EPA Method 8082
- Pesticides by EPA Method 8081
- Herbicides by EPA Method 8151A
- Target Analyte List (TAL) metals by EPA Method 6000/7000 series
- Total Cyanide and free cyanide by EPA Method 9010B

In addition, samples were analyzed for the following waste characterization parameters to evaluate disposal and treatment options for excavated soil during the construction of the CSO facility:

- Total Organic Halides
- Ignitability
- Corrosivity
- Reactivity
- Toxicity Characteristic Leaching Procedure (TCLP) constituents including VOCs, SVOCs, metals, pesticides, and herbicides

Soil samples from the environmental sampling were provided to Aqua Pro-Tech Laboratories [New York State Department of Health (DOH) #11634]. Aqua Pro-Tech laboratories is certified to conduct the analyses listed above, under the DOH Environmental Laboratory Approval Program (ELAP).

Details on the total depths drilled, sample intervals, and analysis at each soil boring are provided in Table 1. Boring logs are provided in Appendix B. Soil investigation locations are shown on Figure 1.

3.3 Data Usability

Data validation was performed on the analytical data packages received from Aqua Pro-Tech Laboratories. Data Usability Summary Reports (DUSRs) are provided in Appendix C. Data were reviewed in accordance with the EPA National Functional Guidelines (NFGs) listed in the DUSRs and appropriate method-specific EPA Region II Data Validation Standard Operating Procedures (SOPs). The following items/criteria were reviewed:

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- Data completeness
- Chain of custody
- Holding times and sample preservation
- Field duplicate accuracy
- Internal standard area and retention time (RT)
- Surrogates
- Laboratory control sample (LCS) recoveries
- Matrix spike and matrix spike duplicate samples
- Method and field blank contamination
- Laboratory duplicate samples
- Serial dilution
- Initial and continuing calibration summaries
- Compound quantitation
- Reporting limits
- Sample comments and quality control summaries

Overall, the analytical data collected during the geotechnical investigation were found to be acceptable for the intended purposes. As discussed in detail in the DUSRs for some data packages, minor analytical issues were found with the following data quality indicators resulting in qualified (e.g., estimated, J) results:

- Initial calibration verification
- Continuing calibration
- Matrix spike samples
- Laboratory control samples
- Laboratory duplicates
- Surrogates

All analytical results in this SPDI Report reflect the data qualifiers assigned during the data validation process.

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Section 4

Summary of Findings

This section of the SPDI Report summarizes the geology and hydrogeology encountered along the force main alignment and presents soil quality and waste characterization data pertinent to excavation, soil management, treatment, and disposal or reuse activities.

Soil results from the environmental investigation were compared to the following:

- Restricted Use Soil Cleanup Objectives (SCOs) for Protection of Groundwater (PGW) SCOs identified in Table 6.8(b) of 6 NYCRR Part 375-6.8(b) (denoted as 375GW in the figures)
- Restricted Use SCOs for Protection of Public Health: Residential identified in Table 6.8(b) of Chapter 6 New York Codes, Rules, Regulations (6 NYCRR) Part 375-6.8(b), (375R)
- Restricted Use SCOs for Protection of Public Health: Commercial identified in Table 6.8(b) of 6 NYCRR Part 375-6.8(b) (375C)
- Restricted Use SCOs for Protection of Public Health: Industrial identified in Table 6.8(b) of 6 NYCRR Part 375-6.8(b) (375I)
- Supplemental Soil Cleanup Objectives (SSCOs) from Table 1 of Commissioner's Policy 51 (CP-51) Soil Cleanup Guidance; DEC Division of Environmental Remediation; October 21, 2010, where applicable

Data included in this SPDI Report can be used in developing excavation plans and quantity take-offs of the categories of soil and material to be treated and disposed or reused. It is anticipated that soil management categories may include:

- Soil/material requiring landfill disposal
- Soil/material eligible for beneficial reuse (e.g., landfill daily cover or other uses) with or without treatment (e.g., thermal treatment, soil washing, stabilization/solidification)

These data and estimates can inform the design such that appropriate provisions can be made for on site soil staging and treatment processes, which is particularly important given space limitations. This information will be incorporated into the design documents for Construction Package 3 (CP-3) which includes completion of the CSO facility and the force main.

4.1 Site-Specific Stratigraphy

The subsurface stratigraphic units encountered in borings along the force main alignment include the following: Fill, Organic Silty Clay (meadow mat or O layer), Silty Clay with fine to medium sand (C layer), and glacial sands. Further details on these stratigraphic units are provided in the Phase 2 Geotechnical Data Report. OH-7 Gowanus Canal CSO Tanks NYCDEP Contract CP3 (MRCE, 2026). Based on the stratigraphy encountered at the boring locations, excavations for the force main will predominantly occur in the fill material except for a portion along 8th Street where excavated materials can also include the "O" and "C" layers.

4.2 Contamination Screening

During the SPDI activities, subsurface materials were screened for evidence of contamination. PID readings, staining. Odors, sheen, discoloration, and any other evidence of contamination were

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recorded in the boring logs (Appendix B). Table 2 summarizes notable PID readings, visual evidence of contamination, and unusual odors.

4.3 Soil Analytical Results

The discussion below will focus on the analytical results from borings MR-201 through MR-210, MR-303, MR-304, and SCPT-111 since these borings were drilled and sampled along the force main alignment. In general, the analytical data collected at locations in the tank area and along 5th Street were consistent with results obtained during previous investigation activities in these areas. Tables 3A through 3F present, respectively, the analytical results for VOCs, SVOCs, metals, PCBs, pesticides, and herbicides.

The following parameters exceeded one or more SCOs:

VOCs. Eight of the thirteen borings listed above had no exceedances for VOCs (see Table 3A for analytical results). Figure 2 depicts the lateral and vertical distribution of the VOC exceedances. Acetone exceeded the PGW SCO at MR-201, MR-202, MR-203, MR-205, and MR-303, while petroleum-related aromatic hydrocarbons, including benzene, ethylbenzene, toluene, xylenes, and 1,2,4-trimethylbenzene, exceeded applicable SCOs in soil samples collected at MR-203and MR-303. The highest VOC concentrations were detected at MR-303 within the 20 to 22 ft bgs sampling interval. At this location, BTEX compounds and 1,2,4-trimethylbenzene exceeded the PGW SCO and SCOs for Residential and Commercial Use. These compounds are all common petroleum-related contaminants and were collected at a depth interval with indications of impacts such as NAPL saturation, sheen and petroleum odors.

Exceedances were generally limited to deeper soil intervals, with the most significant impacts observed between approximately 15 and 35 ft bgs. VOC impacts appeared localized, as no exceedances were reported at borings MR-204, MR-206 through MR-210, MR-304, or SCPT-111. The distribution of VOC detections suggests the presence of discrete subsurface petroleum impacts rather than widespread surficial fill contamination.

SVOCs. Several SVOCs, specifically PAHs, were detected at concentrations above their respective SCOs (see Table 3B for analytical results). Figure 3 depicts the lateral and vertical distribution of the SVOC exceedances. Except for MR-303, PAHs exceedances were generally limited to PGW and Residential SCOs. The most frequently detected compounds above applicable SCOs included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene, and phenanthrene. These exceedances were identified at several borings and seismic cone penetration test (SCPT) locations, including MR-201, MR-202, MR-203, MR-207, MR-303, SCPT-110, and SCPT-111. Naphthalene was also detected above the PGW SCO at MR-303 from the sample interval with indications of impacts such as NAPL saturation, sheen, and petroleum odors.

The detected SVOCs consist predominantly of PAHs, which are common constituents of coal tar, petroleum products, and historic urban fill. The highest concentrations were observed at MR-303 where multiple PAHs exceeded Residential Use SCOs and, in some cases, approached or exceeded Commercial Use SCOs. Elevated PAH concentrations were generally encountered in shallow to intermediate depth intervals. The widespread occurrence of PAHs across the site is consistent with the presence of historic urban fill and legacy industrial impacts commonly encountered within the Gowanus area. No SVOC exceedances were reported at MR-204, MR-205, MR-206, MR-208, MR-209, MR-210, and MR-304.

The exceedances of the SCOs for Protection of Groundwater and Protection of Human Health – Residential Use would disqualify the material for unrestricted use or beneficial use as Fill Types F2 and F3 under 6 NYCRR Part 360.13.

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Metals. Metals including barium, copper, cyanide, mercury, selenium, and/or zinc were detected at concentrations above one or more SCOs in four of the 13 borings drilled and sampled along or in the vicinity of the force main alignment and all exceedances occurred in samples collected in the fill and/or upper portions of the meadow mat. Elevated lead concentrations (826 mg/kg, 6,940 mg/kg and 461 mg/kg) were detected at borings MR-302, SCPT-101, and SCPT-108; however, these locations are outside the footprint of the proposed force main alignment. The spatial distribution of metals is shown on Figure 4. See Table 3C for analytical results.

The exceedances of the PGW SCOs may disqualify the material for unrestricted use or beneficial use as Fill Type F2 under 6 NYCRR Part 360.13.

Polychlorinated Biphenyls (PCBs). No PCBs were detected above the relevant SCOs in any samples (Table 3D) collected along the force main alignment.

Pesticides and Herbicides. No pesticides or herbicides were detected in any of the soil samples (Table 3E).

4.3.1 Waste Characterization Sampling

A waste characterization sample was collected at each of the soil sample locations and depths to generate data to assist in the identification of disposal options for excavated soils. The samples were submitted for laboratory analysis and results were compared to the Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels published in 40 CFR Part 261. Tables 4A through 4D provides a summary of waste characterization sample analytical results compared to the RCRA Hazardous Waste Levels.

Based on the analytical results, lead was the only constituent found above the RCRA Hazardous Waste Levels. Lead exceeded the toxicity characteristic level in the sample collected from the fill material at two boring locations. Lead was detected at 5.56 mg/L from the 6.0 to 8.0 ft interval at boring MR-302 and 116 mg/L from the 4.0 to 5.0 ft interval at boring SCPT-101. Both locations are outside the footprint of the proposed force main alignment. However, the results indicate there is potential for some of the fill material to exhibit a hazardous waste characteristic, which will need to be considered in plans for managing the excavated soils during construction.

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Section 5

Limitations

This document was prepared solely for New York City Department of Environmental Protection (DEP) in accordance with professional standards at the time the services were performed and in accordance with the contract between DEP and Hazen and Sawyer dated May 23, 2016. This document is governed by the specific scope of work authorized by DEP; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by DEP and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Section 6

References

Mueser Rutledge Consulting Engineers (MRCE), 2022; *Draft Geotechnical Investigation Work Plan, CSO-GC-SFS-DES OH, Gowanus Canal CSO Tank OH-007 Site; March 24, 2022*

MRCE, 2026; *Phase 2 Geotechnical Data Report, OH-7 Gowanus Canal CSO Tanks, NYCDEP Contract CP3; July 2022*

Hazen and Sawyer/Brown and Caldwell, a Joint Venture (HSBC), 2022; *Phase I Environmental Site Assessment (ESA) was conducted; 2022*

Hazen/BC project team, 2016; *Health and Safety Plan for Gowanus Canal Tank Siting and Superfund Support, CSO-GC-SFS-DEC, Brooklyn, New York; November 2016*

Hazen/BC project team, 2025; *Phase II Investigation Report for Site OH-007, CSO-GC-SFS-DES OH Construction of CSO Facility at Gowanus Cana Outfall OH-007; February 2025*

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Figures

Figure 1. Supplemental Pre-Design investigation – Proposed Force Mains Alignment
Figure 2. Supplemental Pre-Deign Investigation - VOC Concentration in Soil
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Figure 4. Supplemental Pre-Deign Investigation - Metal Concentration in Soil

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Notes:

Spatial Reference:
Name: NAD 1983 HARN StatePlane New York Long Island FIPS 3104 Feet

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FIGURE 1
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - PROPOSED FORCE MAINS ALIGNMENT



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FIGURE 2
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - VOC CONCENTRATIONS IN SOIL

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FIGURE 3
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - SVOC CONCENTRATIONS IN SOIL

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MR-102							
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)		
					6-8	20-22	80-82
Mercury	X	X	X	X	1.11	0.0281	< 0.00563 U

SCPT-101					
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)
					4-5
Mercury	X	X			1
Barium	X	X	X		1520
Lead	X	X	X	X	6940

MR-101	
Interval (ft. bgs.)	Result
6-8	No Exceedances
20-22	
65-67	

SCPT-102	
Interval (ft. bgs.)	Result
4-5	No Exceedances

SCPT-109	
Interval (ft. bgs.)	Result
3-4.5	No Exceedances

MR-105								
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)			
					6-8	20-22	35-37	50-52	65-67
Mercury		X			0.306	0.0375	0.0369	< 0.00633 U	< 0.0062 U

SCPT-108					
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)
					5-6
Lead	X	X			461

MR-301							
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)		
					6-8	25-27	65-67
Mercury	X	X	X	X	1.44	< 0.00596 U	< 0.00595 U
Arsenic	X	X	X	X	25.6	< 0.103 U	1.94

MR-304	
Interval (ft. bgs.)	Result
6-8	No Exceedances
27-29	
65-67	

MR-201								
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)			
					4-6	12-14	17-19	30-32
Mercury	X	X	X	X	0.669	3.15	< 0.0086 U	< 0.00586 U
Cyanide		X			< 0.0178 U	8.14	< 0.0262 U	0.547

MR-302							
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)		
					6-8	25-27	65-67
Mercury	X	X	X	X	1.29	< 0.0191 U	< 0.0165 U
Lead	X	X			826	55.7	6.63

MR-303								
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)			
					4-6	15-17	20-22	35-37	75-77
Mercury		X			0.302	0.0396	< 0.00606 U	< 0.00613 U	< 0.00585 U
Cyanide		X			< 0.0174 U	3.11	< 0.017 U	< 0.0165 U	--

SCPT-110					
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)
					4-5
Copper		X	X		428
Zinc	X	X			5420

MR-202	
Interval (ft. bgs.)	Result
2-4	No Exceedances
8-10	
15-17	
30-32	

SCPT-111					
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)
					4-5
Mercury		X			0.353

MR-203	
Interval (ft. bgs.)	Result
6-8	No Exceedances
10-14	
15-17	
30-32	

MR-205							
Chemical (mg/Kg)	375GW	375R	375C	375I	Interval (ft. bgs.)		
					6-7	8-10	15-17
Barium		X	X		43.2	12	596
Copper		X	X		16.5	4.2	913
Selenium	X				< 0.279 U	< 0.28 U	7.25
Zinc		X			39.9	10.5	2370

MR-204	
Interval (ft. bgs.)	Result
6-8	No Exceedances
20-32	

MR-206	
Interval (ft. bgs.)	Result
2-4	No Exceedances
12-14	
30-32	

MR-207	
Interval (ft. bgs.)	Result
9-10	No Exceedances
30-32	

MR-208	
Interval (ft. bgs.)	Result
6-8	No Exceedances
15-17	
30-32	

MR-209	
Interval (ft. bgs.)	Result
5-7	No Exceedances
15-17	
30-32	

MR-210	
Interval (ft. bgs.)	Result
0-2	No Exceedances
15-17	
30-32	

Chemical Name	NYSPART 375GW	NYSPART 375R	NYSPART 375C	NYSPART 375I
Mercury	0.73	0.3	1.1	1.1
Cyanide	40	2.6	28	240
Barium	820	410	410	10000
Copper	1720	280	280	10000
Selenium	4	22	1700	2000
Zinc	2480	1300	10000	10000
Arsenic	16	16	16	16
Lead	450	400	1000	3900

Legend

Soil Boring (mg/kg)

- No Exceedance
- Exceeds One or More NYSPART375 Standard

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FIGURE 4
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - METAL CONCENTRATIONS IN SOIL

Tables

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TABLE 1
SOIL BORING AND MONITORING WELL LOCATION INFORMATION SUMMARY
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY
BROOKLYN, NEW YORK

	Analytical Sample Intervals				Survey Coordinates		Ground Surface	Top of Casing	Screened Interval		Screened Interval		Total Depth	
Location	Fill	Meadow Mat	Glacial Outwash	Completion	NY State Plane - NAD 83		Elevation	Elevation	Top	Bottom	Top	Bottom		
ID	(ft., BGS)	(ft., BGS)	(ft., BGS)	Date	Northing	Easting	(ft., NAVD)	(ft., NAVD)	(ft., BGS)	(ft., BGS)	(ft., NAVD)	(ft., NAVD)	(ft., BGS)	(ft., NAVD)
Soil Boring														
MR-101	6-8	20-22	65-67	7/5/2023	185418.276	986294.403	6.36	--	--	--	--	--	210	-203.640
MR-102	6-8	30-32	80-82	7/24/2023	185359.596	986383.163	7.34	--	--	--	--	--	70	-62.660
MR-201	--	--	--	--	185167.240	986601.161	6.66	--	--	--	--	--	42	-35.340
MR-202	--	--	--	--	184959.555	986450.040	8.07	--	--	--	--	--	70	-61.930
MR-203	--	--	--	--	184831.689	986377.944	8.56	--	--	--	--	--	10	-1.440
MR-204	--	--	--	--	184713.527	986301.349	9.58	--	--	--	--	--	72	-62.420
MR-205	--	--	--	--	184602.668	986231.815	9.88	--	--	--	--	--	42	-32.120
MR-206	--	--	--	--	184427.141	986378.036	12.52	--	--	--	--	--	11	1.520
MR-207	--	--	--	--	184359.505	986546.333	14.23	--	--	--	--	--	70	-55.770
MR-208	--	--	--	--	184285.128	986654.321	15.05	--	--	--	--	--	42	-26.950
MR-209	--	--	--	--	184202.325	986793.925	16.33	--	--	--	--	--	11	5.330
MR-210	--	--	--	--	184109.151	986834.038	17.41	--	--	--	--	--	--	--
MR-301	6-8	25-27	65-67	6/14/2023	185356.251	986179.174	5.52	--	--	--	--	--	70	-64.480
MR-302	6-8	25-27	65-67	--	185214.906	986552.002	7.36	--	--	--	--	--	75	-67.640
MR-303	--	--	--	--	185067.280	986518.684	8.13	--	--	--	--	--	191	-182.870
MR-304	6-8	27-29	65-67	8/16/2023	185286.939	986683.900	6.93	--	--	--	--	--	70	-63.070
SCPT-101	--	--	--	--	185425.324	986281.551	6.34	--	--	--	--	--	120	-113.660
SCPT-102	--	--	--	--	185341.678	986411.081	7.33	--	--	--	--	--	120	-112.670
SCPT-108	--	--	--	--	185269.035	986522.319	7.74	--	--	--	--	--	70	-62.260
SCPT-109	--	--	--	--	185372.432	986187.878	5.53	--	--	--	--	--	70	-64.470
SCPT-110	--	--	--	--	185209.577	986562.609	7.4	--	--	--	--	--	--	--
SCPT-111	--	--	--	--	185113.841	986548.539	7.17	--	--	--	--	--	67	-59.830

Notes:
NAVD - North American Vertical Datum
BGS - Below Ground Surface
(--) - Data Not Available or Applicable

TABLE 2
SUMMARY OF CONTAMINANT SCREENING
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY

Location ID	PID Readings Greater Than 1 ppm / Depth Interval (BGS)	Hydrostrigraphic Unit	Visual Evidence of Contamination	Odor
MR-101	1.5 ppm/ 20'-22'	Meadow Mat	None	
	4.9 ppm/ 35'-37'	Glacial Sands	None	
	2.0 ppm/ 170'-172'	Glacial Sands	None	
MR-201	1.2 ppm/ 2'-4'	Fill	None	
	182.0 ppm/ 4'-6'	Fill	NAPL	Strong odor
	9.9 ppm/ 6'-8'	Fill		
	5.7 ppm/ 8'-10'	Fill		
	21.1 ppm/ 10'-12'	Meadow Mat		
	21.1 ppm/ 10'-12'	Meadow Mat		Sulfur/ fuel like odor
	32.6 ppm/ 12'-14'	Meadow Mat		
	1.2. ppm/ 17'-19'	Meadow Mat		
MR-202	155.9 ppm/ 2'-4'	Fill		Strong fuel like odor
	176.0 ppm/ 4'-6'	Fill		Strong fuel like odor
	114.0 ppm/ 6'-8'	Fill		Moderate fuel like odor
	104.0 ppm/ 8'-10'	Fill		
	12.2 ppm/ 10'-12'	Fill		
	68.4 ppm/ 12'-14'	Fill	Sheen	
	4.2 ppm/ 15'-17'	Meadow Mat		
MR-203	21.0 ppm/ 10'-12'	Fill		
	28.1 ppm/ 12'-14'	Fill		Mild fuel like odor
	31.6 ppm/ 15'-17'	Meadow Mat		
	1.3 ppm/ 19'-21'	Meadow Mat		
	24.9 ppm/ 25'-27'	Glacial Sands		
	7.6 ppm/ 30'-32'	Glacial Sands		
	1.4 ppm/ 35'-37'	Glacial Sands		
	1.8 ppm/ 45'-47'	Glacial Sands		
MR-204	1.2 ppm/ 2'-4'	Fill		
	5.5 ppm/ 5'-7'	Fill		
	8.3 ppm/ 7'-9'	Fill		
	10.3 ppm/ 10'-12'	Fill		Moderate petroleum odor
	5.3 ppm/ 12'-14'	Fill		
	29.0 ppm/ 15'-17'	Meadow Mat		Mild petroleum like odor
	3.5 ppm/ 19'-21'	Meadow Mat		
	2.1 ppm/ 25'-27'	Glacial Sands		
	77.9 ppm/ 30'-32'	Glacial Sands		Mild petroleum like odor
	32.5 ppm/ 35'-37'	Glacial Sands		
	11.5 ppm/ 40'-42'	Glacial Sands		
	2.3 ppm/ 45'-47'	Glacial Sands		
	11.0 ppm/ 50'-52'	Glacial Sands		
MR-205	7.6 ppm/ 6'-8'	Fill		
	32.9 ppm/ 8'-10'	Fill		Mild petroluem like odor
	20.4 ppm/ 10'-12'	Fill		
	2.9 ppm/ 12'-14'	Fill		
	16.1 ppm/ 15'-17'	Meadow Mat		
	1.9 ppm/ 35'-37'	Glacial Sands		

TABLE 2
SUMMARY OF CONTAMINANT SCREENING
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY

Location ID	PID Readings Greater Than 1 ppm / Depth Interval (BGS)	Hydrostrigraphic Unit	Visual Evidence of Contamination	Odor
MR-206	1.4 ppm/ 4'-6'	Fill		
	5.6 ppm/ 6'-8'	Fill		
	4.6 ppm/ 8'-10'	Fill		
	5.4 ppm/ 10'-12'	Fill		
	1.7 ppm/ 12'-14'	Fill		
	3.5 ppm/ 25'-27'	Fill		
	30.5 ppm/ 30'-32'	Glacial Sands		
	11.1 ppm/ 40'-42'	Glacial Sands		
	18.2 ppm/ 45'-47'	Glacial Sands		Mild solvent like odor
	11.1 ppm/ 6'-8'	Glacial Sands		
	18.2 ppm/ 45'-47'	Glacial Sands		
MR-207	11.1 ppm/ 6'-8'	Fill		
	94.1 ppm/ 8'-10'	Fill	NAPL/ Sheen	Petroleum like odor
	14.9 ppm/ 10'-12'	Fill		
	3.0 ppm/ 12'-14'	Fill		
	5.3 ppm/ 20'-22'	Meadow Mat		
	1.9 ppm/ 25'-27'	Glacial Sands		
	1.7 ppm/ 35'-37'	Glacial Sands		
	1.5 ppm/ 40'-42'	Glacial Sands		
MR-208	6.0 ppm/ 10'-12'	Fill		
MR-209	1.1 ppm/ 5'-7'	Fill		
	1.7 ppm/ 11'-13'	Meadow Mat		
	11.4 ppm/ 13'-15'	Meadow Mat		
MR-210	4.3 ppm/ 40'-42'	Glacial Sands		
MR-301	6.2 ppm/ 8'-10'	Meadow Mat		
	134.4 ppm/ 25'-27'	Glacial Sands	NAPL blebs/ sheen	Moderate coal tar odor
	3.5 ppm/ 30'-32'	Glacial Sands		
	5.3 ppm/ 35'-37'	Glacial Sands		
	8.1 ppm/ 40'-42'	Glacial Sands		
	2.6 ppm/ 45'-47'	Glacial Sands		
	1.2 ppm/ 50'-52'	Glacial Sands		
	3.9 ppm/ 55'-57'	Glacial Sands		
	1.1 ppm/ 60'-62'	Glacial Sands		
	1.9 ppm/ 65'-67'	Glacial Sands		
	4.7 ppm/ 70'-72'	Glacial Sands		
	1.7 ppm/ 150'-152'	Glacial Sands		
MR-302	2.1 ppm/ 10'-12'	Meadow Mat		
	11.3 ppm/ 18'-20'	Meadow Mat		
MR-303	5.3 ppm/ 4'-6'	Fill		Mild fuel like odor
	1.1 ppm/ 12'-14'	Fill		
	2.7 ppm/ 15'-17'	Meadow Mat		
	218.3 ppm/ 20'-22'	Glacial Sands	NAPL saturation/sheen	Stong coal tar odor
	7.0 ppm/ 30'-32'	Glacial Sands	NAPL sheen	
	21.4 ppm/ 35'-37'	Glacial Sands		
	3.5 ppm/ 40'-42'	Glacial Sands	NAPL sheen	
	2.1 ppm/ 45'-47'	Glacial Sands	NAPL sheen	
	3.0 ppm/ 50'-52'	Glacial Sands	NAPL sheen	
	1.2 ppm/ 55'-57'	Glacial Sands	NAPL sheen	
	1.1 ppm/ 60'-62'	Glacial Sands	NAPL sheen	

TABLE 2
SUMMARY OF CONTAMINANT SCREENING
SUPPLEMENTAL PRE-DESIGN INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY

Location ID	PID Readings Greater Than 1 ppm / Depth Interval (BGS)	Hydrostrigraphic Unit	Visual Evidence of Contamination	Odor
MR-303	6.8 ppm/ 75'-77'	Glacial Sands	NAPL sheen	
	3.2 ppm/ 80'-82'	Glacial Sands	NAPL sheen	
	1.6 ppm/ 85'-87'	Glacial Sands	NAPL sheen	
	2.1 ppm/ 90'-92'	Glacial Sands	NAPL sheen	
	1.7 ppm/ 95'-97'	Glacial Sands	NAPL sheen	
	2.8 ppm/ 110'-112'	Glacial Sands		
	1.8 ppm/ 120'-122'	Glacial Sands		
	2.4 ppm/ 150'-152'	Glacial Sands		
MR-304	1.6 ppm/ 12'-14'	Meadow Mat		
SCPT-101	21 ppm/ 4'-5'	Fill		
SCPT-102	21.8 ppm/ 4'-5'	Fill		
SCPT-108	35.6 ppm/ 5'-6'	Fill		
SCPT-109	0.3 ppm/ 3'-4'	Fill		
SCPT-110	27.7 ppm/ 4'-5'	Fill		
SCPT-111	15.7 ppm/ 4'-5'	Fill		

Notes:
BGS = Below Ground Surface
PID = Photoionization Detector
ppm = Parts per million

TABLE 3A
SOIL QUALITY DATA - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-101	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201
							Sample ID	MR-101-6.0-8.0-20230616	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726
							Depth (feet)	6-8	20-22	65-67	6-8	20-22	80-82	6-8	20-22	35-37	50-52	65-67	4-6
							Sample Date	6/16/2023	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units												
1,1,1-Trichloroethane	--	--	500	1000	0.68	100	MG/KG	< 0.000373 U	< 0.000522 U	< 0.000316 U	< 0.000787 U	< 0.000245 U	< 0.000238 U	< 0.000412 U	< 0.000424 U	< 0.000284 U	< 0.000284 U	< 0.000259 U	< 0.000255 U
1,1,2,2-Tetrachloroethane	0.6	35	--	--	--	--	MG/KG	< 0.000353 U	< 0.000493 U	< 0.000298 U	< 0.000743 U	< 0.000232 U	< 0.000225 U	< 0.00039 U	< 0.000401 U	< 0.000268 U	< 0.000269 U	< 0.000245 U	< 0.000241 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6	100	--	--	--	--	MG/KG	< 0.00109 U	< 0.00153 U	< 0.000926 U	< 0.00231 U	< 0.000718 U	< 0.000699 U	< 0.00121 U	< 0.00124 U	< 0.000832 U	< 0.000834 U	< 0.000759 U	< 0.000747 U
1,1,2-Trichloroethane	--	--	--	--	--	--	MG/KG	< 0.00043 U	< 0.000602 U	< 0.000364 U	< 0.000908 U	< 0.000283 U	< 0.000275 U	< 0.000476 U	< 0.000489 U	< 0.000327 U	< 0.000328 U	< 0.000299 U	< 0.000294 U
1,1-Dichloroethane	--	--	240	240	0.27	19	MG/KG	< 0.000373 U	< 0.000522 U	< 0.000316 U	< 0.000787 U	< 0.000245 U	< 0.000238 U	< 0.000412 U	< 0.000424 U	< 0.000284 U	< 0.000284 U	< 0.000259 U	< 0.000255 U
1,1-Dichloroethene	--	--	5.1	5.1	0.33	0.41	MG/KG	< 0.000473 U	< 0.000661 U	< 0.0004 U	< 0.000997 U	< 0.00031 U	< 0.000302 U	< 0.000522 U	< 0.000537 U	< 0.000359 U	< 0.00036 U	< 0.000328 U	< 0.000323 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	MG/KG	< 0.000552 U	< 0.000772 U	< 0.000467 U	< 0.00116 U	< 0.000362 U	< 0.000353 U	< 0.00061 U	< 0.000627 U	< 0.00042 U	< 0.000421 U	< 0.000383 U	< 0.000377 U
1,2,4-Trichlorobenzene	3.4		--	--	--	--	MG/KG	< 0.000681 U	< 0.000952 U	< 0.000576 U	< 0.00144 U	< 0.000447 U	< 0.000435 U	< 0.000752 U	< 0.000774 U	< 0.000518 U	< 0.000519 U	< 0.000472 U	< 0.000465 U
1,2,4-Trimethylbenzene	--	--	50	1000	5.9	*41*	MG/KG	< 0.000353 U	< 0.000493 U	< 0.000298 U	< 0.000743 U	< 0.000232 U	< 0.000225 U	< 0.00039 U	< 0.000401 U	0.181	0.189	0.0971	< 0.000241 U
1,2-Dibromo-3-chloropropane (DBCP)	--	--	--	--	--	--	MG/KG	< 0.000623 U	< 0.000872 U	< 0.000528 U	< 0.00131 U	< 0.000409 U	< 0.000399 U	< 0.000689 U	< 0.000709 U	< 0.000474 U	< 0.000475 U	< 0.000432 U	< 0.000426 U
1,2-Dibromoethane (EDB)	--	--	--	--	--	--	MG/KG	< 0.000322 U	< 0.00045 U	< 0.000272 U	< 0.000679 U	< 0.000211 U	< 0.000206 U	< 0.000356 U	< 0.000366 U	< 0.000245 U	< 0.000245 U	< 0.000223 U	< 0.00022 U
1,2-Dichlorobenzene	--	--	500	1000	1.1	100	MG/KG	< 0.000451 U	< 0.000631 U	< 0.000382 U	< 0.000951 U	< 0.000296 U	< 0.000288 U	< 0.000498 U	< 0.000513 U	< 0.000343 U	< 0.000344 U	< 0.000313 U	< 0.000308 U
1,2-Dichloroethane	--	--	30	30	0.02	2.4	MG/KG	< 0.00036 U	< 0.000504 U	< 0.000305 U	< 0.00076 U	< 0.000237 U	< 0.00023 U	< 0.000398 U	< 0.000409 U	< 0.000274 U	< 0.000275 U	< 0.00025 U	< 0.000246 U
1,2-Dichloropropane	--	--	--	--	--	--	MG/KG	< 0.000419 U	< 0.000586 U	< 0.000355 U	< 0.000884 U	< 0.000275 U	< 0.000268 U	< 0.000463 U	< 0.000476 U	< 0.000319 U	< 0.00032 U	< 0.000291 U	< 0.000286 U
1,3-Dichlorobenzene	--	--	280	280	2.6	11	MG/KG	< 0.000188 U	< 0.000263 U	< 0.000159 U	< 0.000396 U	< 0.000123 U	< 0.00012 U	< 0.000207 U	< 0.000213 U	< 0.000143 U	< 0.000143 U	< 0.00013 U	< 0.000128 U
1,4-Dichlorobenzene	--	--	130	130	1.8	10	MG/KG	< 0.000368 U	< 0.000515 U	< 0.000311 U	< 0.000776 U	< 0.000242 U	< 0.000235 U	< 0.000406 U	< 0.000418 U	< 0.00028 U	< 0.000281 U	< 0.000255 U	< 0.000251 U
2-Butanone (MEK)	0.3	100	500	1000	0.12	100	MG/KG	< 0.000416 U	< 0.000582 U	< 0.000353 U	< 0.000878 U	< 0.000273 U	< 0.000266 U	< 0.00046 U	< 0.000473 U	0.0418	< 0.000318 U	< 0.000289 U	0.0345
2-Hexanone	--	--	--	--	--	--	MG/KG	< 0.000239 U	< 0.000334 U	< 0.000202 U	< 0.000504 U	< 0.000157 U	< 0.000153 U	< 0.000264 U	< 0.000272 U	< 0.000182 U	< 0.000182 U	< 0.000166 U	< 0.000163 U
4-Methyl-2-pentanone (MIBK)	1	--	--	--	--	--	MG/KG	< 0.000319 U	< 0.000447 U	< 0.00027 U	< 0.000673 U	< 0.00021 U	< 0.000204 U	< 0.000353 U	< 0.000363 U	< 0.000243 U	< 0.000244 U	< 0.000222 U	< 0.000218 U
Acetone	--	--	500	1000	0.03	100	MG/KG	< 0.000774 U	< 0.00108 U	0.272 J	< 0.00163 U	< 0.000508 U	< 0.000495 U	0.116	< 0.00088 U	0.123	< 0.00059 U	< 0.000537 U	0.0835
Benzene	--	--	20	20	0.06	*1.2*	MG/KG	< 0.000232 U	< 0.000325 U	< 0.000197 U	< 0.00049 U	< 0.000153 U	< 0.000149 U	< 0.000257 U	< 0.000264 U	*873*	0.108	0.0257	0.0215
Bromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000471 U	< 0.000659 U	< 0.000399 U	< 0.000994 U	< 0.00031 U	< 0.000301 U	< 0.000521 U	< 0.000536 U	< 0.000358 U	< 0.000359 U	< 0.000327 U	< 0.000322 U
Bromodichloromethane	--	--	--	--	--	--	MG/KG	< 0.000321 U	< 0.000448 U	< 0.000271 U	< 0.000676 U	< 0.000211 U	< 0.000205 U	< 0.000354 U	< 0.000364 U	< 0.000244 U	< 0.000245 U	< 0.000222 U	< 0.000219 U
Bromoform	--	--	--	--	--	--	MG/KG	< 0.000448 U	< 0.000627 U	< 0.00038 U	< 0.000945 U	< 0.000294 U	< 0.000287 U	< 0.000495 U	< 0.00051 U	< 0.000341 U	< 0.000342 U	< 0.000311 U	< 0.000306 U
Bromomethane	--	--	--	--	--	--	MG/KG	< 0.000737 U	< 0.00103 U	< 0.000624 U	< 0.00155 U	< 0.000484 U	< 0.000471 U	< 0.000814 U	< 0.000838 U	< 0.00056 U	< 0.000562 U	< 0.000511 U	< 0.000504 U
Carbon disulfide	2.7	100	--	--	--	--	MG/KG	0.00298	0.146	< 0.00031 U	0.0298	0.0272	< 0.000234 U	0.00917	0.016	0.0127	0.0162	0.00436	0.0165
Carbon tetrachloride	--	--	41	41	0.76	1.9	MG/KG	< 0.000384 U	< 0.000538 U	< 0.000325 U	< 0.000811 U	< 0.000252 U	< 0.000246 U	< 0.000425 U	< 0.000437 U	< 0.000292 U	< 0.000293 U	< 0.000267 U	< 0.000263 U
Chlorobenzene	--	--	500	1000	4.5	73	MG/KG	< 0.00037 U	< 0.000518 U	< 0.000314 U	< 0.000781 U	< 0.000243 U	< 0.000237 U	< 0.000409 U	< 0.000421 U	< 0.000282 U	< 0.000282 U	< 0.000257 U	< 0.000253 U
Chloroethane	1.9	--					MG/KG	< 0.000436 U	< 0.000609 U	< 0.000369 U	< 0.000919 U	< 0.000286 U	< 0.000278 U	< 0.000481 U	< 0.000495 U	< 0.000331 U	< 0.000332 U	< 0.000302 U	< 0.000298 U
Chloroform	--	--	180	180	0.37	4.8	MG/KG	< 0.000429 U	< 0.0006 U	< 0.000363 U	< 0.000905 U	< 0.000282 U	< 0.000274 U	< 0.000474 U	< 0.000488 U	< 0.000326 U	< 0.000327 U	< 0.000298 U	< 0.000293 U
Chloromethane	--	--					MG/KG	< 0.000984 U	< 0.00138 U	< 0.000833 U	< 0.00207 U	< 0.000646 U	< 0.000629 U	< 0.00109 U	< 0.00112 U	< 0.000748 U	< 0.00075 U	< 0.000682 U	< 0.000672 U
cis-1,2-Dichloroethene	--	--	500	590	0.19	8.7	MG/KG	< 0.000124 U	< 0.000173 U	< 0.000105 U	< 0.00026 U	< 0.0000811 U	< 0.000079 U	< 0.000136 U	< 0.00014 U	< 0.0000939 U	< 0.0000942 U	< 0.0000857 U	< 0.0000844 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000323 U	< 0.000452 U	< 0.000274 U	< 0.000681 U	< 0.000212 U	< 0.000207 U	< 0.000357 U	< 0.000367 U	< 0.000246 U	< 0.000246 U	< 0.000224 U	< 0.000221 U
Cyclohexane	--	--	--	--	--	--	MG/KG	< 0.000566 U	< 0.000791 U	< 0.000479 U	< 0.00119 UJ	< 0.000372 UJ	< 0.000362 UJ	< 0.000625 U	< 0.000643 U	< 0.00043 U	< 0.000432 U	< 0.000393 U	< 0.000387 U
Dibromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000314 U	< 0.000439 U	< 0.000266 U	< 0.000663 U	< 0.000206 U	< 0.000201 U	< 0.000347 U	< 0.000357 U	< 0.000239 U	< 0.00024 U	< 0.000218 U	< 0.000215 U
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--	MG/KG	< 0.000862 U	< 0.00121 U	< 0.00073 U	< 0.00182 UJ	< 0.000566 UJ	< 0.000551 UJ	< 0.000953 U	< 0.00098 U	< 0.000656 U	< 0.000658 U	< 0.000598 U	< 0.000589 U
Ethylbenzene	--	--	390	390	1	*32*	MG/KG	< 0.000346 U	< 0.000484 U	< 0.000293 U	< 0.00073 U	< 0.000227 U	< 0.000221 U	< 0.000382 U	< 0.000394 U	*9940*	1.44	9.42 J	0.00502
Isopropylbenzene (Cumene)	**2.3**	100	--	--	--	--	MG/KG	< 0.000401 U	< 0.000561 U	< 0.00034 U	< 0.000846 U	< 0.000263 U	< 0.000256 U	< 0.000443 U	< 0.000456 U	0.115	0.0864	0.0453	0.0131
Methyl acetate	--	--	--	--	--	--	MG/KG	< 0.000339 U	< 0.000473 U	< 0.000287 U	< 0.000714 U	< 0.000222 U	< 0.000216 U	< 0.000374 U	< 0.000385 U	< 0.000257 U	< 0.000258 U	< 0.000235 U	< 0.000231 U
Methylcyclohexane	--	--	--	--	--	--	MG/KG	0.00309	< 0.000575 U	< 0.000348 U	< 0.000867 U	< 0.00027 U	< 0.000263 U	< 0.000454 U	< 0.000468 U	0.00371	0.00232	0.00059 J	0.0681
Methylene chloride	--	--	500	1000	0.05	17	MG/KG	< 0.000768 U	< 0.00107 U	< 0.00065 U	< 0.00162 U	< 0.000504 U	< 0.000491 U	< 0.000848 U	< 0.000873 U	< 0.000584 U	< 0.000585 U	< 0.000533 U	< 0.000525 U
Styrene	--	--	--	--	--	--	MG/KG	< 0.000365 U	< 0.000511 U	< 0.000309 U	< 0.00077 U	< 0.00024 U	< 0.000234 U	< 0.000404 U	< 0.000415 U	< 0.000278 U	< 0.000279 U	< 0.000253 U	< 0.00025 U
tert-Butyl alcohol	--	--	--	--	--	--	MG/KG	< 0.00537 U	< 0.0075 U	0.817	< 0.0113 U	< 0.00352 U	< 0.00343 U	< 0.00593 U	< 0.0061 U	< 0.00408 U	< 0.00409 U	< 0.00372 U	< 0.00367 U
tert-Butyl methyl ether (MTBE)	--	--	500	890	0.1	40	MG/KG	< 0.000432 U	< 0.000604 U	< 0.000365 U	< 0.00091 U	< 0.000284 U	< 0.000276 U	< 0.000477 U	< 0.000491 U	< 0.000328 U	< 0.000329 U	< 0.0003 U	< 0.000295 U
Tetrachloroethene (PCE)	--	--	81	81	1.3	15	MG/KG	< 0.000253 U	< 0.000354 U	< 0.000214 U	< 0.000533 U	< 0.000166 U	< 0.000162 U	< 0.000279 U	< 0.000288 U	< 0.000192 U	< 0.000193 U	< 0.000175 U	< 0.000173 U
Toluene	--	--	500	1000	0.7	*100*	MG/KG	< 0.000206 U	< 0.000288 U	< 0.000174 U	< 0.000434 U	< 0.000135 U	< 0.000131 U	< 0.000227 U	< 0.000234 U	*4870*	0.563	0.131	0.00385
trans-1,2-Dichloroethene	--	--	500	1000	0.19	75	MG/KG	< 0.000346 U	< 0.000484 U	< 0.000293 U	< 0.00073 U	< 0.000227 U	< 0.000221 U	< 0.000382 U	< 0.000394 U	< 0.000263 U	< 0.000264 U	< 0.00024 U	< 0.000237 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000488 U	< 0.000682 U	< 0.000413 U	< 0.00103 U	< 0.00032 U	< 0.000312 U	< 0.000539 U	< 0.000555 U	< 0.000371 U	< 0.000372 U	< 0.000339 U	< 0.000333 U
Trichloroethene (TCE)	--	--	54	54	0.47	1.7	MG/KG	< 0.000376 U	< 0.000525 U	< 0.000318 U	< 0.000792 U	< 0.000247 U	< 0.00024 U	< 0.000415 U	< 0.000427 U	< 0.000286 U	< 0.000286 U	< 0.000261 U	< 0.000257 U
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--	MG/KG	< 0.000294 U	< 0.000411 U	< 0.000249 U	< 0.00062 U	< 0.000193 U	< 0.000188 U	< 0.000325 U	< 0.000334 U	< 0.000223 U	< 0.000224 U	< 0.000204 U	< 0.000201 U
Vinyl chloride	--	--	7.1	7.1	0.03	0.099	MG/KG	< 0.000485 U	< 0.000679 U	< 0.000411 U	< 0.00102 U	< 0.000319 U	< 0.00031 U	< 0.000536 U	< 0.000552 U	< 0.000369 U	< 0.00037 U	< 0.000337 U	< 0.000332 U
Xylene, o (1,2-Dimethylbenzene)	--	--	500	1000	1.6	*100*	MG/KG	< 0.000328 U	< 0.000459 U	< 0.000278 U	< 0.000692 U	< 0.000216 U	< 0.00021 U	< 0.000363 U	< 0.000373 U	*3820*	0.58	0.165	< 0.000224 U
Xylenes, m & p	--	--	--	--	--	--	MG/KG	< 0.000645 U	< 0.000902 U	< 0.000546 U	< 0.00136 U	< 0.000424 U	< 0.000412 U	< 0.000713 U	< 0.000733 U	8210	1.26	0.28	< 0.000441 U
Xylenes, total	--	--	500	1000	1.2	*100*	MG/KG	< 0.000328 U	< 0.000459 U	< 0.000278 U	< 0.000692 U	< 0.000216 U	< 0.00021 U	< 0.000363 U	< 0.000373 U	*12000*	1.84	0.446	< 0.000224 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentration above NYS_SUP_PGW is boldfaced
concentrations above NYSPART375C_DEC2025 are outlined
concentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3A
SOIL QUALITY DATA - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-201	MR-201	MR-201	MR-202	MR-202	MR-202	MR-202	MR-203	MR-203	MR-203	MR-203	MR-204
							Sample ID	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711
							Depth (feet)	12-14	17-19	30-32	2-4	8-10	15-17	30-32	6-8	10-14	15-17	30-32	6-8
							Sample Date	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023	7/25/2023	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units												
1,1,1-Trichloroethane	--	--	500	1000	0.68	100	MG/KG	< 0.000261 U	< 0.000492 U	< 0.000252 U	< 0.000277 U	< 0.000228 U	< 0.000626 U	< 0.000258 U	< 0.000241 U	< 0.000251 U	< 0.00083 U	< 0.000222 U	< 0.000306 U
1,1,2,2-Tetrachloroethane	0.6	35	--	--	--	--	MG/KG	< 0.000246 U	< 0.000465 U	< 0.000238 U	< 0.000262 U	< 0.000215 U	< 0.000592 U	< 0.000244 U	< 0.000227 U	< 0.000237 U	< 0.000785 U	< 0.00021 U	< 0.000289 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6	100	--	--	--	--	MG/KG	< 0.000764 U	< 0.00144 U	< 0.000738 U	< 0.000812 U	< 0.000667 U	< 0.00183 U	< 0.000755 U	< 0.000705 U	< 0.000735 U	< 0.00243 U	< 0.000652 U	< 0.000897 U
1,1,2-Trichloroethane	--	--	--	--	--	--	MG/KG	< 0.000301 U	< 0.000568 U	< 0.00029 U	< 0.00032 U	< 0.000263 U	< 0.000722 U	< 0.000297 U	< 0.000278 U	< 0.000289 U	< 0.000958 U	< 0.000257 U	< 0.000353 U
1,1-Dichloroethane	--	--	240	240	0.27	19	MG/KG	< 0.000261 U	< 0.000492 U	< 0.000252 U	< 0.000277 U	< 0.000228 U	< 0.000626 U	< 0.000258 U	< 0.000241 U	< 0.000251 U	< 0.00083 U	< 0.000222 U	< 0.000306 U
1,1-Dichloroethene	--	--	5.1	5.1	0.33	0.41	MG/KG	< 0.00033 U	< 0.000624 U	< 0.000319 U	< 0.000351 U	< 0.000289 U	< 0.000793 U	< 0.000326 U	< 0.000305 U	< 0.000318 U	< 0.00105 U	< 0.000282 U	< 0.000388 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	MG/KG	< 0.000385 U	< 0.000728 U	< 0.000372 U	< 0.00041 UJ	< 0.000337 UJ	< 0.000926 U	< 0.000381 U	< 0.000356 U	< 0.000371 U	< 0.00123 U	< 0.000329 U	< 0.000453 U
1,2,4-Trichlorobenzene	3.4		--	--	--	--	MG/KG	< 0.000476 U	< 0.000899 U	< 0.000459 U	< 0.000506 UJ	< 0.000416 UJ	< 0.00114 U	< 0.00047 U	< 0.000439 U	< 0.000458 U	< 0.00152 U	< 0.000406 U	< 0.000559 U
1,2,4-Trimethylbenzene	--	--	50	1000	5.9	*41*	MG/KG	< 0.000246 U	< 0.000465 U	< 0.000238 U	0.00198	< 0.000215 U	< 0.000592 U	< 0.000244 U	< 0.000227 U	< 0.000237 U	0.00275 J	< 0.00021 U	0.172
1,2-Dibromo-3-chloropropane (DBCP)	--	--	--	--	--	--	MG/KG	< 0.000435 U	< 0.000823 U	< 0.000421 U	< 0.000463 UJ	< 0.000381 UJ	< 0.00105 U	< 0.000431 U	< 0.000402 U	< 0.000419 U	< 0.00139 U	< 0.000371 U	< 0.000512 U
1,2-Dibromoethane (EDB)	--	--	--	--	--	--	MG/KG	< 0.000225 U	< 0.000425 U	< 0.000217 U	< 0.000239 U	< 0.000197 U	< 0.00054 U	< 0.000222 U	< 0.000208 U	< 0.000216 U	< 0.000716 U	< 0.000192 U	< 0.000264 U
1,2-Dichlorobenzene	--	--	500	1000	1.1	100	MG/KG	< 0.000315 U	< 0.000595 U	< 0.000304 U	< 0.000335 UJ	0.0169 J	< 0.000757 U	< 0.000311 U	< 0.000291 U	< 0.000303 U	< 0.001 U	< 0.000269 U	< 0.00037 U
1,2-Dichloroethane	--	--	30	30	0.02	2.4	MG/KG	< 0.000252 U	< 0.000475 U	< 0.000243 U	< 0.000267 U	< 0.00022 U	< 0.000604 U	< 0.000249 U	< 0.000232 U	< 0.000242 U	< 0.000802 U	< 0.000215 U	< 0.000296 U
1,2-Dichloropropane	--	--	--	--	--	--	MG/KG	< 0.000293 U	< 0.000553 U	< 0.000283 U	< 0.000311 U	< 0.000256 U	< 0.000703 U	< 0.000289 U	< 0.00027 U	< 0.000282 U	< 0.000933 U	< 0.00025 U	< 0.000344 U
1,3-Dichlorobenzene	--	--	280	280	2.6	11	MG/KG	< 0.000131 U	< 0.000248 U	< 0.000127 U	< 0.000139 U	0.00607	< 0.000315 U	< 0.00013 U	< 0.000121 U	< 0.000126 U	< 0.000418 U	< 0.000112 U	< 0.000154 U
1,4-Dichlorobenzene	--	--	130	130	1.8	10	MG/KG	< 0.000257 U	< 0.000486 U	< 0.000248 U	< 0.000273 UJ	0.0187 J	< 0.000617 U	< 0.000254 U	< 0.000237 U	< 0.000247 U	< 0.000819 U	< 0.000219 U	< 0.000302 U
2-Butanone (MEK)	0.3	100	500	1000	0.12	100	MG/KG	< 0.000291 U	< 0.00055 U	< 0.000281 U	< 0.000309 U	< 0.000254 U	< 0.000699 U	0.0282 J	< 0.000269 U	< 0.00028 U	0.131	< 0.000248 U	< 0.000342 U
2-Hexanone	--	--	--	--	--	--	MG/KG	< 0.000167 U	< 0.000315 U	< 0.000161 U	< 0.000177 U	< 0.000146 U	< 0.000401 U	< 0.000165 U	< 0.000154 U	< 0.000161 U	< 0.000532 U	< 0.000142 U	< 0.000196 U
4-Methyl-2-pentanone (MIBK)	1	--	--	--	--	--	MG/KG	< 0.000223 U	< 0.000422 U	< 0.000215 U	< 0.000237 U	< 0.000195 U	< 0.000536 U	< 0.000221 U	< 0.000206 U	< 0.000215 U	< 0.000711 U	< 0.00019 U	< 0.000262 U
Acetone	--	--	500	1000	0.03	100	MG/KG	< 0.000541 U	< 0.00102 U	< 0.000522 U	< 0.000575 U	< 0.000473 U	< 0.0013 U	0.109 J	< 0.000499 U	< 0.00052 U	0.668 J	< 0.000461 U	< 0.000635 U
Benzene	--	--	20	20	0.06	*1.2*	MG/KG	0.0301 J	0.00511	0.00243	0.0025	< 0.000142 U	< 0.00039 U	< 0.000161 U	< 0.00015 U	0.0307	*6.77*	0.000447 J	< 0.000191 U
Bromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000329 U	< 0.000622 U	< 0.000318 U	< 0.00035 U	< 0.000288 U	< 0.000791 U	< 0.000326 U	< 0.000304 U	< 0.000317 U	< 0.00105 U	< 0.000281 U	< 0.000387 U
Bromodichloromethane	--	--	--	--	--	--	MG/KG	< 0.000224 U	< 0.000423 U	< 0.000216 U	< 0.000238 U	< 0.000196 U	< 0.000538 U	< 0.000221 U	< 0.000207 U	< 0.000216 U	< 0.000714 U	< 0.000191 U	< 0.000263 U
Bromoform	--	--	--	--	--	--	MG/KG	< 0.000313 U	< 0.000592 U	< 0.000302 U	< 0.000333 U	< 0.000274 U	< 0.000752 U	< 0.00031 U	< 0.000289 U	< 0.000301 U	< 0.000998 U	< 0.000267 U	< 0.000368 U
Bromomethane	--	--	--	--	--	--	MG/KG	< 0.000515 U	< 0.000973 U	< 0.000497 U	< 0.000547 U	< 0.00045 U	< 0.00124 U	< 0.000509 U	< 0.000475 U	< 0.000496 U	< 0.00164 U	< 0.000439 U	< 0.000605 U
Carbon disulfide	2.7	100	--	--	--	--	MG/KG	0.0094 J	0.0823	0.00354	0.0231	< 0.000224 U	0.0222	0.00423	< 0.000236 U	< 0.000246 U	0.0342	< 0.000218 U	0.00947
Carbon tetrachloride	--	--	41	41	0.76	1.9	MG/KG	< 0.000269 U	< 0.000507 U	< 0.000259 U	< 0.000285 U	< 0.000235 U	< 0.000645 U	< 0.000266 U	< 0.000248 U	< 0.000258 U	< 0.000856 U	< 0.000229 U	< 0.000316 U
Chlorobenzene	--	--	500	1000	4.5	73	MG/KG	< 0.000259 U	< 0.000489 U	< 0.00025 U	< 0.000275 U	< 0.000226 U	< 0.000622 U	< 0.000256 U	< 0.000239 U	< 0.000249 U	< 0.000825 U	< 0.000221 U	< 0.000304 U
Chloroethane	1.9	--					MG/KG	< 0.000304 U	< 0.000575 U	< 0.000294 U	< 0.000323 U	< 0.000266 U	< 0.000731 U	< 0.000301 U	< 0.000281 U	< 0.000293 U	< 0.00097 U	< 0.00026 U	< 0.000357 U
Chloroform	--	--	180	180	0.37	4.8	MG/KG	< 0.0003 U	< 0.000566 U	< 0.00029 U	< 0.000319 U	< 0.000262 U	< 0.00072 U	< 0.000296 U	< 0.000277 U	< 0.000289 U	< 0.000955 U	< 0.000256 U	< 0.000352 U
Chloromethane	--	--					MG/KG	< 0.000687 U	< 0.0013 U	< 0.000664 U	< 0.00073 U	< 0.0006 U	< 0.00165 U	< 0.000679 U	< 0.000634 U	0.00916	< 0.00219 U	< 0.000586 U	< 0.000807 U
cis-1,2-Dichloroethene	--	--	500	590	0.19	8.7	MG/KG	< 0.0000863 U	< 0.000163 U	< 0.0000833 U	< 0.0000917 U	< 0.0000754 U	< 0.000207 U	< 0.0000853 U	< 0.0000797 U	< 0.000083 U	< 0.000275 U	0.00293	< 0.000101 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000226 U	< 0.000427 U	< 0.000218 U	< 0.00024 U	< 0.000197 U	< 0.000542 U	< 0.000223 U	< 0.000208 U	< 0.000217 U	< 0.000719 U	< 0.000193 U	< 0.000265 U
Cyclohexane	--	--	--	--	--	--	MG/KG	< 0.000395 U	< 0.000747 U	< 0.000382 U	0.0519	0.04	< 0.000949 U	< 0.000391 U	< 0.000365 U	< 0.00038 U	< 0.00126 U	< 0.000337 U	0.0304
Dibromochloromethane	--	--	--	--	--	--	MG/KG	< 0.00022 U	< 0.000415 U	< 0.000212 U	< 0.000233 U	< 0.000192 U	< 0.000527 U	< 0.000217 U	< 0.000203 U	< 0.000211 U	< 0.000699 U	< 0.000187 U	< 0.000258 U
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--	MG/KG	< 0.000602 U	< 0.00114 U	< 0.000582 U	< 0.00064 U	< 0.000526 U	< 0.00145 U	< 0.000596 U	< 0.000556 U	< 0.00058 U	< 0.00192 U	< 0.000514 U	< 0.000708 U
Ethylbenzene	--	--	390	390	1	*32*	MG/KG	0.00908 J	< 0.000457 U	< 0.000234 U	0.00674	< 0.000211 U	< 0.000581 U	< 0.000239 U	< 0.000223 U	< 0.000233 U	0.155	< 0.000206 U	0.0267
Isopropylbenzene (Cumene)	**2.3**	100	--	--	--	--	MG/KG	< 0.00028 U	< 0.000529 U	< 0.000271 U	0.0585	0.043	< 0.000673 U	< 0.000277 U	< 0.000259 U	< 0.00027 U	0.00447 J	< 0.000239 U	0.0601
Methyl acetate	--	--	--	--	--	--	MG/KG	< 0.000236 U	< 0.000447 U	< 0.000228 U	< 0.000251 U	< 0.000207 U	< 0.000568 U	< 0.000234 U	< 0.000218 U	< 0.000228 U	< 0.000753 U	< 0.000202 U	< 0.000278 U
Methylcyclohexane	--	--	--	--	--	--	MG/KG	0.041 J	< 0.000543 U	< 0.000277 U	0.367	0.268	< 0.00069 U	< 0.000284 U	< 0.000265 U	0.00527	< 0.000916 U	< 0.000245 U	0.229
Methylene chloride	--	--	500	1000	0.05	17	MG/KG	< 0.000536 U	< 0.00101 U	< 0.000518 U	< 0.00057 U	< 0.000469 U	< 0.00129 U	< 0.00053 U	< 0.000495 U	< 0.000516 U	< 0.00171 U	< 0.000457 U	< 0.000637 U
Styrene	--	--	--	--	--	--	MG/KG	< 0.000255 U	< 0.000482 U	< 0.000246 U	< 0.000271 U	< 0.000223 U	< 0.000613 U	< 0.000252 U	< 0.000236 U	< 0.000246 U	< 0.000813 U	< 0.000218 U	< 0.0003 U
tert-Butyl alcohol	--	--	--	--	--	--	MG/KG	< 0.00375 U	< 0.00708 U	< 0.00362 U	< 0.00398 U	< 0.00328 U	< 0.009 U	< 0.00371 U	< 0.00346 U	< 0.00361 U	< 0.0119 U	< 0.0032 U	< 0.0044 U
tert-Butyl methyl ether (MTBE)	--	--	500	890	0.1	40	MG/KG	< 0.000302 U	< 0.00057 U	< 0.000291 U	< 0.000321 U	< 0.000264 U	< 0.000724 U	< 0.000298 U	< 0.000278 U	< 0.00029 U	< 0.000961 U	< 0.000257 U	< 0.000354 U
Tetrachloroethene (PCE)	--	--	81	81	1.3	15	MG/KG	< 0.000177 U	< 0.000334 U	< 0.000171 U	< 0.000188 U	< 0.000154 U	< 0.000424 U	< 0.000175 U	< 0.000163 U	< 0.00017 U	< 0.000563 U	< 0.000151 U	< 0.000208 U
Toluene	--	--	500	1000	0.7	*100*	MG/KG	0.0038 J	< 0.000271 U	< 0.000139 U	0.00472	< 0.000126 U	< 0.000345 U	< 0.000142 U	0.000571 J	< 0.000138 U	0.0488	< 0.000123 U	0.00229
trans-1,2-Dichloroethene	--	--	500	1000	0.19	75	MG/KG	< 0.000242 U	< 0.000457 U	< 0.000234 U	< 0.000257 U	< 0.000211 U	< 0.000581 U	< 0.000239 U	< 0.000223 U	< 0.000233 U	< 0.000771 U	< 0.000206 U	< 0.000284 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000341 U	< 0.000644 U	< 0.000329 U	< 0.000362 U	< 0.000298 U	< 0.000819 U	< 0.000337 U	< 0.000315 U	< 0.000328 U	< 0.00109 U	< 0.000291 U	< 0.0004 U
Trichloroethene (TCE)	--	--	54	54	0.47	1.7	MG/KG	< 0.000262 U	< 0.000496 U	< 0.000253 U	< 0.000279 U	< 0.000229 U	< 0.00063 U	< 0.000259 U	< 0.000242 U	< 0.000252 U	< 0.000836 U	0.0219	< 0.000308 U
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--	MG/KG	< 0.000205 U	< 0.000388 U	< 0.000198 U	< 0.000218 U	< 0.000179 U	< 0.000493 U	< 0.000203 U	< 0.000189 U	< 0.000198 U	< 0.000654 U	< 0.000175 U	< 0.000241 U
Vinyl chloride	--	--	7.1	7.1	0.03	0.099	MG/KG	< 0.000339 U	< 0.000641 U	< 0.000327 U	< 0.00036 U	< 0.000296 U	< 0.000814 U	< 0.000335 U	< 0.000313 U	< 0.000326 U	< 0.00108 U	< 0.000289 U	< 0.000398 U
Xylene, o (1,2-Dimethylbenzene)	--	--	500	1000	1.6	*100*	MG/KG	< 0.000229 U	< 0.000433 U	< 0.000221 U	0.00963	0.00375	< 0.000551 U	< 0.000227 U	< 0.000212 U	< 0.000221 U	0.0532	< 0.000196 U	0.0182
Xylenes, m & p	--	--	--	--	--	--	MG/KG	< 0.000451 U	< 0.000851 U	< 0.000435 U	0.00394	< 0.000394 U	< 0.00108 U	< 0.000446 U	< 0.000416 U	< 0.000434 U	0.0376	< 0.000384 U	0.0335
Xylenes, total	--	--	500	1000	1.2	*100*	MG/KG	< 0.000229 U	< 0.000433 U	< 0.000221 U	0.0136	0.00375	< 0.000551 U	< 0.000227 U	< 0.000212 U	< 0.000221 U	0.0908	< 0.000196 U	0.0516

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentration above NYS_SUP_PGW is boldfaced
concentrations above NYSPART375C_DEC2025 are outlined
concentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3A
SOIL QUALITY DATA - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208	MR-208	MR-208
							Sample ID	MR-204-30.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724
							Depth (feet)	20-32	6-7	8-10	15-17	2-4	12-14	30-32	9-10	30-32	6-8	15-17	30-32
							Sample Date	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023	7/24/2023	7/24/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units												
1,1,1-Trichloroethane	--	--	500	1000	0.68	100	MG/KG	< 0.000246 U	< 0.000297 U	< 0.000252 U	< 0.00166 U	< 0.000307 U	< 0.000449 U	< 0.000207 U	< 0.000275 U	< 0.000264 U	< 0.000294 U	< 0.000228 U	< 0.00021 U
1,1,2,2-Tetrachloroethane	0.6	35	--	--	--	--	MG/KG	< 0.000232 U	< 0.00028 U	< 0.000238 U	< 0.00157 U	< 0.00029 U	< 0.000424 U	< 0.000196 U	< 0.00026 U	< 0.000249 U	< 0.000278 U	< 0.000216 U	< 0.000198 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6	100	--	--	--	--	MG/KG	< 0.00072 U	< 0.000869 U	< 0.000739 U	< 0.00486 U	< 0.0009 U	< 0.00132 U	< 0.000607 U	< 0.000807 U	< 0.000773 U	< 0.000861 U	< 0.000669 U	< 0.000615 U
1,1,2-Trichloroethane	--	--	--	--	--	--	MG/KG	< 0.000284 U	< 0.000342 U	< 0.000291 U	< 0.00191 U	< 0.000355 U	< 0.000518 U	< 0.000239 U	< 0.000318 U	< 0.000304 U	< 0.000339 U	< 0.000263 U	< 0.000242 U
1,1-Dichloroethane	--	--	240	240	0.27	19	MG/KG	< 0.000246 U	< 0.000297 U	< 0.000252 U	< 0.00166 U	< 0.000307 U	< 0.000449 U	< 0.000207 U	< 0.000275 U	< 0.000264 U	< 0.000294 U	< 0.000228 U	< 0.00021 U
1,1-Dichloroethene	--	--	5.1	5.1	0.33	0.41	MG/KG	< 0.000311 U	< 0.000376 U	< 0.000319 U	< 0.0021 U	< 0.000389 U	< 0.000569 U	< 0.000262 U	< 0.000349 U	< 0.000334 U	< 0.000372 U	< 0.000289 U	< 0.000266 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	MG/KG	< 0.000364 U	< 0.000439 U	< 0.000373 U	< 0.00245 U	< 0.000454 U	< 0.000664 U	< 0.000306 U	< 0.000407 U	< 0.00039 U	< 0.000435 U	< 0.000338 U	< 0.00031 U
1,2,4-Trichlorobenzene	3.4		--	--	--	--	MG/KG	< 0.000449 U	< 0.000541 U	< 0.00046 U	< 0.00303 U	< 0.000561 U	< 0.00082 U	< 0.000378 U	< 0.000502 U	< 0.000481 U	< 0.000536 U	< 0.000417 U	< 0.000383 U
1,2,4-Trimethylbenzene	--	--	50	1000	5.9	*41*	MG/KG	< 0.000232 U	< 0.00028 U	< 0.000238 U	< 0.00157 U	< 0.00029 U	< 0.000424 U	< 0.000196 U	< 0.00026 U	< 0.000249 U	< 0.000278 U	< 0.000216 U	< 0.000198 U
1,2-Dibromo-3-chloropropane (DBCP)	--	--	--	--	--	--	MG/KG	< 0.000411 U	< 0.000496 U	< 0.000421 U	< 0.00277 U	< 0.000513 U	< 0.000751 U	< 0.000346 U	< 0.00046 U	< 0.00044 U	< 0.000491 U	< 0.000381 U	< 0.00035 U
1,2-Dibromoethane (EDB)	--	--	--	--	--	--	MG/KG	< 0.000212 U	< 0.000256 U	< 0.000217 U	< 0.00143 U	< 0.000265 U	< 0.000388 U	< 0.000179 U	< 0.000237 U	< 0.000227 U	< 0.000254 U	< 0.000197 U	< 0.000181 U
1,2-Dichlorobenzene	--	--	500	1000	1.1	100	MG/KG	< 0.000297 U	< 0.000359 U	< 0.000305 U	< 0.002 U	< 0.000371 U	< 0.000543 U	< 0.00025 U	< 0.000333 U	< 0.000319 U	< 0.000355 U	< 0.000276 U	< 0.000254 U
1,2-Dichloroethane	--	--	30	30	0.02	2.4	MG/KG	< 0.000237 U	< 0.000286 U	< 0.000243 U	< 0.0016 U	< 0.000297 U	< 0.000434 U	< 0.0002 U	< 0.000266 U	< 0.000255 U	< 0.000284 U	< 0.00022 U	< 0.000203 U
1,2-Dichloropropane	--	--	--	--	--	--	MG/KG	< 0.000276 U	< 0.000333 U	< 0.000283 U	< 0.00186 U	< 0.000345 U	< 0.000504 U	< 0.000233 U	< 0.000309 U	< 0.000296 U	< 0.00033 U	< 0.000256 U	< 0.000236 U
1,3-Dichlorobenzene	--	--	280	280	2.6	11	MG/KG	< 0.000124 U	< 0.000149 U	< 0.000127 U	< 0.000834 U	< 0.000155 U	< 0.000226 U	< 0.000104 U	< 0.000139 U	< 0.000133 U	< 0.000148 U	< 0.000115 U	< 0.000106 U
1,4-Dichlorobenzene	--	--	130	130	1.8	10	MG/KG	< 0.000242 U	< 0.000293 U	< 0.000249 U	< 0.00163 U	< 0.000303 U	< 0.000443 U	< 0.000204 U	< 0.000271 U	< 0.00026 U	< 0.00029 U	< 0.000225 U	< 0.000207 U
2-Butanone (MEK)	0.3	100	500	1000	0.12	100	MG/KG	< 0.000274 U	< 0.000331 U	< 0.000281 U	< 0.00185 U	< 0.000343 U	< 0.000501 U	< 0.000231 U	< 0.000307 U	< 0.000294 U	< 0.000328 U	< 0.000255 U	< 0.000234 U
2-Hexanone	--	--	--	--	--	--	MG/KG	< 0.000157 U	< 0.00019 U	< 0.000161 U	< 0.00106 U	< 0.000197 U	< 0.000288 U	< 0.000133 U	< 0.000176 U	< 0.000169 U	< 0.000188 U	< 0.000146 U	< 0.000134 U
4-Methyl-2-pentanone (MIBK)	1	--	--	--	--	--	MG/KG	< 0.00021 U	< 0.000254 U	< 0.000216 U	< 0.00142 U	< 0.000263 U	< 0.000384 U	< 0.000177 U	< 0.000236 U	< 0.000226 U	< 0.000252 U	< 0.000195 U	< 0.00018 U
Acetone	--	--	500	1000	0.03	100	MG/KG	< 0.00051 U	< 0.000615 U	< 0.000523 U	0.676	< 0.000637 U	< 0.000932 U	< 0.00043 U	< 0.000571 U	< 0.000547 U	< 0.00061 U	< 0.000474 U	< 0.000435 U
Benzene	--	--	20	20	0.06	*1.2*	MG/KG	< 0.000153 U	0.00296	< 0.000157 U	< 0.00103 U	< 0.000191 U	< 0.00028 U	< 0.000129 U	< 0.000172 U	< 0.000164 U	< 0.000183 U	< 0.000142 U	< 0.000131 U
Bromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000311 U	< 0.000375 U	< 0.000318 U	< 0.00209 U	< 0.000388 U	< 0.000568 U	< 0.000262 U	< 0.000348 U	< 0.000333 U	< 0.000371 U	< 0.000288 U	< 0.000265 U
Bromodichloromethane	--	--	--	--	--	--	MG/KG	< 0.000211 U	< 0.000255 U	< 0.000217 U	< 0.00142 U	< 0.000264 U	< 0.000386 U	< 0.000178 U	< 0.000237 U	< 0.000227 U	< 0.000253 U	< 0.000196 U	< 0.00018 U
Bromoform	--	--	--	--	--	--	MG/KG	< 0.000295 U	< 0.000356 U	< 0.000303 U	< 0.00199 U	< 0.000369 U	< 0.00054 U	< 0.000249 U	< 0.000331 U	< 0.000317 U	< 0.000353 U	< 0.000274 U	< 0.000252 U
Bromomethane	--	--	--	--	--	--	MG/KG	< 0.000486 U	< 0.000586 U	< 0.000498 U	0.12	< 0.000607 U	< 0.000887 U	< 0.000409 U	< 0.000544 U	< 0.000521 U	< 0.000581 U	< 0.000451 U	< 0.000414 U
Carbon disulfide	2.7	100	--	--	--	--	MG/KG	< 0.000242 U	< 0.000291 U	< 0.000248 U	< 0.00163 U	< 0.000302 U	< 0.000441 U	< 0.000204 U	< 0.00027 U	< 0.000259 U	< 0.000289 U	< 0.000224 U	< 0.000206 U
Carbon tetrachloride	--	--	41	41	0.76	1.9	MG/KG	< 0.000253 U	< 0.000306 U	< 0.00026 U	< 0.00171 U	< 0.000317 U	< 0.000463 U	< 0.000213 U	< 0.000284 U	< 0.000272 U	< 0.000303 U	< 0.000235 U	< 0.000216 U
Chlorobenzene	--	--	500	1000	4.5	73	MG/KG	< 0.000244 U	< 0.000295 U	< 0.00025 U	< 0.00165 U	< 0.000305 U	< 0.000446 U	< 0.000206 U	< 0.000273 U	< 0.000262 U	< 0.000292 U	< 0.000227 U	< 0.000208 U
Chloroethane	1.9	--					MG/KG	< 0.000287 U	< 0.000346 U	< 0.000294 U	< 0.00194 U	< 0.000359 U	< 0.000524 U	< 0.000242 U	< 0.000321 U	< 0.000308 U	< 0.000343 U	< 0.000266 U	< 0.000245 U
Chloroform	--	--	180	180	0.37	4.8	MG/KG	< 0.000283 U	< 0.000341 U	< 0.00029 U	< 0.00191 U	< 0.000353 U	< 0.000517 U	< 0.000238 U	< 0.000317 U	< 0.000303 U	< 0.000338 U	< 0.000263 U	< 0.000241 U
Chloromethane	--	--					MG/KG	< 0.000648 U	< 0.000782 U	< 0.000664 U	0.966	< 0.00081 U	0.0237	< 0.000546 U	< 0.000726 U	0.0131	< 0.000775 U	< 0.000602 U	< 0.000553 U
cis-1,2-Dichloroethene	--	--	500	590	0.19	8.7	MG/KG	< 0.0000814 U	< 0.0000982 U	< 0.0000834 U	< 0.000549 U	< 0.000102 U	< 0.000149 U	< 0.0000686 U	< 0.0000911 U	< 0.0000873 U	< 0.0000973 U	< 0.0000756 U	< 0.0000694 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000213 U	< 0.000257 U	< 0.000218 U	< 0.00144 U	< 0.000266 U	< 0.000389 U	< 0.000179 U	< 0.000238 U	< 0.000228 U	< 0.000255 U	< 0.000198 U	< 0.000182 U
Cyclohexane	--	--	--	--	--	--	MG/KG	< 0.000373 U	< 0.00045 U	< 0.000382 UJ	< 0.00251 UJ	< 0.000466 UJ	< 0.000681 UJ	< 0.000314 UJ	0.00589	< 0.0004 UJ	< 0.000446 U	< 0.000346 U	< 0.000318 U
Dibromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000207 U	< 0.00025 U	< 0.000212 U	< 0.0014 U	< 0.000259 U	< 0.000378 U	< 0.000174 U	< 0.000232 U	< 0.000222 U	< 0.000248 U	< 0.000192 U	< 0.000177 U
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--	MG/KG	< 0.000568 U	< 0.000686 U	< 0.000583 UJ	< 0.00383 UJ	< 0.00071 UJ	< 0.00104 UJ	< 0.000479 UJ	< 0.000636 U	< 0.000609 UJ	< 0.000679 U	< 0.000528 U	< 0.000485 U
Ethylbenzene	--	--	390	390	1	*32*	MG/KG	< 0.000228 U	< 0.000275 U	< 0.000234 U	< 0.00154 U	< 0.000285 U	< 0.000417 U	< 0.000192 U	< 0.000255 U	< 0.000245 U	< 0.000273 U	< 0.000212 U	< 0.000195 U
Isopropylbenzene (Cumene)	**2.3**	100	--	--	--	--	MG/KG	< 0.000264 U	< 0.000319 U	< 0.000271 U	< 0.00178 U	< 0.00033 U	< 0.000483 U	< 0.000223 U	< 0.000296 U	< 0.000283 U	< 0.000316 U	< 0.000245 U	< 0.000225 U
Methyl acetate	--	--	--	--	--	--	MG/KG	< 0.000223 U	< 0.000269 U	< 0.000229 U	< 0.0015 U	< 0.000279 U	< 0.000408 U	< 0.000188 U	< 0.00025 U	< 0.000239 U	< 0.000267 U	< 0.000207 U	< 0.00019 U
Methylcyclohexane	--	--	--	--	--	--	MG/KG	0.00398	< 0.000327 U	< 0.000278 U	< 0.00183 U	< 0.000339 U	< 0.000495 U	< 0.000228 U	0.0741	< 0.000291 U	< 0.000324 U	< 0.000252 U	< 0.000231 U
Methylene chloride	--	--	500	1000	0.05	17	MG/KG	< 0.000506 U	< 0.00061 U	< 0.000519 U	< 0.00341 U	< 0.000632 U	< 0.000924 U	< 0.000426 U	< 0.000566 U	< 0.000542 U	< 0.000605 U	< 0.00047 U	< 0.000432 U
Styrene	--	--	--	--	--	--	MG/KG	< 0.000241 U	< 0.00029 U	< 0.000247 U	< 0.00162 U	< 0.000301 U	< 0.00044 U	< 0.000203 U	< 0.00027 U	< 0.000258 U	< 0.000288 U	< 0.000224 U	< 0.000205 U
tert-Butyl alcohol	--	--	--	--	--	--	MG/KG	< 0.00353 U	< 0.00427 U	< 0.00362 U	< 0.0238 U	< 0.00442 U	< 0.00646 U	< 0.00298 U	< 0.00396 U	< 0.00379 U	< 0.00423 U	< 0.00328 U	< 0.00302 U
tert-Butyl methyl ether (MTBE)	--	--	500	890	0.1	40	MG/KG	< 0.000284 U	< 0.000343 U	< 0.000292 U	< 0.00192 U	< 0.000356 U	< 0.00052 U	< 0.00024 U	< 0.000319 U	< 0.000305 U	< 0.00034 U	0.0022	< 0.000243 U
Tetrachloroethene (PCE)	--	--	81	81	1.3	15	MG/KG	< 0.000167 U	< 0.000201 U	< 0.000171 U	< 0.00112 U	< 0.000208 U	< 0.000305 U	< 0.00014 U	< 0.000187 U	< 0.000179 U	< 0.000199 U	< 0.000155 U	< 0.000142 U
Toluene	--	--	500	1000	0.7	*100*	MG/KG	< 0.000136 U	< 0.000164 U	< 0.000139 U	< 0.000914 U	< 0.000169 U	< 0.000248 U	< 0.000114 U	< 0.000152 U	< 0.000145 U	< 0.000162 U	< 0.000126 U	< 0.000116 U
trans-1,2-Dichloroethene	--	--	500	1000	0.19	75	MG/KG	< 0.000228 U	< 0.000275 U	< 0.000234 U	< 0.00154 U	< 0.000285 U	< 0.000417 U	< 0.000192 U	< 0.000255 U	< 0.000245 U	< 0.000273 U	< 0.000212 U	< 0.000195 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000322 U	< 0.000388 U	< 0.00033 U	< 0.00217 U	< 0.000402 U	< 0.000588 U	< 0.000271 U	< 0.00036 U	< 0.000345 U	< 0.000384 U	< 0.000299 U	< 0.000274 U
Trichloroethene (TCE)	--	--	54	54	0.47	1.7	MG/KG	0.00131 J	< 0.000299 U	< 0.000254 U	< 0.00167 U	< 0.000309 U	< 0.000452 U	< 0.000209 U	< 0.000277 U	< 0.000265 U	< 0.000296 U	< 0.00023 U	0.000672 J
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--	MG/KG	0.00193	< 0.000234 U	< 0.000198 U	< 0.00131 U	< 0.000242 U	< 0.000354 U	< 0.000163 U	< 0.000217 U	< 0.000208 U	< 0.000231 U	< 0.00018 U	< 0.000165 U
Vinyl chloride	--	--	7.1	7.1	0.03	0.099	MG/KG	< 0.00032 U	< 0.000386 U	< 0.000328 U	< 0.00216 U	< 0.0004 U	< 0.000584 U	< 0.000269 U	< 0.000358 U	< 0.000343 U	< 0.000382 U	< 0.000297 U	< 0.000273 U
Xylene, o (1,2-Dimethylbenzene)	--	--	500	1000	1.6	*100*	MG/KG	< 0.000216 U	< 0.000261 U	< 0.000222 U	< 0.00146 U	< 0.00027 U	< 0.000395 U	< 0.000182 U	< 0.000242 U	< 0.000232 U	< 0.000259 U	< 0.000201 U	< 0.000185 U
Xylenes, m & p	--	--	--	--	--	--	MG/KG	< 0.000425 U	< 0.000513 U	< 0.000436 U	< 0.00287 U	< 0.000531 U	< 0.000777 U	< 0.000358 U	< 0.000476 U	< 0.000456 U	< 0.000508 U	< 0.000395 U	< 0.000363 U
Xylenes, total	--	--	500	1000	1.2	*100*	MG/KG	< 0.000216 U	< 0.000261 U	< 0.000222 U	< 0.00146 U	< 0.00027 U	< 0.000395 U	< 0.000182 U	< 0.000242 U	< 0.000232 U	< 0.000259 U	< 0.000201 U	< 0.000185 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentration above NYS_SUP_PGW is boldfaced
concentrations above NYSPART375C_DEC2025 are outlined
concentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3A
SOIL QUALITY DATA - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-301	MR-301	MR-301	MR-302	MR-302	MR-302
							Sample ID	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-301-6.0-8.0-20230612	MR-301-25.0-27.0-20230612	MR-301-65.0-67.0-20230613	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823
							Depth (feet)	5-7	15-17	30-32	0-2	15-17	30-32	6-8	25-27	65-67	6-8	25-27	65-67
							Sample Date	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	6/12/2023	6/12/2023	6/13/2023	8/23/2023	8/23/2023	8/23/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units												
1,1,1-Trichloroethane	--	--	500	1000	0.68	100	MG/KG	< 0.00023 U	< 0.000239 U	< 0.000241 U	< 0.00025 U	< 0.000231 U	< 0.000252 U	< 0.000483 U	< 0.000171 UJ	< 0.000202 U	< 0.000585 U	< 0.000249 U	< 0.000216 U
1,1,2,2-Tetrachloroethane	0.6	35	--	--	--	--	MG/KG	< 0.000218 U	< 0.000226 U	< 0.000228 U	< 0.000236 U	< 0.000218 U	< 0.000238 U	< 0.000456 U	< 0.000161 UJ	< 0.000191 U	< 0.000553 U	< 0.000235 U	< 0.000204 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6	100	--	--	--	--	MG/KG	< 0.000675 U	< 0.000701 U	< 0.000708 U	< 0.000732 U	< 0.000676 U	< 0.000738 U	< 0.00142 U	< 0.0005 UJ	< 0.000592 U	< 0.00171 U	< 0.00073 U	< 0.000632 U
1,1,2-Trichloroethane	--	--	--	--	--	--	MG/KG	< 0.000266 U	< 0.000276 U	< 0.000279 U	< 0.000288 U	< 0.000266 U	< 0.00029 U	< 0.000557 U	< 0.000197 UJ	< 0.000233 U	< 0.000675 U	< 0.000287 U	< 0.000249 U
1,1-Dichloroethane	--	--	240	240	0.27	19	MG/KG	< 0.00023 U	< 0.000239 U	< 0.000241 U	< 0.00025 U	< 0.000231 U	< 0.000252 U	< 0.000483 U	< 0.000171 UJ	< 0.000202 U	< 0.000585 U	< 0.000249 U	< 0.000216 U
1,1-Dichloroethene	--	--	5.1	5.1	0.33	0.41	MG/KG	< 0.000292 U	< 0.000303 U	< 0.000306 U	< 0.000316 U	< 0.000292 U	< 0.000319 U	< 0.000612 U	< 0.000216 UJ	< 0.000256 U	< 0.000741 U	< 0.000316 U	< 0.000273 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	MG/KG	< 0.000341 U	< 0.000354 U	< 0.000357 U	< 0.000369 U	< 0.000341 U	< 0.000372 U	< 0.000714 U	< 0.000253 UJ	< 0.000299 U	< 0.000865 U	< 0.000368 U	< 0.000319 U
1,2,4-Trichlorobenzene	3.4		--	--	--	--	MG/KG	< 0.000421 U	< 0.000437 U	< 0.000441 U	< 0.000456 U	< 0.000421 U	< 0.000459 U	< 0.000881 U	< 0.000312 UJ	< 0.000369 U	< 0.00107 U	< 0.000455 U	< 0.000394 U
1,2,4-Trimethylbenzene	--	--	50	1000	5.9	*41*	MG/KG	< 0.000218 U	< 0.000226 U	< 0.000228 U	< 0.000236 U	< 0.000218 U	< 0.000238 U	< 0.000456 U	3.16	0.101	< 0.000553 U	< 0.000235 U	< 0.000204 U
1,2-Dibromo-3-chloropropane (DBCP)	--	--	--	--	--	--	MG/KG	< 0.000385 U	< 0.0004 U	< 0.000404 U	< 0.000417 U	< 0.000385 U	< 0.000421 U	< 0.000807 U	< 0.000285 UJ	< 0.000337 UJ	< 0.000978 U	< 0.000416 U	< 0.00036 U
1,2-Dibromoethane (EDB)	--	--	--	--	--	--	MG/KG	< 0.000199 U	< 0.000206 U	< 0.000208 U	< 0.000215 U	< 0.000199 U	< 0.000217 U	< 0.000417 U	< 0.000147 UJ	< 0.000174 U	< 0.000505 U	< 0.000215 U	< 0.000186 U
1,2-Dichlorobenzene	--	--	500	1000	1.1	100	MG/KG	< 0.000279 U	< 0.000289 U	< 0.000292 U	< 0.000302 U	< 0.000279 U	< 0.000304 U	< 0.000584 U	< 0.000206 UJ	< 0.000244 U	< 0.000707 U	< 0.000301 U	< 0.000261 U
1,2-Dichloroethane	--	--	30	30	0.02	2.4	MG/KG	< 0.000223 U	< 0.000231 U	< 0.000233 U	< 0.000241 U	< 0.000223 U	< 0.000243 U	< 0.000466 U	< 0.000165 UJ	< 0.000195 U	< 0.000565 U	< 0.000241 U	< 0.000208 U
1,2-Dichloropropane	--	--	--	--	--	--	MG/KG	< 0.000259 U	< 0.000269 U	< 0.000271 U	< 0.00028 U	< 0.000259 U	< 0.000283 U	< 0.000542 U	< 0.000192 UJ	< 0.000227 U	< 0.000657 U	< 0.00028 U	< 0.000242 U
1,3-Dichlorobenzene	--	--	280	280	2.6	11	MG/KG	< 0.000116 U	< 0.00012 U	< 0.000122 U	< 0.000126 U	< 0.000116 U	< 0.000127 U	< 0.000243 U	< 0.0000859 UJ	< 0.000102 U	< 0.000294 U	< 0.000125 U	< 0.000109 U
1,4-Dichlorobenzene	--	--	130	130	1.8	10	MG/KG	< 0.000227 U	< 0.000236 U	< 0.000238 U	< 0.000246 U	< 0.000227 U	< 0.000248 U	< 0.000476 U	< 0.000168 UJ	< 0.000199 U	< 0.000577 U	< 0.000246 U	< 0.000213 U
2-Butanone (MEK)	0.3	100	500	1000	0.12	100	MG/KG	< 0.000257 U	< 0.000267 U	< 0.00027 U	< 0.000279 U	< 0.000257 U	< 0.000281 U	< 0.000539 U	< 0.000191 UJ	< 0.000225 U	< 0.000653 U	< 0.000278 U	< 0.000241 U
2-Hexanone	--	--	--	--	--	--	MG/KG	< 0.000148 U	< 0.000153 U	< 0.000155 U	< 0.00016 U	< 0.000148 U	< 0.000161 U	< 0.000309 U	< 0.000109 UJ	< 0.000129 U	< 0.000375 U	< 0.000159 U	< 0.000138 U
4-Methyl-2-pentanone (MIBK)	1	--	--	--	--	--	MG/KG	< 0.000197 U	< 0.000205 U	< 0.000207 U	< 0.000214 U	< 0.000197 U	< 0.000216 U	< 0.000413 U	< 0.000146 UJ	< 0.000173 U	< 0.000501 U	< 0.000213 U	< 0.000185 U
Acetone	--	--	500	1000	0.03	100	MG/KG	< 0.000478 U	< 0.000497 U	< 0.000501 U	< 0.000518 U	< 0.000478 U	< 0.000522 U	< 0.001 U	< 0.000354 UJ	< 0.000419 U	< 0.00121 U	< 0.000517 U	< 0.000447 U
Benzene	--	--	20	20	0.06	*1.2*	MG/KG	< 0.000144 U	< 0.000149 U	< 0.00015 U	< 0.000156 U	< 0.000144 U	< 0.000157 U	< 0.000301 U	0.163	0.00816	< 0.000365 U	0.0484	0.000813 J
Bromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000291 U	< 0.000302 U	< 0.000305 U	< 0.000316 U	< 0.000291 U	< 0.000318 U	< 0.00061 U	< 0.000216 UJ	< 0.000255 U	< 0.000739 U	< 0.000315 U	< 0.000272 U
Bromodichloromethane	--	--	--	--	--	--	MG/KG	< 0.000198 U	< 0.000206 U	< 0.000208 U	< 0.000215 U	< 0.000198 U	< 0.000216 U	< 0.000415 U	< 0.000147 UJ	< 0.000174 U	< 0.000503 U	< 0.000214 U	< 0.000185 U
Bromoform	--	--	--	--	--	--	MG/KG	< 0.000277 UJ	< 0.000288 UJ	< 0.00029 UJ	< 0.0003 U	< 0.000277 U	< 0.000303 U	< 0.00058 U	< 0.000205 UJ	< 0.000243 U	< 0.000703 U	< 0.000299 U	< 0.000259 U
Bromomethane	--	--	--	--	--	--	MG/KG	< 0.000455 U	< 0.000473 U	< 0.000477 U	< 0.000493 U	< 0.000456 U	< 0.000497 U	< 0.000954 U	< 0.000337 UJ	< 0.000399 UJ	< 0.00116 UJ	< 0.000492 U	< 0.000426 U
Carbon disulfide	2.7	100	--	--	--	--	MG/KG	< 0.000226 U	< 0.000235 U	< 0.000237 U	0.00878	< 0.000227 U	< 0.000247 U	< 0.000474 U	< 0.000168 UJ	0.00119 J	0.0191	< 0.000245 U	< 0.000212 U
Carbon tetrachloride	--	--	41	41	0.76	1.9	MG/KG	< 0.000238 U	< 0.000247 U	< 0.000249 U	< 0.000257 U	< 0.000238 U	< 0.000259 U	< 0.000498 U	< 0.000176 UJ	< 0.000208 U	< 0.000603 U	< 0.000257 U	< 0.000222 U
Chlorobenzene	--	--	500	1000	4.5	73	MG/KG	< 0.000229 U	< 0.000238 U	< 0.00024 U	< 0.000248 U	< 0.000229 U	< 0.00025 U	< 0.000479 U	< 0.00017 UJ	< 0.000201 U	< 0.000581 U	< 0.000247 U	< 0.000214 U
Chloroethane	1.9	--					MG/KG	< 0.000269 U	< 0.000279 U	< 0.000282 U	< 0.000292 U	< 0.000269 U	< 0.000294 U	< 0.000564 U	< 0.000199 UJ	< 0.000236 U	< 0.000683 UJ	< 0.000291 UJ	< 0.000252 UJ
Chloroform	--	--	180	180	0.37	4.8	MG/KG	< 0.000265 U	< 0.000275 U	< 0.000278 U	< 0.000287 U	< 0.000265 U	< 0.00029 U	< 0.000555 U	< 0.000196 UJ	< 0.000232 U	< 0.000673 U	< 0.000287 U	< 0.000248 U
Chloromethane	--	--					MG/KG	< 0.000608 U	< 0.000631 U	< 0.000637 U	< 0.000658 U	< 0.000608 U	< 0.000664 U	< 0.00127 U	< 0.00045 UJ	< 0.000532 U	< 0.00154 UJ	< 0.000657 U	< 0.000569 U
cis-1,2-Dichloroethene	--	--	500	590	0.19	8.7	MG/KG	< 0.0000763 U	< 0.0000792 U	< 0.00008 U	< 0.0000827 U	< 0.0000763 U	< 0.0000834 U	< 0.00016 U	< 0.0000565 UJ	< 0.0000669 U	< 0.000194 U	< 0.0000825 U	< 0.0000714 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.0002 U	< 0.000207 U	< 0.000209 U	< 0.000216 U	< 0.0002 U	< 0.000218 U	< 0.000418 U	< 0.000148 UJ	< 0.000175 U	< 0.000507 U	< 0.000216 U	< 0.000187 U
Cyclohexane	--	--	--	--	--	--	MG/KG	< 0.00035 U	< 0.000363 U	< 0.000366 U	< 0.000379 U	< 0.00035 U	< 0.000382 UJ	< 0.000732 U	0.0107 J	< 0.000306 U	< 0.000887 U	< 0.000378 U	< 0.000327 U
Dibromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000194 U	< 0.000202 U	< 0.000203 U	< 0.00021 U	< 0.000194 U	< 0.000212 U	< 0.000407 U	< 0.000144 UJ	< 0.00017 U	< 0.000493 U	< 0.00021 U	< 0.000182 U
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--	MG/KG	< 0.000533 U	< 0.000553 U	< 0.000558 U	< 0.000577 U	< 0.000533 U	< 0.000582 UJ	< 0.00112 U	< 0.000395 UJ	< 0.000467 UJ	< 0.00135 UJ	< 0.000576 U	< 0.000498 U
Ethylbenzene	--	--	390	390	1	*32*	MG/KG	< 0.000214 U	< 0.000222 U	< 0.000224 U	< 0.000232 U	< 0.000214 U	< 0.000234 U	< 0.000448 U	3.43	0.0839	< 0.000543 U	0.000555 J	< 0.0002 U
Isopropylbenzene (Cumene)	**2.3**	100	--	--	--	--	MG/KG	< 0.000248 U	< 0.000257 U	< 0.00026 U	< 0.000268 U	< 0.000248 U	< 0.000271 U	< 0.000519 U	0.371	0.0132	< 0.000629 U	< 0.000268 U	< 0.000232 U
Methyl acetate	--	--	--	--	--	--	MG/KG	< 0.000209 U	< 0.000217 U	< 0.000219 U	< 0.000227 U	< 0.000209 U	< 0.000228 U	< 0.000438 U	< 0.000155 UJ	< 0.000183 U	< 0.000531 U	< 0.000226 U	< 0.000196 U
Methylcyclohexane	--	--	--	--	--	--	MG/KG	< 0.000254 U	< 0.000264 U	< 0.000266 U	< 0.000275 U	< 0.000254 U	< 0.000278 U	< 0.000532 U	0.0439 J	< 0.000223 U	< 0.000645 U	< 0.000275 U	< 0.000238 U
Methylene chloride	--	--	500	1000	0.05	17	MG/KG	< 0.000474 U	< 0.000492 U	< 0.000497 U	< 0.000514 U	< 0.000475 U	< 0.000518 U	< 0.000993 U	< 0.000351 UJ	< 0.000416 U	< 0.0012 U	< 0.000513 U	< 0.000444 U
Styrene	--	--	--	--	--	--	MG/KG	< 0.000226 U	< 0.000234 U	< 0.000236 U	< 0.000245 U	< 0.000226 U	< 0.000247 U	< 0.000473 U	< 0.000167 UJ	< 0.000198 U	< 0.000573 U	< 0.000244 U	< 0.000211 U
tert-Butyl alcohol	--	--	--	--	--	--	MG/KG	< 0.00331 U	< 0.00344 U	< 0.00347 U	< 0.00359 U	< 0.00332 U	< 0.00362 U	< 0.00694 U	< 0.00246 UJ	< 0.0029 U	< 0.00841 U	< 0.00358 U	< 0.0031 U
tert-Butyl methyl ether (MTBE)	--	--	500	890	0.1	40	MG/KG	< 0.000267 U	< 0.000277 U	< 0.000279 U	< 0.000289 U	< 0.000267 U	< 0.000291 U	< 0.000559 U	< 0.000198 UJ	< 0.000234 U	< 0.000677 U	< 0.000288 U	< 0.00025 U
Tetrachloroethene (PCE)	--	--	81	81	1.3	15	MG/KG	< 0.000156 U	< 0.000162 U	< 0.000164 U	< 0.000169 U	< 0.000156 U	< 0.000171 U	< 0.000327 U	< 0.000116 UJ	< 0.000137 U	< 0.000397 U	< 0.000169 U	< 0.000146 U
Toluene	--	--	500	1000	0.7	*100*	MG/KG	< 0.000127 U	< 0.000132 U	< 0.000133 U	< 0.000138 U	< 0.000127 U	< 0.000139 U	< 0.000266 U	1.21	0.0272	< 0.000323 U	< 0.000137 U	0.000879 J
trans-1,2-Dichloroethene	--	--	500	1000	0.19	75	MG/KG	< 0.000214 U	< 0.000222 U	< 0.000224 U	< 0.000232 U	< 0.000214 U	< 0.000234 U	< 0.000448 U	< 0.000158 UJ	< 0.000187 U	< 0.000543 U	< 0.000231 U	< 0.0002 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000301 U	< 0.000313 U	< 0.000316 U	< 0.000327 U	< 0.000302 U	< 0.000329 U	< 0.000631 U	< 0.000223 UJ	< 0.000264 U	< 0.000765 U	< 0.000326 U	< 0.000282 U
Trichloroethene (TCE)	--	--	54	54	0.47	1.7	MG/KG	< 0.000232 U	< 0.000241 U	0.00109 J	< 0.000251 U	0.00956	< 0.000253 U	< 0.000486 U	< 0.000172 UJ	< 0.000203 U	< 0.000589 U	< 0.000251 U	< 0.000217 U
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--	MG/KG	< 0.000182 U	< 0.000188 U	< 0.00019 U	< 0.000197 U	< 0.000182 U	< 0.000198 U	< 0.00038 U	< 0.000134 UJ	< 0.000159 U	< 0.000461 U	< 0.000196 U	< 0.00017 U
Vinyl chloride	--	--	7.1	7.1	0.03	0.099	MG/KG	< 0.0003 U	< 0.000311 U	< 0.000314 U	< 0.000325 U	< 0.0003 U	< 0.000328 U	< 0.000628 U	< 0.000222 UJ	< 0.000263 U	< 0.000761 U	< 0.000324 U	< 0.000281 U
Xylene, o (1,2-Dimethylbenzene)	--	--	500	1000	1.6	*100*	MG/KG	< 0.000203 U	< 0.000211 U	< 0.000213 U	< 0.00022 U	< 0.000203 U	< 0.000222 U	< 0.000425 U	1.31	0.0509	< 0.000515 U	< 0.000219 U	< 0.00019 U
Xylenes, m & p	--	--	--	--	--	--	MG/KG	< 0.000399 U	< 0.000414 U	< 0.000418 U	< 0.000432 U	< 0.000399 U	< 0.000435 U	< 0.000835 U	2.62	0.0946	< 0.00101 U	< 0.000431 U	< 0.000373 U
Xylenes, total	--	--	500	1000	1.2	*100*	MG/KG	< 0.000203 U	< 0.000211 U	< 0.000213 U	< 0.00022 U	< 0.000203 U	< 0.000222 U	< 0.000425 U	3.93	0.145	< 0.000515 U	< 0.000219 U	< 0.00019 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentration above NYS_SUP_PGW is boldfaced
concentrations above NYSPART375C_DEC2025 are outlined
concentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3A
SOIL QUALITY DATA - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-303	MR-303	MR-303	MR-303	MR-303	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109
							Sample ID	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817
							Depth (feet)	4-6	15-17	20-22	35-37	75-77	6-8	27-29	65-67	4-5	4-5	5-6	3-4.5
							Sample Date	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units												
1,1,1-Trichloroethane	--	--	500	1000	0.68	100	MG/KG	< 0.000297 U	< 0.000458 U	< 0.000268 UJ	< 0.000263 U	< 0.000234 U	< 0.00039 U	< 0.000276 U	< 0.000218 U	< 0.000301 U	< 0.000786 U	< 0.000327 U	< 0.000334 U
1,1,2,2-Tetrachloroethane	0.6	35	--	--	--	--	MG/KG	< 0.000281 U	< 0.000433 U	< 0.000254 UJ	< 0.000249 U	< 0.000221 U	< 0.000369 U	< 0.000261 U	< 0.000206 UJ	< 0.000284 U	< 0.000743 U	< 0.000309 U	< 0.000316 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6	100	--	--	--	--	MG/KG	< 0.000872 U	< 0.00134 U	< 0.000786 UJ	< 0.000772 U	< 0.000686 U	< 0.00114 U	< 0.000809 U	< 0.000638 U	< 0.000882 U	< 0.00231 U	< 0.000959 U	< 0.00098 U
1,1,2-Trichloroethane	--	--	--	--	--	--	MG/KG	< 0.000343 U	< 0.000529 U	< 0.00031 UJ	< 0.000304 U	< 0.00027 U	< 0.00045 U	< 0.000318 U	< 0.000251 U	< 0.000347 U	< 0.000908 U	< 0.000377 U	< 0.000386 U
1,1-Dichloroethane	--	--	240	240	0.27	19	MG/KG	< 0.000297 U	< 0.000458 U	< 0.000268 UJ	< 0.000263 U	< 0.000234 U	< 0.00039 U	< 0.000276 U	< 0.000218 U	< 0.000301 U	< 0.000786 U	< 0.000327 U	< 0.000334 U
1,1-Dichloroethene	--	--	5.1	5.1	0.33	0.41	MG/KG	< 0.000377 U	< 0.000581 U	< 0.00034 UJ	< 0.000334 U	< 0.000297 U	< 0.000495 U	< 0.00035 U	< 0.000276 U	< 0.000381 U	< 0.000996 U	< 0.000414 U	< 0.000424 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	MG/KG	< 0.00044 U	< 0.000678 U	< 0.000397 UR	< 0.00039 U	< 0.000346 U	< 0.000577 U	< 0.000408 U	< 0.000322 U	< 0.000445 U	< 0.00116 U	< 0.000484 U	< 0.000495 U
1,2,4-Trichlorobenzene	3.4		--	--	--	--	MG/KG	< 0.000543 U	< 0.000836 U	< 0.00049 UR	< 0.000481 U	< 0.000427 U	< 0.000712 U	< 0.000504 U	< 0.000397 U	< 0.000549 U	< 0.00144 U	< 0.000597 U	< 0.00061 U
1,2,4-Trimethylbenzene	--	--	50	1000	5.9	*41*	MG/KG	< 0.000281 U	< 0.000433 U	*195*	1.45	0.0343	< 0.000369 U	< 0.000261 U	< 0.000206 U	< 0.000284 U	0.471	*234*	< 0.000316 U
1,2-Dibromo-3-chloropropane (DBCP)	--	--	--	--	--	--	MG/KG	< 0.000497 U	< 0.000766 U	< 0.000448 UR	< 0.00044 U	< 0.000391 U	< 0.000652 U	< 0.000461 U	< 0.000364 U	< 0.000503 U	< 0.00131 U	< 0.000547 U	< 0.000559 U
1,2-Dibromoethane (EDB)	--	--	--	--	--	--	MG/KG	< 0.000257 U	< 0.000395 U	< 0.000231 UJ	< 0.000227 U	< 0.000202 U	< 0.000337 U	< 0.000238 U	< 0.000188 U	< 0.00026 U	< 0.000679 U	< 0.000282 U	< 0.000289 U
1,2-Dichlorobenzene	--	--	500	1000	1.1	100	MG/KG	< 0.00036 U	< 0.000554 U	< 0.000324 UR	< 0.000318 U	< 0.000283 U	< 0.000472 U	< 0.000333 U	< 0.000263 U	< 0.000364 U	< 0.000951 U	< 0.000395 U	< 0.000404 U
1,2-Dichloroethane	--	--	30	30	0.02	2.4	MG/KG	< 0.000287 U	< 0.000443 U	< 0.000259 UJ	< 0.000254 U	< 0.000226 U	< 0.000377 U	< 0.000266 U	< 0.00021 U	< 0.000291 U	< 0.000759 U	< 0.000316 U	< 0.000323 U
1,2-Dichloropropane	--	--	--	--	--	--	MG/KG	< 0.000334 U	< 0.000515 U	< 0.000301 UJ	< 0.000296 U	< 0.000263 U	< 0.000438 U	< 0.00031 U	< 0.000245 UJ	< 0.000338 U	< 0.000883 U	< 0.000367 U	< 0.000376 U
1,3-Dichlorobenzene	--	--	280	280	2.6	11	MG/KG	< 0.00015 U	< 0.000231 U	< 0.000135 UJ	< 0.000133 U	< 0.000118 U	< 0.000196 U	< 0.000139 U	< 0.00011 U	< 0.000151 U	< 0.000396 U	< 0.000165 U	< 0.000168 U
1,4-Dichlorobenzene	--	--	130	130	1.8	10	MG/KG	< 0.000293 U	< 0.000452 U	< 0.000265 UR	< 0.00026 U	< 0.000231 U	< 0.000385 U	< 0.000272 U	< 0.000215 U	< 0.000297 U	< 0.000776 U	< 0.000323 U	< 0.00033 U
2-Butanone (MEK)	0.3	100	500	1000	0.12	100	MG/KG	< 0.000332 U	< 0.000512 U	< 0.000299 UJ	< 0.000294 U	< 0.000261 U	< 0.000436 U	< 0.000308 U	< 0.000243 U	< 0.000336 U	< 0.000878 U	< 0.000365 U	< 0.000373 U
2-Hexanone	--	--	--	--	--	--	MG/KG	< 0.00019 U	< 0.000293 U	< 0.000172 UJ	< 0.000169 U	< 0.00015 U	< 0.00025 U	< 0.000177 U	< 0.000139 U	< 0.000193 U	< 0.000504 U	< 0.000209 U	< 0.000214 U
4-Methyl-2-pentanone (MIBK)	1	--	--	--	--	--	MG/KG	< 0.000255 U	< 0.000392 U	< 0.00023 UJ	< 0.000225 U	< 0.0002 U	< 0.000334 U	< 0.000236 U	< 0.000186 U	< 0.000258 U	< 0.000673 U	< 0.00028 U	< 0.000286 U
Acetone	--	--	500	1000	0.03	100	MG/KG	0.0784	< 0.000951 U	0.171 J	< 0.000547 U	< 0.000486 U	< 0.00081 U	< 0.000572 U	< 0.000452 U	< 0.000624 U	< 0.00163 U	< 0.000679 U	< 0.000694 U
Benzene	--	--	20	20	0.06	*1.2*	MG/KG	0.00127 J	< 0.000286 U	*38.9*	0.288	0.00973	0.00889	< 0.000172 U	< 0.000136 U	< 0.000188 U	0.00245 J	0.237	< 0.000208 U
Bromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000376 U	< 0.000579 U	< 0.000339 UJ	< 0.000333 U	< 0.000296 U	< 0.000493 U	< 0.000349 U	< 0.000275 U	< 0.00038 U	< 0.000994 U	< 0.000413 U	< 0.000422 U
Bromodichloromethane	--	--	--	--	--	--	MG/KG	< 0.000256 U	< 0.000394 U	< 0.000231 UJ	< 0.000226 U	< 0.000201 U	< 0.000336 U	< 0.000237 U	< 0.000187 U	< 0.000259 U	< 0.000676 U	< 0.000281 U	< 0.000287 U
Bromoform	--	--	--	--	--	--	MG/KG	< 0.000358 U	< 0.000551 U	< 0.000322 UJ	< 0.000317 U	< 0.000281 U	< 0.000469 U	< 0.000332 U	< 0.000262 U	< 0.000362 U	< 0.000945 U	< 0.000393 U	< 0.000402 U
Bromomethane	--	--	--	--	--	--	MG/KG	< 0.000588 U	< 0.000905 U	< 0.00053 UJ	< 0.00052 U	< 0.000463 U	< 0.000771 U	< 0.000545 U	< 0.00043 U	< 0.000594 U	< 0.00155 U	< 0.000646 U	< 0.000661 U
Carbon disulfide	2.7	100	--	--	--	--	MG/KG	0.00433	0.0428	0.0063 J	0.00248	< 0.00023 U	0.0109	0.00829		< 0.000296 U	0.00774	0.0876	< 0.000329 U
Carbon tetrachloride	--	--	41	41	0.76	1.9	MG/KG	< 0.000307 U	< 0.000472 U	< 0.000277 UJ	< 0.000271 U	< 0.000241 U	< 0.000402 U	< 0.000284 U	< 0.000224 U	< 0.00031 U	< 0.000811 U	< 0.000337 U	< 0.000345 U
Chlorobenzene	--	--	500	1000	4.5	73	MG/KG	< 0.000295 U	< 0.000455 U	< 0.000266 UJ	< 0.000262 U	< 0.000233 U	< 0.000388 U	< 0.000274 U	< 0.000216 U	< 0.000299 U	< 0.000781 U	< 0.000325 U	< 0.000332 U
Chloroethane	1.9	--					MG/KG	< 0.000347 U	< 0.000535 U	< 0.000313 UJ	< 0.000308 UJ	< 0.000273 UJ	< 0.000456 UJ	< 0.000322 UJ	< 0.000254 U	< 0.000351 UJ	< 0.000918 UJ	< 0.000382 UJ	< 0.00039 UJ
Chloroform	--	--	180	180	0.37	4.8	MG/KG	< 0.000342 U	< 0.000527 U	< 0.000309 UJ	< 0.000303 U	< 0.000269 U	< 0.000449 U	< 0.000317 U	< 0.000251 U	< 0.000346 U	< 0.000905 U	< 0.000376 U	< 0.000385 U
Chloromethane	--	--					MG/KG	< 0.000784 U	< 0.00121 U	< 0.000707 UJ	< 0.000695 U	< 0.000617 U	< 0.00103 U	< 0.000727 U	< 0.000574 U	< 0.000793 U	< 0.00207 U	0.0105	< 0.000882 U
cis-1,2-Dichloroethene	--	--	500	590	0.19	8.7	MG/KG	< 0.0000985 U	< 0.000152 U	< 0.0000888 UJ	< 0.0000872 U	< 0.0000775 U	< 0.000129 U	< 0.0000913 U	< 0.0000721 U	< 0.0000996 U	< 0.00026 U	< 0.000108 U	< 0.000111 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000258 U	< 0.000397 U	< 0.000232 UJ	< 0.000228 U	< 0.000203 U	< 0.000338 U	< 0.000239 U	< 0.000189 U	< 0.000261 U	< 0.000681 U	< 0.000283 U	< 0.00029 U
Cyclohexane	--	--	--	--	--	--	MG/KG	0.00326	< 0.000695 U	0.0705 J	< 0.0004 U	< 0.000355 U	< 0.000592 U	< 0.000418 U	< 0.00033 U	< 0.000456 U	< 0.00119 U	0.00693	< 0.000507 U
Dibromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000251 U	< 0.000386 U	< 0.000226 UJ	< 0.000222 U	< 0.000197 U	< 0.000329 U	< 0.000232 U	< 0.000183 U	< 0.000253 U	< 0.000663 U	< 0.000276 U	< 0.000282 U
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--	MG/KG	< 0.000688 U	< 0.00106 UR	< 0.00062 UJ	< 0.000609 U	< 0.000541 U	< 0.000902 U	< 0.000638 U	< 0.000503 U	< 0.000695 U	< 0.00182 U	< 0.000756 U	< 0.000773 U
Ethylbenzene	--	--	390	390	1	*32*	MG/KG	0.00235	< 0.000425 U	*274*	1.84	0.0472	< 0.000362 U	< 0.000256 U	< 0.000202 U	< 0.000279 U	0.0718	0.39	< 0.00031 U
Isopropylbenzene (Cumene)	**2.3**	100	--	--	--	--	MG/KG	0.00873	< 0.000493 U	**34.8**	0.126	0.00729	< 0.00042 U	< 0.000297 U	< 0.000234 U	< 0.000324 U	0.0569	0.127	< 0.000359 U
Methyl acetate	--	--	--	--	--	--	MG/KG	< 0.00027 U	< 0.000416 U	< 0.000243 UJ	< 0.000239 U	< 0.000212 U	< 0.000354 U	< 0.00025 U	< 0.000198 U	< 0.000273 U	< 0.000714 U	< 0.000297 U	< 0.000303 U
Methylcyclohexane	--	--	--	--	--	--	MG/KG	0.0108	< 0.000505 U	0.104 J	0.003	< 0.000258 U	< 0.00043 U	< 0.000304 U	< 0.00024 U	< 0.000332 U	0.00333 J	0.043	< 0.000369 U
Methylene chloride	--	--	500	1000	0.05	17	MG/KG	< 0.000612 U	< 0.000943 U	< 0.000552 UJ	< 0.000542 U	< 0.000482 U	< 0.000803 U	< 0.000568 U	< 0.000448 U	< 0.000619 U	< 0.00162 U	< 0.000673 U	< 0.000688 U
Styrene	--	--	--	--	--	--	MG/KG	< 0.000291 U	< 0.000449 U	< 0.000263 UJ	< 0.000258 U	< 0.000229 U	< 0.000382 U	< 0.00027 U	< 0.000213 U	< 0.000295 U	< 0.00077 U	< 0.00032 U	< 0.000327 U
tert-Butyl alcohol	--	--	--	--	--	--	MG/KG	< 0.00428 U	< 0.00659 U	< 0.00386 UJ	< 0.00379 U	< 0.00337 U	< 0.00561 U	< 0.00397 U	< 0.00313 U	< 0.00433 U	< 0.0113 U	< 0.0047 U	< 0.00481 U
tert-Butyl methyl ether (MTBE)	--	--	500	890	0.1	40	MG/KG	< 0.000344 U	< 0.00053 U	< 0.00031 UJ	< 0.000305 U	< 0.000271 U	< 0.000452 U	< 0.000319 U	< 0.000252 U	< 0.000348 U	0.0142	< 0.000379 U	< 0.000387 U
Tetrachloroethene (PCE)	--	--	81	81	1.3	15	MG/KG	< 0.000202 U	< 0.000311 U	< 0.000182 UJ	< 0.000179 U	< 0.000159 U	< 0.000265 U	< 0.000187 U	< 0.000148 U	< 0.000204 U	< 0.000533 U	< 0.000222 U	< 0.000227 U
Toluene	--	--	500	1000	0.7	*100*	MG/KG	0.0024	< 0.000253 U	*172*	1.15	0.0346	0.000926 J	< 0.000152 U	< 0.00012 U	< 0.000166 U	0.0062	0.137	< 0.000184 U
trans-1,2-Dichloroethene	--	--	500	1000	0.19	75	MG/KG	< 0.000276 U	< 0.000425 U	< 0.000249 UJ	< 0.000244 U	< 0.000217 U	< 0.000362 U	< 0.000256 U	< 0.000202 U	< 0.000279 U	< 0.00073 U	< 0.000304 U	< 0.00031 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000389 U	< 0.000599 U	< 0.000351 UJ	< 0.000345 U	< 0.000306 U	< 0.000511 U	< 0.000361 U	< 0.000285 U	< 0.000394 U	< 0.00103 U	< 0.000428 U	< 0.000437 U
Trichloroethene (TCE)	--	--	54	54	0.47	1.7	MG/KG	< 0.000299 U	< 0.000461 U	< 0.00027 UJ	< 0.000265 U	0.00386	< 0.000393 U	< 0.000278 U	< 0.000219 U	< 0.000303 U	< 0.000792 U	< 0.000329 U	< 0.000337 U
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--	MG/KG	< 0.000234 U	< 0.000361 U	< 0.000211 UJ	< 0.000207 U	< 0.000184 U	< 0.000307 U	< 0.000217 U	< 0.000171 U	< 0.000237 U	< 0.000619 U	< 0.000258 U	< 0.000263 U
Vinyl chloride	--	--	7.1	7.1	0.03	0.099	MG/KG	< 0.000387 U	< 0.000596 U	< 0.000349 UJ	< 0.000343 U	< 0.000305 U	< 0.000508 U	< 0.000359 U	< 0.000283 U	< 0.000392 U	< 0.00102 U	< 0.000426 U	< 0.000435 U
Xylene, o (1,2-Dimethylbenzene)	--	--	500	1000	1.6	*100*	MG/KG	0.00223	< 0.000403 U	*116*	0.776	0.0225	< 0.000344 U	< 0.000243 U	< 0.000192 U	< 0.000265 U	0.0652	0.281	< 0.000294 U
Xylenes, m & p	--	--	--	--	--	--	MG/KG	0.00335 J	< 0.000792 U	245	1.69	0.0386	< 0.000675 U	< 0.000477 U	< 0.000377 U	< 0.00052 U	0.0549	0.462	< 0.000578 U
Xylenes, total	--	--	500	1000	1.2	*100*	MG/KG	0.00558	< 0.000403 U	*361*	2.47	0.0611	< 0.000344 U	< 0.000243 U	< 0.000192 U	< 0.000265 U	0.12	0.743	< 0.000294 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentration above NYS_SUP_PGW is boldfaced
concentrations above NYSPART375C_DEC2025 are outlined
concentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3A
SOIL QUALITY DATA - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	SCPT-110	SCPT-111
							Sample ID	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
							Depth (feet)	4-5	4-5
							Sample Date	8/21/2023	8/21/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units		
1,1,1-Trichloroethane	--	--	500	1000	0.68	100	MG/KG	< 0.000251 U	< 0.000245 U
1,1,2,2-Tetrachloroethane	0.6	35	--	--	--	--	MG/KG	< 0.000237 U	< 0.000232 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6	100	--	--	--	--	MG/KG	< 0.000736 U	< 0.000718 U
1,1,2-Trichloroethane	--	--	--	--	--	--	MG/KG	< 0.00029 U	< 0.000283 U
1,1-Dichloroethane	--	--	240	240	0.27	19	MG/KG	< 0.000251 U	< 0.000245 U
1,1-Dichloroethene	--	--	5.1	5.1	0.33	0.41	MG/KG	< 0.000318 U	< 0.00031 U
1,2,3-Trichlorobenzene	--	--	--	--	--	--	MG/KG	< 0.000372 U	< 0.000362 U
1,2,4-Trichlorobenzene	3.4		--	--	--	--	MG/KG	< 0.000458 U	< 0.000447 U
1,2,4-Trimethylbenzene	--	--	50	1000	5.9	*41*	MG/KG	< 0.000237 U	< 0.000232 U
1,2-Dibromo-3-chloropropane (DBCP)	--	--	--	--	--	--	MG/KG	< 0.00042 U	< 0.000409 U
1,2-Dibromoethane (EDB)	--	--	--	--	--	--	MG/KG	< 0.000217 U	< 0.000211 U
1,2-Dichlorobenzene	--	--	500	1000	1.1	100	MG/KG	< 0.000304 U	< 0.000296 U
1,2-Dichloroethane	--	--	30	30	0.02	2.4	MG/KG	< 0.000243 U	< 0.000237 U
1,2-Dichloropropane	--	--	--	--	--	--	MG/KG	< 0.000282 U	< 0.000275 U
1,3-Dichlorobenzene	--	--	280	280	2.6	11	MG/KG	< 0.000126 U	< 0.000123 U
1,4-Dichlorobenzene	--	--	130	130	1.8	10	MG/KG	< 0.000248 U	< 0.000242 U
2-Butanone (MEK)	0.3	100	500	1000	0.12	100	MG/KG	< 0.00028 U	< 0.000274 U
2-Hexanone	--	--	--	--	--	--	MG/KG	< 0.000161 U	< 0.000157 U
4-Methyl-2-pentanone (MIBK)	1	--	--	--	--	--	MG/KG	< 0.000215 U	< 0.00021 U
Acetone	--	--	500	1000	0.03	100	MG/KG	< 0.000521 U	< 0.000508 U
Benzene	--	--	20	20	0.06	*1.2*	MG/KG	< 0.000157 U	< 0.000153 U
Bromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000317 U	< 0.00031 U
Bromodichloromethane	--	--	--	--	--	--	MG/KG	< 0.000216 U	< 0.000211 U
Bromoform	--	--	--	--	--	--	MG/KG	< 0.000302 U	< 0.000295 U
Bromomethane	--	--	--	--	--	--	MG/KG	< 0.000496 U	< 0.000484 U
Carbon disulfide	2.7	100	--	--	--	--	MG/KG	< 0.000247 U	< 0.000241 U
Carbon tetrachloride	--	--	41	41	0.76	1.9	MG/KG	< 0.000259 U	< 0.000253 U
Chlorobenzene	--	--	500	1000	4.5	73	MG/KG	< 0.000249 U	< 0.000243 U
Chloroethane	1.9	--					MG/KG	< 0.000293 UJ	< 0.000286 UJ
Chloroform	--	--	180	180	0.37	4.8	MG/KG	< 0.000289 U	< 0.000282 U
Chloromethane	--	--					MG/KG	< 0.000662 U	< 0.000646 U
cis-1,2-Dichloroethene	--	--	500	590	0.19	8.7	MG/KG	< 0.0000832 U	< 0.0000811 U
cis-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000218 U	< 0.000212 U
Cyclohexane	--	--	--	--	--	--	MG/KG	< 0.000381 U	< 0.000372 U
Dibromochloromethane	--	--	--	--	--	--	MG/KG	< 0.000212 U	< 0.000206 U
Dichlorodifluoromethane (Freon 12)	--	--	--	--	--	--	MG/KG	< 0.000581 U	< 0.000566 U
Ethylbenzene	--	--	390	390	1	*32*	MG/KG	< 0.000233 U	0.00411
Isopropylbenzene (Cumene)	**2.3**	100	--	--	--	--	MG/KG	< 0.00027 U	< 0.000263 U
Methyl acetate	--	--	--	--	--	--	MG/KG	< 0.000228 U	< 0.000222 U
Methylcyclohexane	--	--	--	--	--	--	MG/KG	< 0.000277 U	< 0.00027 U
Methylene chloride	--	--	500	1000	0.05	17	MG/KG	< 0.000517 U	< 0.000504 U
Styrene	--	--	--	--	--	--	MG/KG	< 0.000246 U	< 0.00024 U
tert-Butyl alcohol	--	--	--	--	--	--	MG/KG	< 0.00361 U	< 0.00352 U
tert-Butyl methyl ether (MTBE)	--	--	500	890	0.1	40	MG/KG	< 0.000291 U	< 0.000284 U
Tetrachloroethene (PCE)	--	--	81	81	1.3	15	MG/KG	< 0.00017 U	< 0.000166 U
Toluene	--	--	500	1000	0.7	*100*	MG/KG	< 0.000138 U	0.000627 J
trans-1,2-Dichloroethene	--	--	500	1000	0.19	75	MG/KG	< 0.000233 U	< 0.000227 U
trans-1,3-Dichloropropene	--	--	--	--	--	--	MG/KG	< 0.000329 U	< 0.000321 U
Trichloroethene (TCE)	--	--	54	54	0.47	1.7	MG/KG	< 0.000253 U	< 0.000247 U
Trichlorofluoromethane (Freon 11)	--	--	--	--	--	--	MG/KG	< 0.000198 U	< 0.000193 U
Vinyl chloride	--	--	7.1	7.1	0.03	0.099	MG/KG	< 0.000327 U	< 0.000319 U
Xylene, o (1,2-Dimethylbenzene)	--	--	500	1000	1.6	*100*	MG/KG	< 0.000221 U	< 0.000216 U
Xylenes, m & p	--	--	--	--	--	--	MG/KG	< 0.000434 U	< 0.000424 U
Xylenes, total	--	--	500	1000	1.2	*100*	MG/KG	< 0.000221 U	< 0.000216 U

Notes:
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concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3B
SOIL QUALITY DATA - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-101	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202
							Sample ID	MR-101-6.0-8.0-20230616	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725
							Depth (feet)	6-8	20-22	65-67	6-8	20-22	80-82	6-8	20-22	35-37	50-52	65-67	4-6	12-14	17-19	30-32	2-4
							Sample Date	6/16/2023	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																
1,4-Dioxane	--	--	36	36	0.1	1.4	MG/KG	< 0.00528 U	< 0.00631 U	< 0.00431 U	< 0.00547 U	< 0.00517 U	< 0.00424 UR	< 0.00478 U	< 0.00601 U	< 0.00475 U	< 0.00476 U	< 0.00466 U	< 0.0046 U	< 0.0051 U	< 0.00647 U	< 0.00441 U	< 0.00414 U
2,3,4,6-Tetrachlorophenol	--	--	--	--	--	--	MG/KG	< 0.0288 U	< 0.0344 U	< 0.0235 U	< 0.0298 U	< 0.0282 U	< 0.0231 U	< 0.026 U	< 0.0327 U	< 0.0259 U	< 0.026 U	< 0.0254 U	< 0.0251 U	< 0.0278 U	< 0.0353 U	< 0.024 U	< 0.0226 U
2,4,5-Trichlorophenol	0.1	100	--	--	--	--	MG/KG	< 0.0254 U	< 0.0304 U	< 0.0207 U	< 0.0263 U	< 0.0249 U	< 0.0204 U	< 0.023 U	< 0.0289 U	< 0.0229 U	< 0.0229 U	< 0.0225 U	< 0.0221 U	< 0.0245 U	< 0.0311 U	< 0.0212 U	< 0.0199 U
2,4,6-Trichlorophenol			--	--	--	--	MG/KG	< 0.0117 U	< 0.014 U	< 0.00955 U	< 0.0121 U	< 0.0115 U	< 0.00939 U	< 0.0106 U	< 0.0133 U	< 0.0105 U	< 0.0105 U	< 0.0103 U	< 0.0102 U	< 0.0113 U	< 0.0143 U	< 0.00976 U	< 0.00916 U
2,4-Dichlorophenol	0.4	100	--	--	--	--	MG/KG	< 0.0188 U	< 0.0225 U	< 0.0154 U	< 0.0195 U	< 0.0184 U	< 0.0151 U	< 0.017 U	< 0.0214 U	< 0.0169 U	< 0.017 U	< 0.0166 U	< 0.0164 U	< 0.0182 U	< 0.023 U	< 0.0157 U	< 0.0147 U
2,4-Dimethylphenol			--	--	--	--	MG/KG	< 0.0184 U	< 0.022 U	< 0.015 UJ	< 0.0191 U	< 0.018 U	< 0.0148 U	< 0.0166 U	< 0.0209 U	< 0.0165 U	< 0.0166 U	< 0.0163 U	< 0.016 U	< 0.0178 U	< 0.0225 U	< 0.0154 U	< 0.0144 U
2,4-Dinitrophenol	0.2	100	--	--	--	--	MG/KG	< 0.027 U	< 0.0322 U	< 0.022 U	< 0.0279 U	< 0.0264 U	< 0.0216 UJ	< 0.0244 UR	< 0.0307 UR	< 0.0242 UR	< 0.0243 UR	< 0.0238 UR	< 0.0235 UR	< 0.026 UR	< 0.033 UR	< 0.0225 UR	< 0.0211 UR
2,4-Dinitrotoluene			--	--	--	--	MG/KG	< 0.02 U	< 0.0238 U	< 0.0163 U	< 0.0207 U	< 0.0195 U	< 0.016 U	< 0.018 U	< 0.0227 U	< 0.0179 U	< 0.018 U	< 0.0176 U	< 0.0174 U	< 0.0193 U	< 0.0244 U	< 0.0166 U	< 0.0156 UJ
2,6-Dinitrotoluene	1	1.03	--	--	--	--	MG/KG	< 0.0447 U	< 0.0534 U	< 0.0364 U	< 0.0463 U	< 0.0437 U	< 0.0358 U	< 0.0404 U	< 0.0508 U	< 0.0402 U	< 0.0403 U	< 0.0395 U	< 0.0389 U	< 0.0431 U	< 0.0547 U	< 0.0373 U	< 0.035 U
2-Chloronaphthalene	--		--	--	--	--	MG/KG	< 0.0215 U	< 0.0257 U	< 0.0175 U	< 0.0223 U	< 0.021 U	< 0.0172 U	< 0.0194 U	< 0.0244 U	< 0.0193 U	< 0.0194 U	< 0.019 U	< 0.0187 U	< 0.0208 U	< 0.0263 U	< 0.0179 U	< 0.0168 U
2-Chlorophenol	--	100	--	--	--	--	MG/KG	< 0.0247 U	< 0.0296 U	< 0.0202 U	< 0.0256 U	< 0.0242 U	< 0.0198 U	< 0.0224 U	< 0.0281 U	< 0.0222 U	< 0.0223 U	< 0.0218 U	< 0.0215 U	< 0.0239 U	< 0.0303 U	< 0.0206 U	< 0.0194 U
2-Methylnaphthalene	**36.4**	0.41	--	--	--	--	MG/KG	0.14 J	0.0908 J	< 0.0366 U	0.503	< 0.0439 U	< 0.0359 U	0.516	< 0.051 U	< 0.0403 U	10.1	0.31	0.518	0.0848 J	< 0.0549 U	< 0.0374 U	26
2-Methylphenol (o-cresol)	--	--	500	1000	0.33	100	MG/KG	< 0.037 U	< 0.0442 U	< 0.0301 U	< 0.0383 U	< 0.0362 U	< 0.0296 U	< 0.0334 U	< 0.042 U	< 0.0332 U	< 0.0333 U	< 0.0326 U	< 0.0321 U	< 0.0357 U	< 0.0452 U	< 0.0308 U	< 0.0289 U
2-Nitroaniline	0.4	--	--	--	--	--	MG/KG	< 0.015 U	< 0.018 U	< 0.0123 U	< 0.0156 U	< 0.0147 U	< 0.0121 U	< 0.0136 U	< 0.0171 U	< 0.0135 U	< 0.0135 U	< 0.0133 U	< 0.0131 U	< 0.0145 U	< 0.0184 U	< 0.0125 U	< 0.0118 U
2-Nitrophenol	0.3	--	--	--	--	--	MG/KG	< 0.0208 U	< 0.0249 U	< 0.017 U	< 0.0215 U	< 0.0204 U	< 0.0167 U	< 0.0188 U	< 0.0236 U	< 0.0187 U	< 0.0187 U	< 0.0184 U	< 0.0181 U	< 0.0201 U	< 0.0255 U	< 0.0173 U	< 0.0163 U
3,3'-Dichlorobenzidine	--	--	--	--	--	--	MG/KG	< 0.0197 U	< 0.0235 U	< 0.016 U	< 0.0204 U	< 0.0193 U	< 0.0158 U	< 0.0178 U	< 0.0224 U	< 0.0177 U	< 0.0177 U	< 0.0174 U	< 0.0171 U	< 0.019 U	< 0.0241 U	< 0.0164 U	< 0.0154 U
3/4-Methylphenol	--	--	--	--	--	--	MG/KG	< 0.0343 U	0.0691 J	< 0.028 U	< 0.0355 U	< 0.0336 U	< 0.0275 U	< 0.031 U	< 0.039 U	< 0.0308 U	< 0.0309 U	< 0.0303 U	< 0.0298 U	< 0.0331 U	< 0.042 U	< 0.0286 U	< 0.0268 U
3-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.0347 U	< 0.0415 U	< 0.0283 U	< 0.0359 U	< 0.034 U	< 0.0278 U	< 0.0314 U	< 0.0395 U	< 0.0312 U	< 0.0313 U	< 0.0306 U	< 0.0302 U	< 0.0335 U	< 0.0425 U	< 0.0289 U	< 0.0272 U
4,6-Dinitro-2-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0353 U	< 0.0422 U	< 0.0288 U	< 0.0365 U	< 0.0345 U	< 0.0283 UJ	< 0.0319 U	< 0.0401 U	< 0.0317 U	< 0.0318 U	< 0.0311 U	< 0.0307 U	< 0.034 U	< 0.0432 U	< 0.0294 U	< 0.0276 UR
4-Bromophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.0267 U	< 0.0319 U	< 0.0218 U	< 0.0276 U	< 0.0261 U	< 0.0214 U	< 0.0241 U	< 0.0303 U	< 0.024 U	< 0.0241 U	< 0.0236 U	< 0.0232 U	< 0.0258 U	< 0.0327 U	< 0.0223 U	< 0.0209 U
4-Chloro-3-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0295 U	< 0.0353 U	< 0.0241 U	< 0.0305 U	< 0.0289 U	< 0.0237 U	< 0.0267 U	< 0.0335 U	< 0.0265 U	< 0.0266 U	< 0.0261 U	< 0.0257 U	< 0.0285 U	< 0.0361 U	< 0.0246 U	< 0.0231 U
4-Chloroaniline	0.22	100	--	--	--	--	MG/KG	< 0.00655 U	< 0.00783 U	< 0.00534 U	< 0.00678 UJ	< 0.00641 UJ	< 0.00525 U	< 0.00592 U	< 0.00744 U	< 0.00588 U	< 0.0059 U	< 0.00578 U	< 0.0057 U	< 0.00632 U	< 0.00801 U	< 0.00546 U	< 0.00513 U
4-Chlorophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.0101 U	< 0.0121 U	< 0.00824 U	< 0.0105 U	< 0.00989 U	< 0.0081 U	< 0.00913 U	< 0.0115 U	< 0.00908 U	< 0.0091 U	< 0.00892 U	< 0.00879 U	< 0.00975 U	< 0.0124 U	< 0.00843 U	< 0.00791 U
4-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.0936 U	< 0.112 U	< 0.0763 U	< 0.0969 U	< 0.0916 U	< 0.0751 UJ	< 0.0846 U	< 0.106 U	< 0.0841 U	< 0.0843 U	< 0.0826 U	< 0.0814 U	< 0.0903 U	< 0.115 U	< 0.078 U	< 0.0733 U
4-Nitrophenol	0.1	--	--	--	--	--	MG/KG	< 0.012 U	< 0.0143 U	< 0.00977 UJ	< 0.0124 U	< 0.0117 U	< 0.0096 UJ	< 0.0108 U	< 0.0136 U	< 0.0108 U	< 0.0108 U	< 0.0106 U	< 0.0104 U	< 0.0116 U	< 0.0147 U	< 0.00998 U	< 0.00937 U
Acenaphthene	--	--	500	1000	98	*100*	MG/KG	0.125 J	0.145 J	< 0.0087 U	0.418	< 0.0104 U	< 0.00855 U	1.54	< 0.0121 U	< 0.00958 U	4	0.699	0.967	0.227	< 0.0131 U	< 0.00889 U	3.53
Acenaphthylene	--	--	500	1000	*365*	*100*	MG/KG	0.071 J	0.0431 J	< 0.00531 U	0.316	< 0.00637 U	< 0.00522 U	0.503	< 0.0074 U	< 0.00585 U	3.38	0.311	1.14	0.104 J	< 0.00796 U	< 0.00543 U	< 0.00509 U
Acetophenone	--	--	--	--	--	--	MG/KG	< 0.0185 U	< 0.0222 U	< 0.0151 U	< 0.0192 U	< 0.0182 U	< 0.0149 U	< 0.0168 U	< 0.0211 U	< 0.0167 U	< 0.0167 U	< 0.0164 U	< 0.0161 U	< 0.0179 U	< 0.0227 U	< 0.0155 U	< 0.0145 U
Anthracene	--	--	500	1000	1000	*100*	MG/KG	0.274	0.162 J	< 0.0221 U	1.11	< 0.0266 U	< 0.0218 U	3.97	< 0.0308 U	< 0.0244 U	3.8	0.591	2.52	0.549	< 0.0332 U	< 0.0226 U	5.84
Atrazine	--	--	--	--	--	--	MG/KG	< 0.0176 U	< 0.021 U	< 0.0143 U	< 0.0182 U	< 0.0172 U	< 0.0141 U	< 0.0159 U	< 0.02 U	< 0.0158 U	< 0.0158 U	< 0.0155 U	< 0.0153 U	< 0.017 U	< 0.0215 U	< 0.0146 U	< 0.0138 U
Benzaldehyde	--	--	--	--	--	--	MG/KG	< 0.0575 UJ	< 0.0687 UR	< 0.0469 UR	< 0.0595 UJ	< 0.0563 UJ	< 0.0461 UJ	< 0.052 U	< 0.0653 U	< 0.0516 UJ	< 0.0518 UJ	< 0.0507 UJ	< 0.05 U	< 0.0555 U	< 0.0703 U	< 0.0479 UJ	< 0.045 U
Benzo(a)anthracene	--	--	37	37	1	*1*	MG/KG	*1.07*	0.155 J	< 0.0154 U	*2.18*	< 0.0184 U	< 0.0151 U	*10.5*	< 0.0214 U	< 0.0169 U	*2.25*	0.384	*3.59*	*1.46*	< 0.023 U	< 0.0157 U	*5.71*
Benzo(a)pyrene	--	--	3.7	3.7	22	*1*	MG/KG	*1.8*	0.137 J	< 0.0266 U	*2.63*	0.936	< 0.0261 U	*10.4*	< 0.0371 U	< 0.0293 U	*1.66*	0.305	*3.65*	*1.5*	< 0.0399 U	< 0.0272 U	*6.81*
Benzo(b)fluoranthene	--	--	37	37	2.1	*1*	MG/KG	*1.76*	0.138 J	< 0.0214 U	*2.86*	< 0.0257 U	< 0.0211 U	*9.29*	< 0.0299 U	< 0.0236 U	*1.16*	0.203	*4.07*	*2.05*	< 0.0322 U	< 0.0219 U	*7.68 J*
Benzo(g,h,i)perylene	--	--	47	78	1000	*1.2*	MG/KG	*1.41 J*	0.0996 J	< 0.0124 U	*2.01*	< 0.0149 U	< 0.0122 U	0.0384 J	< 0.0173 U	< 0.0136 U	0.6	0.103 J	*2.44*	< 0.0146 U	< 0.0186 U	< 0.0127 U	*5.92 J*
Benzo(k)fluoranthene	--	--	47	78	2	*1.2*	MG/KG	0.524	0.0716 J	< 0.0175 U	0.984	< 0.021 U	< 0.0172 U	*6.9*	< 0.0244 U	< 0.0193 U	0.467	0.0734 J	*1.28*	0.457	< 0.0263 U	< 0.0179 U	*2.86*
Benzyl butyl phthalate	122	100	--	--	--	--	MG/KG	< 0.017 U	< 0.0203 U	< 0.0139 U	< 0.0176 U	< 0.0166 U	< 0.0136 U	< 0.0154 U	< 0.0193 U	< 0.0153 U	< 0.0153 U	< 0.015 U	< 0.0148 U	< 0.0164 U	< 0.0208 U	< 0.0142 U	< 0.0133 U
Biphenyl (Diphenyl)	--	--	--	--	--	--	MG/KG	< 0.0164 U	< 0.0196 U	< 0.0134 U	0.0904 J	< 0.0161 U	< 0.0132 U	0.15 J	< 0.0187 U	< 0.0148 U	1.29	0.176	< 0.0143 U	< 0.0159 U	< 0.0201 U	< 0.0137 U	< 0.0129 U
bis(2-Chloroethoxy)methane	--	--	--	--	--	--	MG/KG	< 0.0259 U	< 0.0309 U	< 0.0211 U	< 0.0268 UJ	< 0.0253 UJ	< 0.0207 U	< 0.0234 U	< 0.0294 U	< 0.0232 U	< 0.0233 U	< 0.0228 U	< 0.0225 U	< 0.025 U	< 0.0316 U	< 0.0216 U	< 0.0202 UR
bis(2-Chloroethyl)ether	--	--	--	--	--	--	MG/KG	< 0.0205 U	< 0.0245 U	< 0.0167 U	< 0.0212 UJ	< 0.0201 UJ	< 0.0165 U	< 0.0185 U	< 0.0233 U	< 0.0184 U	< 0.0185 U	< 0.0181 U	< 0.0178 U	< 0.0198 U	< 0.0251 U	< 0.0171 U	< 0.0161 U
bis(2-Chloroisopropyl)ether	--	--	--	--	--	--	MG/KG	< 0.0673 U	< 0.0804 U	< 0.0549 UJ	< 0.0697 UJ	< 0.0659 UJ	< 0.054 UR	< 0.0608 U	< 0.0765 U	< 0.0605 UJ	< 0.0607 UJ	< 0.0594 UJ	< 0.0585 U	< 0.065 U	< 0.0824 U	< 0.0561 UJ	< 0.0527 U
bis(2-Ethylhexyl)phthalate	435	50	--	--	--	--	MG/KG	< 0.0374 U	< 0.0447 U	< 0.0305 U	0.547	< 0.0366 U	< 0.03 U	1	< 0.0425 U	< 0.0336 U	< 0.0337 U	< 0.033 U	< 0.0325 U	< 0.0361 U	< 0.0457 U	< 0.0312 U	< 0.0293 U
Caprolactam	--	--	--	--	--	--	MG/KG	< 0.0242 U	< 0.0289 U	< 0.0197 U	< 0.025 U	< 0.0237 U	< 0.0194 U	< 0.0218 U	< 0.0275 U	< 0.0217 U	< 0.0218 U	< 0.0213 U	< 0.021 U	< 0.0233 U	< 0.0296 U	< 0.0202 U	< 0.0189 U
Carbazole	--	--	--	--	--	--	MG/KG	0.105 J	0.045 J	< 0.0293 U	0.212 J	< 0.0352 U	< 0.0288 U	1.85	< 0.0409 U	< 0.0323 U	0.0897 J	< 0.0318 U	< 0.0313 U	< 0.0347 U	< 0.044 U	< 0.03 U	1.07
Chrysene	--	--	47	78	1	*1.2*	MG/KG	1.05	0.131 J	< 0.0105 U	*2.31*	< 0.0125 U	< 0.0103 U	*9.79*	< 0.0146 U	< 0.0115 U	*2.14*	0.363	*3.2*	*1.35*	< 0.0157 U	< 0.0107 U	*5.62*
Dibenz(a,h)anthracene	--	--	3.7	3.7	1000	*0.33*	MG/KG	*0.349 J*	< 0.0222 U	< 0.0151 U	0.187 J	< 0.0182 U	< 0.0149 U	*2.36*	< 0.0211 U	< 0.0167 U	0.191	< 0.0164 U	< 0.0161 U	0.165 J	< 0.0227 U	< 0.0155 U	*1.17*
Dibenzofuran	**6.2**	--	180	29	110	*4.2*	MG/KG	0.0808 J	0.0583 J	< 0.00909 U	0.287	< 0.0109 U	< 0.00894 U	0.988	< 0.0127 U	< 0.01 U	0.427	0.0622 J	0.605	0.106 J	< 0.0136 U	< 0.00929 U	3.78 J
Diethyl phthalate	7.1	100	--	--	--	--	MG/KG	< 0.0363 U	< 0.0433 U	< 0.0296 U	< 0.0375 U	< 0.0355 U	< 0.0291 U	< 0.0328 U	< 0.0412 U	< 0.0326 U	< 0.0327 U	< 0.032 U	< 0.0315 U	< 0.035 U	< 0.0444 U	< 0.0302 U	< 0.0284 U
Dimethyl phthalate	27	100	--	--	--	--	MG/KG	< 0.0116 U	< 0.0139 U	< 0.00947 U	< 012 U	< 0.0114 U	< 0.00931 U	< 0.0105 U	< 0.0132 U	< 0.0104 U	< 0.0105 U	< 0.0102 U	< 0.0101 U	< 0.0112 U	< 0.0142 U	< 0.00968 U	< 0.00909 U
Di-n-Butyl phthalate	8.1	100	--	--	--	--	MG/KG	< 0.0764 U	< 0.0914 U	< 0.0624 U	< 0.0791 U	< 0.0748 U	< 0.0613 U	< 0.0691 U	< 0.0869 U	< 0.0687 U	< 0.0689 U	< 0.0675 U	< 0.0665 U	< 0.0738 U	< 0.0936 U	< 0.0638 U	< 0.0599 U
Di-n-Octyl phthalate	120	100	--	--	--	--	MG/KG	< 0.0384 U	< 0.0458 U	< 0.0313 U	< 0.0397 U	< 0.0376 U	< 0.0308 U	< 0.0347 U	< 0.0436 U	< 0.0345 U	< 0.0346 U	< 0.0339 U	< 0.0334 U	< 0.037 U	< 0.0469 U	< 0.032 U	< 0.03 U
Fluoranthene	--	--	500	1000	1000	*100*	MG/KG	1.46 J	0.359 J	< 0.0143 U	3.56	< 0.0172 U	< 0.0141 U	23.2	< 0.02 U	< 0.0158 U	3.85	0.677	5.37	2.3	< 0.0215 U	< 0.0146 U	13.9
Fluorene	--	--	500	1000	386	*100*	MG/KG	0.116 J	0.141 J	< 0.0127 U	0.279	< 0.0153 U	< 0.0125 U	1.91	< 0.0177 U	< 0.014 U	4.6	0.714	1.13	0.168 J	< 0.0191 U	< 0.013 U	4.9 J
Hexachlorobenzene	1.4	0.41	1.8	2.9	3.2	0.33	MG/KG	< 0.0244 U	< 0.0292 U	< 0.0199 U	< 0.0253 U	< 0.0239 U	< 0.0196 U	< 0.0221 U	< 0.0278 U	< 0.022 U	< 0.022 U	< 0.0216 U	< 0.0213 U	< 0.0236 U	< 0.0299 U	< 0.0204 U	< 0.0191 U
Hexachlorobutadiene	--	--	--	--	--	--	MG/KG	< 0.0898 U	< 0.107 U	< 0.0732 U	< 0.0929 U	< 0.0879 U	< 072 U	< 0.0812 U	< 0.102 U	< 0.0807 U	< 0.0809 U	< 0.0793 U	< 0.0781 U	< 0.0867 U	< 0.11 U	< 0.0749 U	< 0.0703 U
Hexachlorocyclopentadiene	--	--	--	--	--	--	MG/KG	< 0.078 U	< 0.0932 U	< 0.0636 UJ	< 0.0807 U	< 0.0764 U	< 0.0625 UJ	< 0.0705 U	< 0.0886 U	< 0.0701 UJ	< 0.0703 UJ	< 0.0689 UJ	< 0.0678 U	< 0.0753 U	< 0.0954 U	< 0.065 UJ	< 0.0611 UR
Hexachloroethane	--	--	--	--	--	--	MG/KG	< 0.0205 U	< 0.0245 U	< 0.0167 U	< 0.0212 U	< 0.0201 U	< 0.0165 U	< 0.0185 U	< 0.0233 U	< 0.0184 U	< 0.0185 U	< 0.0181 U	< 0.0178 U	< 0.0198 U	< 0.0251 U	< 0.0171 U	< 0.0161 U
Indeno(1,2,3-c,d)pyrene	--	--	37	37	6.6	*0.5*	MG/KG	*1.13 J*	0.0716 J	< 0.0164 U	*1.58*	< 0.0197 U	< 0.0161 U	*4.24*	< 0.0228 U	< 0.0181 U	0.477	0.08 J	*1.78*	*0.787*	< 0.0246 U	< 0.0168 U	*4.14*
Isophorone	4.4	100	--	--	--	--	MG/KG	< 0.0123 U	< 0.0146 U	< 0.00999 U	< 0.0127 UJ	< 0.012 UJ	< 0.00983 U	< 0.0111 U	< 0.0139 U	< 0.011 U	< 0.011 U	< 0.0108 U	< 0.0107 U	< 0.0118 U	< 0.015 U	< 0.0102 U	< 0.00959 U
Naphthalene	--	--	500	1000	12	*84*	MG/KG	0.188	0.221 J	< 0.0113 U	0.749	0.406	< 0.0111 U	1.15	< 0.0157 U	< 0.0125 U	8.31	0.27	0.78	0.207	< 0.017 U	< 0.0116 U	1.94 J
Nitrobenzene	0.17	3.7	8.9	8.9	0.08	0.77	MG/KG	< 0.0318 U	< 0.038 U	< 0.0259 U	< 0.0329 U	< 0.0311 U	< 0.0255 U	< 0.0287 U	< 0.0361 U	< 0.0285 U	< 0.0286 U	< 0.028 U	< 0.0276 U	< 0.0307 U	< 0.0389 U	< 0.0265 U	< 0.0249 U
N-Nitroso-di-n-propylamine	--	--	--	--	--	--	MG/KG	< 0.01 U	< 0.012 U	< 0.00817 U	< 0.0104 U	< 0.00981 U	< 0.00804 U	< 0.00906 U	< 0.0114 U	< 0.009 U	< 0.00903 U	< 0.00885 U	< 0.00871 U	< 0.00967 U	< 0.0123 U	< 0.00836 U	< 0.00784 U
N-Nitrosodiphenylamine	--	--	--	--	--	--	MG/KG	< 0.0399 U	< 0.0477 U	< 0.0326 U	< 0.0413 U	< 0.0391 U	< 032 U	< 0.0361 U	< 0.0454 U	< 0.0359 U	< 036 U	< 0.0352 U	< 0.0347 U	< 0.0385 U	< 0.0488 U	< 0.0333 U	< 0.0312 U
Pentachlorophenol	--	--	6.9	7	0.8	0.8	MG/KG	< 0.0257 U	< 0.0307 U	< 0.021 UJ	< 0.0266 UJ	< 0.0252 UJ	< 0.0206 UJ	< 0.0232 U	< 0.0292 U	< 0.0231 U	< 0.0232 U	< 0.0227 U	< 0.0224 U	< 0.0248 U	< 0.0315 U	< 0.0214 U	< 0.0201 UR
Phenanthrene	--	--	47	78	1000	*1.2*	MG/KG	0.797	0.48	< 0.0201 U	*1.21*	< 0.0241 U	< 0.0197 U	*14.1*	< 028 U	< 0.0221 U	*13.7*	*2.16*	*2.34*	*1.25*	< 0.0301 U	< 0.0205 U	*18.4*
Phenol	--	--	500	1000	0.33	100	MG/KG	< 0.0152 U	< 0.0181 U	< 0.0124 U	< 0.0157 UJ	< 0.0149 UJ	< 0.0122 U	< 0.0137 U	< 0.0173 U	< 0.0136 U	< 0.0137 U	< 0.0134 U	< 0.0132 U	< 0.0146 U	< 0.0186 U	< 0.0127 U	< 0.0119 U
Pyrene	--	--	500	1000	1000	*100*	MG/KG	1.32	0.333	< 0.0112 U	5.12	< 0.0135 U	< 0.011 U	15.3	< 0.0156 U	< 0.0124 U	5.29	0.925	6.55	2.59	< 0.0168 U	< 0.0115 U	11.3

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentrations above NYS_SUP_PGW are boldfaced
concentrations above NYS_SUP_RES are shaded gray
concentrations above NYSPART375C_DEC2025 are outlined
cconcentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3B
SOIL QUALITY DATA - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-202	MR-202	MR-202	MR-203	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207
							Sample ID	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710
							Depth (feet)	8-10	15-17	30-32	6-8	10-14	15-17	30-32	6-8	20-32	6-7	8-10	15-17	2-4	12-14	30-32	9-10
							Sample Date	7/25/2023	7/25/2023	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																
1,4-Dioxane	--	--	36	36	0.1	1.4	MG/KG	< 0.00457 U	< 0.0161 U	< 0.00464 U	< 0.00452 U	< 0.00459 U	< 0.0118 U	< 0.00446 U	< 0.00426 UR	< 0.00418 UJ	< 0.00435 UJ	< 0.00461 UJ	< 0.0166 UJ	< 0.00459 U	< 0.00463 U	< 0.00427 U	< 0.0446 UR
2,3,4,6-Tetrachlorophenol	--	--	--	--	--	--	MG/KG	< 0.0249 U	< 0.0879 U	< 0.0253 U	< 0.0247 U	< 0.025 U	< 0.0641 U	< 0.0243 U	< 0.0232 UR	< 0.0228 U	< 0.0237 U	< 0.0251 U	< 0.0908 U	< 0.025 U	< 0.0252 U	< 0.0233 U	< 0.243 U
2,4,5-Trichlorophenol	0.1	100	--	--	--	--	MG/KG	< 0.022 U	< 0.0776 U	< 0.0224 U	< 0.0218 U	< 0.0221 U	< 0.0566 U	< 0.0215 U	< 0.0205 UJ	< 0.0201 U	< 021 U	< 0.0222 U	< 0.0801 U	< 0.0221 U	< 0.0223 U	< 0.0205 U	< 0.215 U
2,4,6-Trichlorophenol			--	--	--	--	MG/KG	< 0.0101 U	< 0.0357 U	< 0.0103 U	< 0.01 U	< 0.0102 U	< 0.0261 U	< 0.00989 U	< 0.00943 UJ	< 0.00925 U	< 0.00964 U	< 0.0102 U	< 0.0369 U	< 0.0102 U	< 0.0102 U	< 0.00945 U	< 0.0989 U
2,4-Dichlorophenol	0.4	100	--	--	--	--	MG/KG	< 0.0163 U	< 0.0574 U	< 0.0166 U	< 0.0161 U	< 0.0163 U	< 0.0419 U	< 0.0159 U	< 0.0152 U	< 0.0149 U	< 0.0155 U	< 0.0164 U	< 0.0593 U	< 0.0164 U	< 0.0165 U	< 0.0152 U	< 0.159 U
2,4-Dimethylphenol			--	--	--	--	MG/KG	< 0.0159 U	< 0.0562 U	< 0.0162 U	< 0.0158 UJ	< 0.016 UJ	< 0.041 UJ	< 0.0156 UJ	< 0.0148 U	< 0.0146 U	< 0.0152 U	< 0.0161 U	< 058 U	< 0.016 U	< 0.0161 U	< 0.0149 U	< 0.156 U
2,4-Dinitrophenol	0.2	100	--	--	--	--	MG/KG	< 0.0234 U	< 0.0823 U	< 0.0237 U	< 0.0231 UJ	< 0.0234 UJ	< 0.06 UJ	< 0.0228 UJ	< 0.0217 UR	< 0.0213 UJ	< 0.0222 UJ	< 0.0235 UJ	< 0.085 UJ	< 0.0234 UJ	< 0.0236 UJ	< 0.0218 UJ	< 0.228 U
2,4-Dinitrotoluene			--	--	--	--	MG/KG	< 0.0173 U	< 0.0609 U	< 0.0175 U	< 0.0171 U	< 0.0173 U	< 0.0444 U	< 0.0169 U	< 0.0161 U	< 0.0158 U	< 0.0164 U	< 0.0174 U	< 0.0629 U	< 0.0173 U	< 0.0175 U	< 0.0161 U	< 0.169 U
2,6-Dinitrotoluene	1	1.03	--	--	--	--	MG/KG	< 0.0387 U	< 0.136 U	< 0.0393 U	< 0.0382 U	< 0.0388 U	< 0.0995 U	< 0.0378 U	< 0.036 U	< 0.0353 U	< 0.0368 U	< 0.039 U	< 0.141 U	< 0.0388 U	< 0.0391 U	< 0.0361 U	< 0.378 U
2-Chloronaphthalene	--		--	--	--	--	MG/KG	< 0.0186 U	< 0.0656 U	< 0.0189 U	< 0.0184 U	< 0.0187 U	< 0.0479 U	< 0.0182 U	< 0.0173 U	< 0.017 U	< 0.0177 U	< 0.0187 U	< 0.0677 U	< 0.0187 U	< 0.0188 U	< 0.0174 U	< 0.182 U
2-Chlorophenol	--	100	--	--	--	--	MG/KG	< 0.0214 U	< 0.0754 U	< 0.0217 U	< 0.0212 U	< 0.0215 U	< 0.055 U	< 0.0209 U	< 0.0199 U	< 0.0196 U	< 0.0204 U	< 0.0216 U	< 0.0779 U	< 0.0215 U	< 0.0217 U	< 0.02 U	< 0.209 U
2-Methylnaphthalene	**36.4**	0.41	--	--	--	--	MG/KG	< 0.0388 U	< 0.137 U	< 0.0394 U	0.066 J	< 0.0389 U	< 0.0998 U	< 0.0379 U	0.215 J	< 0.0354 U	< 0.0369 U	< 0.0391 U	< 141 U	< 0.0389 U	< 0.0392 U	< 0.0362 U	< 0.379 U
2-Methylphenol (o-cresol)	--	--	500	1000	0.33	100	MG/KG	< 0.032 U	< 0.113 U	< 0.0325 U	< 0.0316 U	< 0.0321 U	< 0.0823 U	< 0.0312 U	< 0.0298 UJ	< 0.0292 U	< 0.0305 U	< 0.0322 U	< 0.116 U	< 0.0321 U	< 0.0324 U	< 0.0298 U	< 0.312 UJ
2-Nitroaniline	0.4	--	--	--	--	--	MG/KG	< 0.013 U	< 0.0459 U	< 0.0132 U	< 0.0129 U	< 0.013 U	< 0.0335 U	< 0.0127 U	< 0.0121 U	< 0.0119 U	< 0.0124 U	< 0.0131 U	< 0.0474 U	< 0.0131 U	< 0.0132 U	< 0.0121 U	< 0.127 U
2-Nitrophenol	0.3	--	--	--	--	--	MG/KG	< 0.018 U	< 0.0634 U	< 0.0183 U	< 0.0178 U	< 0.018 U	< 0.0463 U	< 0.0176 U	< 0.0168 U	< 0.0164 U	< 0.0171 U	< 0.0181 U	< 0.0655 U	< 0.0181 U	< 0.0182 U	< 0.0168 U	< 0.176 U
3,3'-Dichlorobenzidine	--	--	--	--	--	--	MG/KG	< 0.017 U	< 0.06 U	< 0.0173 U	< 0.0168 U	< 0.0171 U	< 0.0438 U	< 0.0166 U	< 0.0159 U	< 0.0156 U	< 0.0162 U	< 0.0172 U	< 0.062 U	< 0.0171 U	< 0.0172 U	< 0.0159 U	< 0.166 U
3/4-Methylphenol	--	--	--	--	--	--	MG/KG	< 0.0297 U	< 0.105 U	< 0.0301 U	< 0.0293 U	< 0.0298 U	0.824	< 0.029 U	< 0.0276 UJ	< 0.0271 U	< 0.0283 U	< 0.0299 U	< 0.108 U	< 0.0298 U	< 0.03 U	< 0.0277 U	< 0.29 UJ
3-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.03 U	< 0.106 U	< 0.0305 U	< 0.0297 U	< 0.0301 U	< 0.0773 U	< 0.0293 U	< 0.028 U	< 0.0274 U	< 0.0286 U	< 0.0303 U	< 0.109 U	< 0.0301 U	< 0.0304 U	< 0.028 U	< 0.293 U
4,6-Dinitro-2-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0305 U	< 0.108 U	< 0.031 U	< 0.0302 UJ	< 0.0306 UJ	< 0.0785 UJ	< 0.0298 UJ	< 0.0284 UR	< 0.0279 UJ	< 0.0291 UJ	< 0.0308 UJ	< 0.111 UJ	< 0.0306 UJ	< 0.0309 UJ	< 0.0285 UJ	< 0.298 U
4-Bromophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.0231 U	< 0.0814 U	< 0.0235 U	< 0.0228 U	< 0.0232 U	< 0.0594 U	< 0.0226 U	< 0.0215 U	< 0.0211 U	< 022 U	< 0.0233 U	< 0.0841 U	< 0.0232 U	< 0.0234 U	< 0.0216 U	< 0.226 U
4-Chloro-3-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0255 U	< 0.09 U	< 0.0259 U	< 0.0253 U	< 0.0256 U	< 0.0657 U	< 0.0249 U	< 0.0238 U	< 0.0233 U	< 0.0243 U	< 0.0257 U	< 0.093 U	< 0.0256 U	< 0.0258 U	< 0.0238 U	< 0.249 U
4-Chloroaniline	0.22	100	--	--	--	--	MG/KG	< 0.00567 U	< 0.02 U	< 0.00576 U	< 0.0056 U	< 0.00568 U	< 0.0146 U	< 0.00553 U	< 0.00528 U	< 0.00518 U	< 0.0054 U	< 0.00571 U	< 0.0206 U	< 0.00569 UJ	< 0.00573 UJ	< 0.00529 UJ	< 0.0553 UJ
4-Chlorophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.00875 U	< 0.0308 U	< 0.00888 U	< 0.00865 U	< 0.00877 U	< 0.0225 U	< 0.00854 U	< 0.00814 U	< 0.00799 U	< 0.00832 U	< 0.00881 U	< 0.0318 U	< 0.00877 U	< 0.00885 U	< 0.00816 U	< 0.0854 U
4-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.081 U	< 0.285 U	< 0.0823 U	< 0.0801 U	< 0.0812 U	< 0.208 U	< 0.0791 U	< 0.0754 UJ	< 0.074 UJ	< 0.0771 UJ	< 0.0816 UJ	< 0.295 UJ	< 0.0813 U	< 0.0819 U	< 0.0756 U	< 0.791 U
4-Nitrophenol	0.1	--	--	--	--	--	MG/KG	< 0.0104 U	< 0.0365 U	< 0.0105 U	< 0.0102 U	< 0.0104 U	< 0.0266 U	< 0.0101 U	< 0.00965 UJ	< 0.00947 UJ	< 0.00986 UJ	< 0.0104 UJ	< 0.0377 UJ	< 0.0104 U	< 0.0105 U	< 0.00967 U	< 0.101 U
Acenaphthene	--	--	500	1000	98	*100*	MG/KG	< 0.00923 U	< 0.0325 U	< 0.00938 U	0.279	< 0.00926 U	< 0.0237 U	< 0.00901 U	0.506	< 0.00843 U	< 0.00879 U	< 0.0093 U	< 0.0336 U	< 0.00926 U	< 0.00934 U	< 0.00861 U	< 0.0901 U
Acenaphthylene	--	--	500	1000	365	*100*	MG/KG	< 0.00563 U	< 0.0198 U	< 0.00572 U	< 0.00557 U	< 0.00565 U	< 0.0145 U	< 0.0055 U	< 0.00524 U	< 0.00514 U	< 0.00536 U	< 0.00567 U	< 0.0205 U	< 0.00565 U	< 0.0057 U	< 0.00525 U	< 0.055 U
Acetophenone	--	--	--	--	--	--	MG/KG	< 0.0161 U	< 0.0566 U	< 0.0163 U	< 0.0159 U	< 0.0161 U	< 0.0413 U	< 0.0157 U	< 0.0149 U	< 0.0147 U	< 0.0153 U	< 0.0162 U	< 0.0584 U	< 0.0161 U	< 0.0162 U	< 0.015 U	< 0.157 U
Anthracene	--	--	500	1000	1000	*100*	MG/KG	< 0.0235 U	< 0.0827 U	< 0.0238 U	0.629	< 0.0235 U	< 0.0604 U	< 0.0229 U	0.411	< 0.0214 U	< 0.0223 U	< 0.0237 U	< 0.0855 U	< 0.0236 U	< 0.0237 U	< 0.0219 U	2.39
Atrazine	--	--	--	--	--	--	MG/KG	< 0.0152 U	< 0.0536 U	< 0.0154 U	< 0.015 U	< 0.0152 U	< 0.0391 U	< 0.0148 U	< 0.0142 U	< 0.0139 U	< 0.0145 U	< 0.0153 U	< 0.0553 U	< 0.0153 U	< 0.0154 U	< 0.0142 U	< 0.148 U
Benzaldehyde	--	--	--	--	--	--	MG/KG	< 0.0498 UJ	< 0.175 U	< 0.0505 UJ	< 0.0492 UJ	< 0.0499 UJ	< 0.128 UJ	< 0.0486 UJ	< 0.0463 UJ	< 0.0454 UJ	< 0.0474 UJ	< 0.0501 UJ	< 0.181 UJ	< 0.0499 UJ	< 0.0503 UJ	< 0.0464 UJ	< 0.486 UJ
Benzo(a)anthracene	--	--	37	37	1	*1*	MG/KG	< 0.0163 U	< 0.0574 U	< 0.0166 U	*1.46*	0.07 J	< 0.0419 U	< 0.0159 U	0.126 J	< 0.0149 U	< 0.0155 U	0.0436 J	< 0.0593 U	< 0.0164 U	< 0.0165 U	< 0.0152 U	< 0.159 U
Benzo(a)pyrene	--	--	3.7	3.7	22	*1*	MG/KG	< 0.0282 U	< 0.0994 U	< 0.0287 U	*1.56*	< 0.0283 U	< 0.0726 U	< 0.0275 U	0.108 J	< 0.0258 U	< 0.0269 U	0.0336 J	< 0.103 U	< 0.0283 U	< 0.0285 U	< 0.0263 U	< 0.275 U
Benzo(b)fluoranthene	--	--	37	37	2.1	*1*	MG/KG	< 0.0227 U	< 0.0802 U	< 0.0231 U	*1.55*	0.0308 J	< 0.0585 U	< 0.0222 U	0.0886 J	< 0.0208 U	< 0.0217 U	< 0.0229 U	< 0.0828 U	< 0.0228 U	< 0.023 U	< 0.0212 U	< 0.222 U
Benzo(g,h,i)perylene	--	--	47	78	1000	*1.2*	MG/KG	< 0.0131 U	< 0.0463 U	< 0.0133 U	0.946	< 0.0132 U	< 0.0338 U	< 0.0128 U	0.0739 J	< 0.012 U	< 0.0125 U	< 0.0132 U	< 0.0478 U	< 0.0132 U	< 0.0133 U	< 0.0123 U	< 0.128 U
Benzo(k)fluoranthene	--	--	47	78	2	*1.2*	MG/KG	< 0.0186 U	< 0.0656 U	< 0.0189 U	0.902	< 0.0187 U	< 0.0479 U	< 0.0182 U	0.0816 J	< 0.017 U	< 0.0177 U	< 0.0187 U	< 0.0677 U	< 0.0187 U	< 0.0188 U	< 0.0174 U	< 0.182 U
Benzyl butyl phthalate	122	100	--	--	--	--	MG/KG	< 0.0147 U	< 0.0519 U	< 0.0149 U	< 0.0146 U	< 0.0148 U	< 0.0378 U	< 0.0144 U	< 0.0137 U	< 0.0134 U	< 0.014 U	< 0.0148 U	< 0.0536 U	< 0.0148 U	< 0.0149 U	< 0.0137 U	< 0.144 U
Biphenyl (Diphenyl)	--	--	--	--	--	--	MG/KG	< 0.0142 U	< 0.0502 U	< 0.0145 U	< 0.0141 U	< 0.0143 U	< 0.0366 U	< 0.0139 U	< 0.0132 U	< 0.013 U	< 0.0135 U	< 0.0143 U	< 0.0518 U	< 0.0143 U	< 0.0144 U	< 0.0133 U	< 0.139 U
bis(2-Chloroethoxy)methane	--	--	--	--	--	--	MG/KG	< 0.0224 U	< 0.0789 U	< 0.0227 U	< 0.0221 U	< 0.0224 U	< 0.0575 U	< 0.0218 U	< 0.0208 U	< 0.0204 U	< 0.0213 U	< 0.0225 U	< 0.0815 U	< 0.0225 U	< 0.0226 U	< 0.0209 U	< 0.218 UJ
bis(2-Chloroethyl)ether	--	--	--	--	--	--	MG/KG	< 0.0178 U	< 0.0626 U	< 0.018 U	< 0.0176 U	< 0.0178 U	< 0.0457 U	< 0.0173 U	< 0.0165 U	< 0.0162 U	< 0.0169 U	< 0.0179 U	< 0.0646 U	< 0.0178 U	< 0.018 U	< 0.0166 U	< 0.173 UJ
bis(2-Chloroisopropyl)ether	--	--	--	--	--	--	MG/KG	< 0.0583 UJ	< 0.205 U	< 0.0592 UJ	< 0.0576 UJ	< 0.0584 UJ	< 0.15 UJ	< 0.0569 UJ	< 0.0542 UJ	< 0.0532 UJ	< 0.0555 UJ	< 0.0587 UJ	< 0.212 UJ	< 0.0585 U	< 0.0589 U	< 0.0544 U	< 0.569 UR
bis(2-Ethylhexyl)phthalate	435	50	--	--	--	--	MG/KG	< 0.0324 U	< 0.114 U	< 0.0329 U	0.625 J	< 0.0324 U	< 0.0832 U	< 0.0316 U	< 0.0301 U	< 0.0296 U	< 0.0308 U	< 0.0326 U	< 0.118 U	< 0.0325 U	< 0.0327 U	< 0.0302 U	< 0.316 U
Caprolactam	--	--	--	--	--	--	MG/KG	0.0749 J	< 0.0737 U	< 0.0212 U	< 0.0207 U	< 0.021 U	< 0.0538 U	< 0.0204 U	< 0.0195 U	< 0.0191 U	< 0.0199 U	< 0.0211 U	< 0.0762 U	< 0.021 UJ	< 0.0212 UJ	< 0.0195 UJ	< 0.204 UJ
Carbazole	--	--	--	--	--	--	MG/KG	< 0.0311 U	< 0.11 U	< 0.0316 U	< 0.0308 U	< 0.0312 U	< 0.0801 U	< 0.0304 U	< 0.029 U	< 0.0284 U	< 0.0296 U	< 0.0314 U	< 0.113 U	< 0.0312 U	< 0.0315 U	< 0.029 U	< 0.304 U
Chrysene	--	--	47	78	1	*1.2*	MG/KG	< 0.0111 U	< 0.0391 U	< 0.0113 U	*1.54*	0.0556 J	< 0.0285 U	< 0.0108 U	0.193	< 0.0101 U	< 0.0106 U	0.0334 J	< 0.0404 U	< 0.0111 U	< 0.0112 U	< 0.0103 U	< 0.108 U
Dibenz(a,h)anthracene	--	--	3.7	3.7	1000	*0.33*	MG/KG	< 0.0161 U	< 0.0566 U	< 0.0163 U	0.13 J	< 0.0161 U	< 0.0413 U	< 0.0157 U	< 0.0149 U	< 0.0147 U	< 0.0153 U	< 0.0162 U	< 0.0584 U	< 0.0161 U	< 0.0162 U	< 0.015 U	< 0.157 U
Dibenzofuran	**6.2**	--	180	29	110	*4.2*	MG/KG	< 0.00965 U	< 0.034 U	< 0.0098 U	0.119 J	< 0.00967 U	< 0.0248 U	< 0.00942 U	0.228	< 0.00881 U	< 0.00918 U	< 0.00972 U	< 0.0351 U	< 0.00968 U	< 0.00976 U	< 0.009 U	< 0.0942 U
Diethyl phthalate	7.1	100	--	--	--	--	MG/KG	< 0.0314 U	< 0.111 U	< 0.0319 U	< 0.031 U	< 0.0315 U	< 0.0807 U	< 0.0306 U	< 0.0292 U	< 0.0287 U	< 0.0299 U	< 0.0316 U	< 0.114 U	< 0.0315 U	< 0.0317 U	< 0.0293 U	< 0.306 U
Dimethyl phthalate	27	100	--	--	--	--	MG/KG	< 0.01 U	< 0.0354 U	< 0.0102 U	< 0.00993 U	< 0.0101 U	< 0.0258 U	< 0.00981 U	< 0.00935 UJ	< 0.00918 U	< 0.00956 U	< 0.0101 U	< 0.0366 U	< 0.0101 U	< 0.0102 U	< 0.00937 U	< 0.0981 U
Di-n-Butyl phthalate	8.1	100	--	--	--	--	MG/KG	< 0.0662 U	< 0.233 U	< 0.0672 U	< 0.0654 U	< 0.0663 U	< 0.17 U	< 0.0646 U	< 0.0616 U	< 0.0604 U	< 0.063 U	< 0.0667 U	< 0.241 U	< 0.0664 U	< 0.0669 U	< 0.0617 U	< 0.646 U
Di-n-Octyl phthalate	120	100	--	--	--	--	MG/KG	< 0.0332 U	< 0.117 U	< 0.0337 U	< 0.0328 U	< 0.0333 U	< 0.0854 U	< 0.0324 U	< 0.0309 U	< 0.0303 U	< 0.0316 U	< 0.0335 U	< 0.121 U	< 0.0333 U	< 0.0336 U	< 0.031 U	< 0.324 U
Fluoranthene	--	--	500	1000	1000	*100*	MG/KG	< 0.0152 U	< 0.0536 U	< 0.0154 U	2.32	0.0962 J	< 0.0391 U	< 0.0148 U	0.247	< 0.0139 U	< 0.0145 U	0.0705 J	< 0.0553 U	< 0.0153 U	< 0.0154 U	< 0.0142 U	< 0.148 U
Fluorene	--	--	500	1000	386	*100*	MG/KG	< 0.0135 U	< 0.0476 U	< 0.0137 U	0.176	< 0.0135 U	< 0.0347 U	< 0.0132 U	0.353	< 0.0123 U	< 0.0129 U	< 0.0136 U	< 0.0491 U	< 0.0135 U	< 0.0137 U	< 0.0126 U	< 0.132 U
Hexachlorobenzene	1.4	0.41	1.8	2.9	3.2	0.33	MG/KG	< 0.0212 U	< 0.0746 U	< 0.0215 U	< 0.0209 U	< 0.0212 U	< 0.0544 U	< 0.0207 U	< 0.0197 U	< 0.0193 U	< 0.0201 U	< 0.0213 U	< 0.077 U	< 0.0212 U	< 0.0214 U	< 0.0197 U	< 0.207 U
Hexachlorobutadiene	--	--	--	--	--	--	MG/KG	< 0.0777 U	< 0.274 U	< 0.0789 U	< 0.0768 UJ	< 0.0779 UJ	< 0.2 UJ	< 0.0759 UJ	< 0.0723 U	< 0.071 U	< 0.074 U	< 0.0783 U	< 0.283 U	< 0.078 U	< 0.0786 U	< 0.0725 U	< 0.759 U
Hexachlorocyclopentadiene	--	--	--	--	--	--	MG/KG	< 0.0675 UJ	< 0.238 U	< 0.0686 UJ	< 0.0667 UJ	< 0.0677 UJ	< 0.174 UJ	< 0.0659 UJ	< 0.0628 UR	< 0.0617 UJ	< 0.0643 UJ	< 0.068 UJ	< 0.246 UJ	< 0.0677 U	< 0.0683 U	< 0.063 U	< 0.659 U
Hexachloroethane	--	--	--	--	--	--	MG/KG	< 0.0178 U	< 0.0626 U	< 0.018 U	< 0.0176 U	< 0.0178 U	< 0.0457 U	< 0.0173 U	< 0.0165 U	< 0.0162 U	< 0.0169 U	< 0.0179 U	< 0.0646 U	< 0.0178 U	< 0.018 U	< 0.0166 U	< 0.173 U
Indeno(1,2,3-c,d)pyrene	--	--	37	37	6.6	*0.5*	MG/KG	< 0.0174 U	< 0.0613 U	< 0.0177 U	*0.778*	< 0.0174 U	< 0.0447 U	< 0.017 U	0.0543 J	< 0.0159 U	< 0.0166 U	< 0.0175 U	< 0.0633 U	< 0.0174 U	< 0.0176 U	< 0.0162 U	< 0.17 U
Isophorone	4.4	100	--	--	--	--	MG/KG	< 0.0106 U	< 0.0374 U	< 0.0108 U	< 0.0105 U	< 0.0106 U	< 0.0273 U	< 0.0104 U	< 0.00987 U	< 0.00969 U	< 0.0101 U	< 0.0107 U	< 0.0386 U	< 0.0106 U	< 0.0107 U	< 0.00989 U	< 0.104 U
Naphthalene	--	--	500	1000	12	*84*	MG/KG	< 0.012 U	< 0.0423 U	< 0.0122 U	0.102 J	< 0.012 U	< 0.0308 U	< 0.0117 U	< 0.0112 U	< 0.011 U	< 0.0114 U	< 0.0121 U	< 0.0437 U	< 0.012 U	< 0.0121 U	< 0.0112 U	< 0.117 U
Nitrobenzene	0.17	3.7	8.9	8.9	0.08	0.77	MG/KG	< 0.0275 U	< 0.0969 U	< 0.0279 U	< 0.0272 U	< 0.0276 U	< 0.0707 U	< 0.0268 U	< 0.0256 U	< 0.0251 U	< 0.0262 U	< 0.0277 U	< 0.1 U	< 0.0276 U	< 0.0278 U	< 0.0256 U	< 0.268 U
N-Nitroso-di-n-propylamine	--	--	--	--	--	--	MG/KG	< 0.00867 U	< 0.0306 U	< 0.00881 U	< 0.00857 U	< 0.00869 U	< 0.0223 U	< 0.00847 U	< 0.00807 U	< 0.00792 U	< 0.00826 U	< 0.00874 U	< 0.0316 U	< 0.0087 U	< 0.00877 U	< 0.00809 U	< 0.0847 UJ
N-Nitrosodiphenylamine	--	--	--	--	--	--	MG/KG	< 0.0345 U	< 0.122 U	< 0.0351 U	< 0.0342 U	< 0.0346 U	< 0.0888 U	< 0.0337 U	< 0.0322 U	< 0.0316 U	< 0.0329 U	< 0.0348 U	< 0.126 U	< 0.0347 U	< 0.0349 U	< 0.0322 U	< 0.337 U
Pentachlorophenol	--	--	6.9	7	0.8	0.8	MG/KG	< 0.0223 U	< 0.0784 U	< 0.0226 U	< 0.022 UJ	< 0.0223 UJ	< 0.0572 UJ	< 0.0217 UJ	< 0.0207 UR	< 0.0203 UJ	< 0.0212 UJ	< 0.0224 UJ	< 0.081 UJ	< 0.0223 UJ	< 0.0225 UJ	< 0.0208 UJ	< 0.217 U
Phenanthrene	--	--	47	78	1000	*1.2*	MG/KG	< 0.0213 U	< 0.075 U	< 0.0216 U	*1.25*	0.047 J	< 0.0547 U	< 0.0208 U	0.86	< 0.0194 U	< 0.0203 U	0.0619 J	0.16 J	< 0.0214 U	< 0.0215 U	< 0.0199 U	*2.73*
Phenol	--	--	500	1000	0.33	100	MG/KG	< 0.0131 U	< 0.0463 U	< 0.0133 U	< 0.013 U	< 0.0132 U	< 0.0338 U	< 0.0128 U	< 0.0122 UJ	< 0.012 U	< 0.0125 U	< 0.0132 U	< 0.0478 U	< 0.0132 U	< 0.0133 U	< 0.0123 U	< 0.128 UJ
Pyrene	--	--	500	1000	1000	*100*	MG/KG	< 0.0119 U	< 0.042 U	< 0.0121 U	2.42	0.0945 J	< 0.0306 U	< 0.0116 U	0.384	< 0.0109 U	< 0.0113 U	0.0516 J	< 0.0433 U	< 0.0119 U	< 0.012 U	< 0.0111 U	< 0.116 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentrations above NYS_SUP_PGW are boldfaced
concentrations above NYS_SUP_RES are shaded gray
concentrations above NYSPART375C_DEC2025 are outlined
cconcentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3B
SOIL QUALITY DATA - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-207	MR-208	MR-208	MR-208	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-301	MR-301	MR-301	MR-302	MR-302	MR-302
							Sample ID	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0.0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-301-6.0-8.0-20230612	MR-301-25.0-27.0-20230612	MR-301-65.0-67.0-20230613	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823
							Depth (feet)	30-32	6-8	15-17	30-32	5-7	15-17	30-32	0-2	15-17	30-32	6-8	25-27	65-67	6-8	25-27	65-67
							Sample Date	7/11/2023	7/24/2023	7/24/2023	7/24/2023	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	6/12/2023	6/12/2023	6/13/2023	8/23/2023	8/23/2023	8/23/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																
1,4-Dioxane	--	--	36	36	0.1	1.4	MG/KG	< 0.00434 U	< 0.00416 U	< 0.00441 U	< 0.00427 U	< 0.00409 U	< 0.0045 U	< 0.00454 U	< 0.00418 U	< 0.00422 U	< 0.00447 U	< 0.00547 U	< 0.0448 U	< 0.00447 U	< 0.00798 U	< 0.00481 U	< 0.00439 U
2,3,4,6-Tetrachlorophenol	--	--	--	--	--	--	MG/KG	< 0.0237 U	< 0.0227 U	< 0.024 U	< 0.0233 U	< 0.0223 U	< 0.0245 U	< 0.0247 U	< 0.0228 U	< 0.023 U	< 0.0244 U	< 0.0298 U	< 0.245 U	< 0.0244 U	< 0.0435 U	< 0.0262 U	< 0.0239 U
2,4,5-Trichlorophenol	0.1	100	--	--	--	--	MG/KG	< 0.0209 U	< 0.02 U	< 0.0212 U	< 0.0205 U	< 0.0197 U	< 0.0217 U	< 0.0219 U	< 0.0201 U	< 0.0203 U	< 0.0215 U	< 0.0263 U	< 0.216 U	< 0.0215 U	< 0.0384 U	< 0.0232 U	< 0.0211 U
2,4,6-Trichlorophenol			--	--	--	--	MG/KG	< 0.00962 U	< 0.00922 U	< 0.00976 U	< 0.00945 U	< 0.00907 U	< 0.00996 U	< 0.0101 U	< 0.00926 U	< 0.00934 U	< 0.00991 U	< 0.0121 U	< 0.0994 U	< 0.00991 U	< 0.0177 U	< 0.0107 U	< 0.00972 U
2,4-Dichlorophenol	0.4	100	--	--	--	--	MG/KG	< 0.0155 U	< 0.0148 U	< 0.0157 U	< 0.0152 U	< 0.0146 U	< 0.016 U	< 0.0162 U	< 0.0149 U	< 0.015 U	< 0.0159 U	< 0.0195 U	< 0.16 U	< 0.0159 U	< 0.0285 U	< 0.0171 U	< 0.0156 U
2,4-Dimethylphenol			--	--	--	--	MG/KG	< 0.0151 U	< 0.0145 U	< 0.0154 U	< 0.0149 U	< 0.0143 UJ	< 0.0157 UJ	< 0.0158 UJ	< 0.0146 U	< 0.0147 U	< 0.0156 U	< 0.0191 U	< 0.156 U	< 0.0156 U	< 0.0278 U	< 0.0168 U	< 0.0153 U
2,4-Dinitrophenol	0.2	100	--	--	--	--	MG/KG	< 0.0222 U	< 0.0213 U	< 0.0225 UJ	< 0.0218 UJ	< 0.0209 UR	< 0.023 UR	< 0.0232 UR	< 0.0213 U	< 0.0215 UJ	< 0.0228 UJ	< 0.0279 U	< 0.229 U	< 0.0228 U	< 0.0408 UJ	< 0.0246 UJ	< 0.0224 UJ
2,4-Dinitrotoluene			--	--	--	--	MG/KG	< 0.0164 U	< 0.0157 U	< 0.0166 U	< 0.0161 U	< 0.0155 U	< 0.017 U	< 0.0171 U	< 0.0158 U	< 0.0159 U	< 0.0169 U	< 0.0207 U	< 0.169 U	< 0.0169 U	< 0.0302 U	< 0.0182 U	< 0.0166 U
2,6-Dinitrotoluene	1	1.03	--	--	--	--	MG/KG	< 0.0367 U	< 0.0352 U	< 0.0373 U	< 0.0361 U	< 0.0346 U	< 0.038 U	< 0.0384 U	< 0.0353 U	< 0.0357 U	< 0.0378 U	< 0.0463 U	< 0.379 U	< 0.0378 U	< 0.0675 U	< 0.0407 U	< 0.0371 U
2-Chloronaphthalene	--		--	--	--	--	MG/KG	< 0.0177 U	< 0.0169 U	< 0.0179 U	< 0.0174 U	< 0.0167 U	< 0.0183 U	< 0.0185 U	< 0.017 U	< 0.0172 U	< 0.0182 U	< 0.0223 U	< 0.182 U	< 0.0182 U	< 0.0325 U	< 0.0196 U	< 0.0179 U
2-Chlorophenol	--	100	--	--	--	--	MG/KG	< 0.0203 U	< 0.0195 U	< 0.0206 U	< 0.02 U	< 0.0192 U	< 0.0211 U	< 0.0212 U	< 0.0196 U	< 0.0197 U	< 0.0209 U	< 0.0256 U	< 0.21 U	< 0.0209 U	< 0.0374 U	< 0.0225 U	< 0.0205 U
2-Methylnaphthalene	**36.4**	0.41	--	--	--	--	MG/KG	< 0.0369 U	< 0.0353 U	< 0.0374 U	< 0.0362 U	< 0.0347 U	< 0.0382 U	< 0.0385 U	< 0.0355 U	< 0.0358 U	< 0.0379 U	0.0521 J	**877**	3.17	0.109 J	< 0.0408 U	< 0.0372 U
2-Methylphenol (o-cresol)	--	--	500	1000	0.33	100	MG/KG	< 0.0304 U	< 0.0291 U	< 0.0308 U	< 0.0298 U	< 0.0286 U	< 0.0315 U	< 0.0318 U	< 0.0292 U	< 0.0295 U	< 0.0313 U	< 0.0383 U	< 0.314 U	< 0.0313 U	< 0.0558 U	< 0.0336 U	< 0.0307 U
2-Nitroaniline	0.4	--	--	--	--	--	MG/KG	< 0.0124 U	< 0.0118 U	< 0.0125 U	< 0.0121 U	< 0.0117 U	< 0.0128 U	< 0.0129 U	< 0.0119 U	< 0.012 U	< 0.0127 U	< 0.0156 U	< 0.128 U	< 0.0127 U	< 0.0227 U	< 0.0137 U	< 0.0125 U
2-Nitrophenol	0.3	--	--	--	--	--	MG/KG	< 0.0171 U	< 0.0164 U	< 0.0173 U	< 0.0168 U	< 0.0161 U	< 0.0177 U	< 0.0179 U	< 0.0165 U	< 0.0166 U	< 0.0176 U	< 0.0215 U	< 0.177 U	< 0.0176 U	< 0.0314 U	< 0.0189 U	< 0.0173 U
3,3'-Dichlorobenzidine	--	--	--	--	--	--	MG/KG	< 0.0162 U	< 0.0155 U	< 0.0164 U	< 0.0159 U	< 0.0152 U	< 0.0167 U	< 0.0169 U	< 0.0156 U	< 0.0157 U	< 0.0167 U	< 0.0204 U	< 0.167 U	< 0.0166 U	< 0.0297 U	< 0.0179 U	< 0.0163 U
3/4-Methylphenol	--	--	--	--	--	--	MG/KG	< 0.0282 U	< 0.027 U	< 0.0286 U	< 0.0277 U	< 0.0266 U	< 0.0292 U	< 0.0295 U	< 0.0271 U	< 0.0274 U	< 0.029 U	< 0.0355 U	< 0.291 U	< 0.029 U	< 0.0518 U	< 0.0312 U	< 0.0285 U
3-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.0285 U	< 0.0273 U	< 0.029 U	< 0.028 U	< 0.0269 U	< 0.0295 U	< 0.0298 U	< 0.0275 U	< 0.0277 U	< 0.0294 U	< 0.0359 U	< 0.295 U	< 0.0294 U	< 0.0524 U	< 0.0316 U	< 0.0288 U
4,6-Dinitro-2-methylphenol	--	--	--	--	--	--	MG/KG	< 0.029 U	< 0.0278 U	< 0.0294 U	< 0.0285 U	< 0.0273 UR	< 0.03 UJ	< 0.0303 U	< 0.0279 U	< 0.0281 UJ	< 0.0299 UJ	< 0.0365 U	< 0.299 U	< 0.0299 U	< 0.0533 UJ	< 0.0321 UJ	< 0.0293 UJ
4-Bromophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.022 U	< 0.021 U	< 0.0223 U	< 0.0216 U	< 0.0207 U	< 0.0227 U	< 0.0229 U	< 0.0211 U	< 0.0213 U	< 0.0226 U	< 0.0276 U	< 0.227 U	< 0.0226 U	< 0.0403 U	< 0.0243 U	< 0.0222 U
4-Chloro-3-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0243 U	< 0.0232 U	< 0.0246 U	< 0.0238 U	< 0.0229 U	< 0.0251 U	< 0.0254 U	< 0.0233 U	< 0.0235 U	< 0.025 U	< 0.0305 U	< 0.25 U	< 0.025 U	< 0.0446 U	< 0.0269 U	< 0.0245 U
4-Chloroaniline	0.22	100	--	--	--	--	MG/KG	< 0.00538 UJ	< 0.00516 U	< 0.00546 U	< 0.00529 U	< 0.00507 U	< 0.00557 U	< 0.00563 U	< 0.00518 UJ	< 0.00522 UJ	< 0.00554 UJ	< 0.00678 U	< 0.0556 U	< 0.00554 U	< 0.00989 U	< 0.00596 U	< 0.00544 U
4-Chlorophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.00831 U	< 0.00796 U	< 0.00843 U	< 0.00816 U	< 0.00783 U	< 0.0086 U	< 0.00868 U	< 0.00799 U	< 0.00806 U	< 0.00855 U	< 0.0105 U	< 0.0858 U	< 0.00855 U	< 0.0153 U	< 0.0092 U	< 0.00839 U
4-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.0769 U	< 0.0737 U	< 0.0781 U	< 0.0756 U	< 0.0725 U	< 0.0797 U	< 0.0804 U	< 0.074 U	< 0.0747 U	< 0.0792 U	< 0.0969 U	< 0.794 U	< 0.0792 U	< 0.141 U	< 0.0852 U	< 0.0777 U
4-Nitrophenol	0.1	--	--	--	--	--	MG/KG	< 0.00984 U	< 0.00943 U	< 0.00999 U	< 0.00967 U	< 0.00928 UJ	< 0.0102 UJ	< 0.0103 UJ	< 0.00947 U	< 0.00955 U	< 0.0101 U	< 0.0124 U	< 0.102 U	< 0.0101 U	< 0.0181 U	< 0.0109 U	< 0.00994 U
Acenaphthene	--	--	500	1000	98	*100*	MG/KG	< 0.00877 U	< 0.0084 U	< 0.0089 U	< 0.00861 U	< 0.00827 U	< 0.00908 U	< 0.00916 U	< 0.00844 U	< 0.00851 U	< 0.00903 U	0.0933 J	74.4	0.697	0.209 J	< 0.00971 U	< 0.00886 U
Acenaphthylene	--	--	500	1000	365	*100*	MG/KG	< 0.00535 U	< 0.00513 U	< 0.00543 U	< 0.00525 U	< 0.00504 U	< 0.00554 U	< 0.00559 U	< 0.00515 U	< 0.00519 U	< 0.00551 U	0.163 J	*383*	1.2	0.136 J	< 0.00592 U	< 0.0054 U
Acetophenone	--	--	--	--	--	--	MG/KG	< 0.0153 U	< 0.0146 U	< 0.0155 U	< 0.015 U	< 0.0144 U	< 0.0158 U	< 0.0159 U	< 0.0147 U	< 0.0148 U	< 0.0157 U	< 0.0192 U	< 0.157 U	< 0.0157 U	< 0.028 U	< 0.0169 U	< 0.0154 U
Anthracene	--	--	500	1000	1000	*100*	MG/KG	< 0.0223 U	< 0.0214 U	< 0.0226 U	< 0.0219 U	< 0.021 U	< 0.0231 U	< 0.0233 U	< 0.0215 U	< 0.0216 U	< 0.023 U	0.143 J	*259*	1.11	0.491	< 0.0247 U	< 0.0225 U
Atrazine	--	--	--	--	--	--	MG/KG	< 0.0144 U	< 0.0138 U	< 0.0147 U	< 0.0142 U	< 0.0136 U	< 0.015 U	< 0.0151 U	< 0.0139 U	< 0.014 U	< 0.0149 U	< 0.0182 U	< 0.149 U	< 0.0149 U	< 0.0265 U	< 0.016 U	< 0.0146 U
Benzaldehyde	--	--	--	--	--	--	MG/KG	< 0.0473 UJ	< 0.0453 UJ	< 0.0479 UJ	< 0.0464 U	< 0.0445 UJ	< 0.0489 UJ	< 0.0494 UJ	< 0.0455 UJ	< 0.0459 UJ	< 0.0487 UJ	< 0.0595 UR	< 0.488 UR	< 0.0486 UJ	< 0.0868 U	< 0.0523 U	< 0.0477 U
Benzo(a)anthracene	--	--	37	37	1	*1*	MG/KG	< 0.0155 U	< 0.0148 U	< 0.0157 U	< 0.0152 U	< 0.0146 U	< 0.016 U	< 0.0162 U	< 0.0149 U	< 0.015 U	0.102 J	*3.35*	*75.7*	0.599	*1.06*	< 0.0171 U	< 0.0156 U
Benzo(a)pyrene	--	--	3.7	3.7	22	*1*	MG/KG	< 0.0268 U	< 0.0257 U	< 0.0272 U	< 0.0263 U	< 0.0253 U	< 0.0278 U	< 0.028 U	< 0.0258 U	< 0.026 U	0.181	*2.86*	*62.4*	0.476	*1.59*	< 0.0297 U	< 0.0271 U
Benzo(b)fluoranthene	--	--	37	37	2.1	*1*	MG/KG	< 0.0216 U	< 0.0207 U	< 0.0219 U	< 0.0212 U	< 0.0204 U	< 0.0224 U	< 0.0226 U	< 0.0208 U	< 0.021 U	0.195	*3.55*	*41.9*	0.318	*1.43*	< 0.0239 U	< 0.0218 U
Benzo(g,h,i)perylene	--	--	47	78	1000	*1.2*	MG/KG	< 0.0125 U	< 0.012 U	< 0.0127 U	< 0.0123 U	< 0.0118 U	< 0.0129 U	< 0.013 U	< 0.012 U	< 0.0121 U	0.106 J	*1.41 J*	*25.1 J*	0.189	1.18	< 0.0138 U	< 0.0126 U
Benzo(k)fluoranthene	--	--	47	78	2	*1.2*	MG/KG	< 0.0177 U	< 0.0169 U	< 0.0179 U	< 0.0174 U	< 0.0167 U	< 0.0183 U	< 0.0185 U	< 0.017 U	< 0.0172 U	0.0818 J	*1.37*	*17.2*	0.123 J	0.821	< 0.0196 U	< 0.0179 U
Benzyl butyl phthalate	122	100	--	--	--	--	MG/KG	< 0.014 U	< 0.0134 U	< 0.0142 U	< 0.0137 U	< 0.0132 U	< 0.0145 U	< 0.0146 U	< 0.0134 U	< 0.0136 U	< 0.0144 U	< 0.0176 U	< 0.144 U	< 0.0144 U	< 0.0257 U	< 0.0155 U	< 0.0141 U
Biphenyl (Diphenyl)	--	--	--	--	--	--	MG/KG	< 0.0135 U	< 0.013 U	< 0.0137 U	< 0.0133 U	< 0.0127 U	< 0.014 U	< 0.0141 U	< 0.013 U	< 0.0131 U	< 0.0139 U	< 0.017 U	57.1	0.369	< 0.0248 U	< 0.015 U	< 0.0137 U
bis(2-Chloroethoxy)methane	--	--	--	--	--	--	MG/KG	< 0.0213 UJ	< 0.0204 U	< 0.0216 U	< 0.0209 U	< 0.02 U	< 0.022 U	< 0.0222 U	< 0.0205 U	< 0.0206 U	< 0.0219 U	< 0.0268 U	< 0.219 U	< 0.0219 U	< 0.0391 U	< 0.0235 U	< 0.0215 U
bis(2-Chloroethyl)ether	--	--	--	--	--	--	MG/KG	< 0.0169 UJ	< 0.0162 U	< 0.0171 U	< 0.0166 U	< 0.0159 U	< 0.0175 U	< 0.0176 U	< 0.0162 U	< 0.0164 U	< 0.0174 U	< 0.0212 U	< 0.174 U	< 0.0174 U	< 0.031 U	< 0.0187 U	< 0.017 U
bis(2-Chloroisopropyl)ether	--	--	--	--	--	--	MG/KG	< 0.0553 UJ	< 0.053 UJ	< 0.0562 UJ	< 0.0544 U	< 0.0522 UJ	< 0.0573 UJ	< 0.0578 UJ	< 0.0532 U	< 0.0537 U	< 057 U	< 0.0697 U	< 0.571 U	< 0.057 U	< 0.102 U	< 0.0613 U	< 0.0559 U
bis(2-Ethylhexyl)phthalate	435	50	--	--	--	--	MG/KG	< 0.0307 U	< 0.0294 U	< 0.0312 U	< 0.0302 U	< 029 U	< 0.0318 U	< 0.0321 U	< 0.0296 U	< 0.0298 U	< 0.0316 U	< 0.0387 U	< 0.317 U	< 0.0316 U	< 0.0565 U	< 0.034 U	< 0.031 U
Caprolactam	--	--	--	--	--	--	MG/KG	< 0.0199 U	< 0.019 U	< 0.0202 U	< 0.0195 U	< 0.0187 U	< 0.0206 U	< 0.0208 U	< 0.0191 U	< 0.0193 UJ	< 0.0205 UJ	< 0.025 U	< 0.205 U	< 0.0205 U	< 0.0365 U	< 0.022 U	< 0.0201 U
Carbazole	--	--	--	--	--	--	MG/KG	< 0.0296 U	< 0.0283 U	< 0.03 U	< 029 U	< 0.0279 U	< 0.0306 U	< 0.0309 U	< 0.0285 U	< 0.0287 U	< 0.0305 U	< 0.0372 U	4.1	0.0368 J	0.096 J	< 0.0328 U	< 0.0299 U
Chrysene	--	--	47	78	1	*1.2*	MG/KG	< 0.0105 U	< 0.0101 U	< 0.0107 U	< 0.0103 U	< 0.00993 U	< 0.0109 U	< 011 U	< 0.0101 U	< 0.0102 U	0.107 J	*3.3*	*75.7*	0.597	1.13	< 0.0117 U	< 0.0106 U
Dibenz(a,h)anthracene	--	--	3.7	3.7	1000	*0.33*	MG/KG	< 0.0153 U	< 0.0146 U	< 0.0155 U	< 0.015 U	< 0.0144 U	< 0.0158 U	< 0.0159 U	< 0.0147 U	< 0.0148 U	< 0.0157 U	0.16 J	*2.92 J*	0.0614 J	0.0999 J	< 0.0169 U	< 0.0154 U
Dibenzofuran	**6.2**	--	180	29	110	*4.2*	MG/KG	< 0.00916 U	< 0.00878 U	< 0.0093 U	< 0.009 U	< 0.00864 U	< 0.00949 U	< 0.00957 U	< 0.00881 U	< 0.00889 U	< 0.00943 U	0.0533 J	***32.7***	0.283	0.148 J	< 0.0101 U	< 0.00925 U
Diethyl phthalate	7.1	100	--	--	--	--	MG/KG	< 0.0298 U	< 0.0286 U	< 0.0302 U	< 0.0293 U	< 0.0281 U	< 0.0309 U	< 0.0311 U	< 0.0287 U	< 0.0289 U	< 0.0307 U	< 0.0375 U	< 0.308 U	< 0.0307 U	< 0.0548 U	< 0.033 U	< 0.0301 U
Dimethyl phthalate	27	100	--	--	--	--	MG/KG	< 0.00954 U	< 0.00914 U	< 0.00968 U	< 0.00937 U	< 009 U	< 0.00988 U	< 0.00997 U	< 0.00918 U	< 0.00926 U	< 0.00983 U	< 012 U	< 0.0985 U	< 0.00982 U	< 0.0175 U	< 0.0106 U	< 0.00964 U
Di-n-Butyl phthalate	8.1	100	--	--	--	--	MG/KG	< 0.0628 U	< 0.0602 U	< 0.0638 U	< 0.0617 U	< 0.0592 U	< 0.0651 U	< 0.0657 U	< 0.0605 U	< 061 U	< 0.0647 U	< 0.0791 U	< 0.649 U	< 0.0647 U	< 0.116 U	< 0.0696 U	< 0.0635 U
Di-n-Octyl phthalate	120	100	--	--	--	--	MG/KG	< 0.0315 U	< 0.0302 U	< 0.032 U	< 031 U	< 0.0297 U	< 0.0327 U	< 033 U	< 0.0303 U	< 0.0306 U	< 0.0325 U	< 0.0397 U	< 0.326 U	< 0.0325 U	< 058 U	< 0.0349 U	< 0.0319 U
Fluoranthene	--	--	500	1000	1000	*100*	MG/KG	< 0.0144 U	< 0.0138 U	< 0.0147 U	< 0.0142 U	< 0.0136 U	< 015 U	< 0.0151 U	< 0.0139 U	< 0.014 U	0.122 J	3.99	*229*	1.19 J	1.95	< 0.016 U	< 0.0146 U
Fluorene	--	--	500	1000	386	*100*	MG/KG	< 0.0128 U	< 0.0123 U	< 0.013 U	< 0.0126 U	< 0.0121 U	< 0.0133 U	< 0.0134 U	< 0.0123 U	< 0.0124 U	< 0.0132 U	0.0534 J	*281*	1.25	0.237 J	< 0.0142 U	< 0.013 U
Hexachlorobenzene	1.4	0.41	1.8	2.9	3.2	0.33	MG/KG	< 0.0201 U	< 0.0193 U	< 0.0204 U	< 0.0197 U	< 0.0189 U	< 0.0208 U	< 021 U	< 0.0193 U	< 0.0195 U	< 0.0207 U	< 0.0253 U	< 0.208 U	< 0.0207 U	< 0.0369 U	< 0.0223 U	< 0.0203 U
Hexachlorobutadiene	--	--	--	--	--	--	MG/KG	< 0.0738 U	< 0.0707 U	< 0.0749 U	< 0.0725 U	< 0.0696 UJ	< 0.0764 UJ	< 0.0771 UJ	< 071 U	< 0.0716 U	< 076 U	< 093 U	< 0.762 U	< 0.076 U	< 0.136 U	< 0.0817 U	< 0.0746 U
Hexachlorocyclopentadiene	--	--	--	--	--	--	MG/KG	< 0.0641 U	< 0.0614 UJ	< 0.0651 UJ	< 063 U	< 0.0604 UJ	< 0.0664 UJ	< 067 UJ	< 0.0617 U	< 0.0622 U	< 066 U	< 0.0807 UR	< 0.662 UR	< 066 U	< 0.118 UJ	< 071 UJ	< 0.0648 UJ
Hexachloroethane	--	--	--	--	--	--	MG/KG	< 0.0169 U	< 0.0162 U	< 0.0171 U	< 0.0166 U	< 0.0159 U	< 0.0175 U	< 0.0176 U	< 0.0162 U	< 0.0164 U	< 0.0174 U	< 0.0212 U	< 0.174 U	< 0.0174 U	< 0.031 U	< 0.0187 U	< 0.017 U
Indeno(1,2,3-c,d)pyrene	--	--	37	37	6.6	*0.5*	MG/KG	< 0.0165 U	< 0.0158 U	< 0.0168 U	< 0.0162 U	< 0.0156 U	< 0.0171 U	< 0.0173 U	< 0.0159 U	< 0.016 U	0.0766 J	*1.29 J*	*18.9 J*	0.14 J	*0.796*	< 0.0183 U	< 0.0167 U
Isophorone	4.4	100	--	--	--	--	MG/KG	< 0.0101 UJ	< 0.00965 U	< 0.0102 U	< 0.00989 U	< 0.0095 U	< 0.0104 U	< 0.0105 U	< 0.00969 U	< 0.00978 U	< 0.0104 U	< 0.0127 U	< 0.104 U	< 0.0104 U	< 0.0185 U	< 0.0112 U	< 0.0102 U
Naphthalene	--	--	500	1000	12	*84*	MG/KG	< 0.0114 U	< 0.0109 U	< 0.0116 U	< 0.0112 U	< 0.0107 U	< 0.0118 U	< 0.0119 U	< 011 U	< 0.0111 U	< 0.0117 U	0.183 J	*1030*	2.69	0.188 J	0.069 J	< 0.0115 U
Nitrobenzene	0.17	3.7	8.9	8.9	0.08	0.77	MG/KG	< 0.0261 U	< 0.025 U	< 0.0265 U	< 0.0256 U	< 0.0246 U	< 027 U	< 0.0273 U	< 0.0251 U	< 0.0253 U	< 0.0269 U	< 0.0329 U	< 0.27 U	< 0.0269 U	< 048 U	< 0.0289 U	< 0.0264 U
N-Nitroso-di-n-propylamine	--	--	--	--	--	--	MG/KG	< 0.00824 U	< 0.00789 U	< 0.00836 U	< 0.00809 U	< 0.00776 U	< 0.00853 U	< 0.00861 U	< 0.00793 U	< 0.00799 U	< 0.00848 U	< 0.0104 U	< 0.085 U	< 0.00848 U	< 0.0151 U	< 0.00912 U	< 0.00832 U
N-Nitrosodiphenylamine	--	--	--	--	--	--	MG/KG	< 0.0328 U	< 0.0314 U	< 0.0333 U	< 0.0322 U	< 0.0309 U	< 034 U	< 0.0343 U	< 0.0316 U	< 0.0318 U	< 0.0338 U	< 0.0413 U	< 0.339 U	< 0.0338 U	< 0.0603 U	< 0.0363 U	< 0.0331 U
Pentachlorophenol	--	--	6.9	7	0.8	0.8	MG/KG	< 0.0211 UJ	< 0.0203 UJ	< 0.0215 UJ	< 0.0208 U	< 0.0199 UJ	< 0.0219 UJ	< 0.0221 UJ	< 0.0203 U	< 0.0205 UJ	< 0.0218 UJ	< 0.0266 U	< 0.218 U	< 0.0218 U	< 0.0389 UJ	< 0.0234 UJ	< 0.0214 UJ
Phenanthrene	--	--	47	78	1000	*1.2*	MG/KG	< 0.0202 U	< 0.0194 U	< 0.0205 U	< 0.0199 U	< 0.0191 U	< 0.0209 U	< 0.0211 U	< 0.0195 U	< 0.0196 U	0.0576 J	0.206	*852*	*3.53*	*1.52*	< 0.0224 U	< 0.0204 U
Phenol	--	--	500	1000	0.33	100	MG/KG	< 0.0125 UJ	< 0.012 U	< 0.0127 U	< 0.0123 U	< 0.0118 U	< 0.0129 U	< 0.013 U	< 0.012 U	< 0.0121 U	< 0.0128 U	< 0.0157 U	< 0.129 U	< 0.0128 U	< 0.0229 U	< 0.0138 U	< 0.0126 U
Pyrene	--	--	500	1000	1000	*100*	MG/KG	< 0.0113 U	< 0.0108 U	< 0.0115 U	< 0.0111 U	< 0.0107 U	< 0.0117 U	< 0.0118 U	< 0.0109 U	< 0.011 U	0.152 J	3.29	*377*	1.53	2.07	< 0.0125 U	< 0.0114 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentrations above NYS_SUP_PGW are boldfaced
concentrations above NYS_SUP_RES are shaded gray
concentrations above NYSPART375C_DEC2025 are outlined
cconcentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3B
SOIL QUALITY DATA - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-303	MR-303	MR-303	MR-303	MR-303	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
							Sample ID	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
							Depth (feet)	4-6	15-17	20-22	35-37	75-77	6-8	27-29	65-67	4-5	4-5	5-6	3-4.5	4-5	4-5
							Sample Date	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units														
1,4-Dioxane	--	--	36	36	0.1	1.4	MG/KG	< 0.00475 U	< 0.00696 U	< 0.00456 U	< 0.00461 U	< 0.0044 U	< 0.00593 U	< 0.00462 U	< 0.00421 U	< 0.00639 U	< 0.0223 U	< 0.0048 U	< 0.00491 U	< 0.00453 U	< 0.00467 U
2,3,4,6-Tetrachlorophenol	--	--	--	--	--	--	MG/KG	< 0.0259 U	< 0.038 U	< 0.0249 U	< 0.0251 U	< 0.024 U	< 0.0323 U	< 0.0252 U	< 0.0229 U	< 0.0349 U	< 0.121 U	< 0.0262 U	< 0.0268 U	< 0.0247 U	< 0.0255 U
2,4,5-Trichlorophenol	0.1	100	--	--	--	--	MG/KG	< 0.0229 U	< 0.0335 U	< 0.0219 U	< 0.0222 U	< 0.0212 U	< 0.0285 U	< 0.0222 U	< 0.0202 U	< 0.0308 U	< 0.107 U	< 0.0231 U	< 0.0236 U	< 0.0218 U	< 0.0225 U
2,4,6-Trichlorophenol			--	--	--	--	MG/KG	< 0.0105 U	< 0.0154 U	< 0.0101 U	< 0.0102 U	< 0.00975 U	< 0.0131 U	< 0.0102 U	< 0.00932 U	< 0.0142 U	< 0.0494 U	< 0.0106 U	< 0.0109 U	< 0.01 U	< 0.0103 U
2,4-Dichlorophenol	0.4	100	--	--	--	--	MG/KG	< 0.0169 U	< 0.0248 U	< 0.0162 U	< 0.0164 U	< 0.0157 U	< 0.0211 U	< 0.0165 U	< 0.015 U	< 0.0228 U	< 0.0794 U	< 0.0171 U	< 0.0175 U	< 0.0161 U	< 0.0166 U
2,4-Dimethylphenol			--	--	--	--	MG/KG	< 0.0165 U	< 0.0243 U	< 0.0159 U	< 0.0161 U	< 0.0153 U	< 0.0207 U	< 0.0161 U	< 0.0147 U	< 0.0223 U	< 0.0776 U	< 0.0167 U	< 0.0171 U	< 0.0158 U	< 0.0163 U
2,4-Dinitrophenol	0.2	100	--	--	--	--	MG/KG	< 0.0243 UR	< 0.0356 UR	< 0.0233 UR	< 0.0236 UR	< 0.0225 UR	< 0.0303 U	< 0.0236 U	< 0.0215 UJ	< 0.0326 UJ	< 0.114 U	< 0.0245 UJ	< 0.0251 UJ	< 0.0231 UJ	< 0.0238 UJ
2,4-Dinitrotoluene			--	--	--	--	MG/KG	< 0.0179 U	< 0.0263 U	< 0.0172 U	< 0.0174 U	< 0.0166 U	< 0.0224 U	< 0.0174 U	< 0.0159 U	< 0.0241 U	< 0.0841 U	< 0.0181 U	< 0.0185 U	< 0.0171 U	< 0.0176 U
2,6-Dinitrotoluene	1	1.03	--	--	--	--	MG/KG	< 0.0402 U	< 0.0589 U	< 0.0386 U	< 0.039 U	< 0.0372 U	< 0.0502 U	< 0.0391 U	< 0.0356 U	< 0.0541 U	< 0.188 U	< 0.0406 U	< 0.0415 U	< 0.0383 U	< 0.0395 U
2-Chloronaphthalene	--		--	--	--	--	MG/KG	< 0.0193 U	< 0.0283 U	< 0.0186 U	< 0.0188 U	< 0.0179 U	< 0.0241 U	< 0.0188 U	< 0.0171 U	< 026 U	< 0.0907 U	< 0.0195 U	< 0.02 U	< 0.0184 U	< 0.019 U
2-Chlorophenol	--	100	--	--	--	--	MG/KG	< 0.0222 U	< 0.0326 U	< 0.0213 U	< 0.0216 U	< 0.0206 U	< 0.0278 U	< 0.0216 U	< 0.0197 U	< 0.0299 U	< 0.104 U	< 0.0225 U	< 0.023 U	< 0.0212 U	< 0.0219 U
2-Methylnaphthalene	**36.4**	0.41	--	--	--	--	MG/KG	0.229 J	< 0.0591 U	**74.1**	0.32	< 0.0373 U	0.0526 J	< 0.0392 U	< 0.0357 U	0.313 J	13.5	**184**	0.106 J	0.535	0.122 J
2-Methylphenol (o-cresol)	--	--	500	1000	0.33	100	MG/KG	< 0.0332 U	< 0.0487 U	< 0.0319 U	< 0.0323 U	< 0.0308 U	< 0.0415 U	< 0.0323 U	< 0.0294 U	< 0.0447 U	< 0.156 U	< 0.0336 U	< 0.0343 U	< 0.0317 U	< 0.0327 U
2-Nitroaniline	0.4	--	--	--	--	--	MG/KG	< 0.0135 U	< 0.0198 U	< 0.013 U	< 0.0131 U	< 0.0125 U	< 0.0169 U	< 0.0131 U	< 0.012 U	< 0.0182 U	< 0.0634 U	< 0.0137 U	< 0.014 U	< 0.0129 U	< 0.0133 U
2-Nitrophenol	0.3	--	--	--	--	--	MG/KG	< 0.0187 U	< 0.0274 U	< 0.0179 U	< 0.0182 U	< 0.0173 U	< 0.0233 U	< 0.0182 U	< 0.0166 U	< 0.0252 U	< 0.0877 U	< 0.0189 U	< 0.0193 U	< 0.0178 U	< 0.0184 U
3,3'-Dichlorobenzidine	--	--	--	--	--	--	MG/KG	< 0.0177 U	< 0.0259 U	< 0.017 U	< 0.0172 U	< 0.0164 U	< 0.0221 U	< 0.0172 U	< 0.0157 U	< 0.0238 U	< 0.0829 U	< 0.0179 U	< 0.0183 U	< 0.0169 U	< 0.0174 U
3/4-Methylphenol	--	--	--	--	--	--	MG/KG	< 0.0308 U	< 0.0452 U	< 0.0296 U	< 0.0299 U	< 0.0286 U	< 0.0385 U	< 0.03 U	< 0.0273 U	< 0.0415 U	< 0.145 U	< 0.0312 U	0.0788 J	0.169 J	< 0.0303 U
3-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.0312 U	< 0.0457 U	< 0.03 U	< 0.0303 U	< 0.0289 U	< 0.039 U	< 0.0303 U	< 0.0276 U	< 042 U	< 0.146 U	< 0.0315 U	< 0.0322 U	< 0.0297 U	< 0.0307 U
4,6-Dinitro-2-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0317 U	< 0.0465 U	< 0.0304 UJ	< 0.0308 UJ	< 0.0294 UJ	< 0.0396 U	< 0.0308 U	< 0.0281 U	< 0.0427 U	< 0.149 UJ	< 0.0321 UJ	< 0.0328 U	< 0.0302 UJ	< 0.0312 UJ
4-Bromophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.024 U	< 0.0352 U	< 0.023 U	< 0.0233 U	< 0.0222 U	< 03 U	< 0.0233 U	< 0.0213 U	< 0.0323 U	< 0.113 U	< 0.0243 U	< 0.0248 U	< 0.0229 U	< 0.0236 U
4-Chloro-3-methylphenol	--	--	--	--	--	--	MG/KG	< 0.0265 U	< 0.0389 U	< 0.0255 U	< 0.0258 U	< 0.0246 U	< 0.0331 U	< 0.0258 U	< 0.0235 U	< 0.0357 U	< 0.124 U	< 0.0268 U	< 0.0274 U	< 0.0253 U	< 0.0261 U
4-Chloroaniline	0.22	100	--	--	--	--	MG/KG	< 0.00589 U	< 0.00863 U	< 0.00565 U	< 0.00572 U	< 0.00545 U	< 0.00735 U	< 0.00572 U	< 0.00521 U	< 0.00792 U	< 0.0276 U	< 0.00595 U	< 0.00608 U	< 0.00561 U	< 0.00579 U
4-Chlorophenyl phenyl ether	--	--	--	--	--	--	MG/KG	< 0.00908 U	< 0.0133 U	< 0.00872 U	< 0.00882 U	< 0.00842 U	< 0.0113 U	< 0.00883 U	< 0.00804 U	< 0.0122 U	< 0.0426 U	< 0.00918 U	< 0.00938 U	< 0.00866 U	< 0.00893 U
4-Nitroaniline	--	--	--	--	--	--	MG/KG	< 0.0841 U	< 0.123 U	< 0.0808 U	< 0.0817 U	< 0.078 U	< 0.105 U	< 0.0818 U	< 0.0745 U	< 0.113 U	< 0.395 U	< 0.085 U	< 0.0869 U	< 0.0802 U	< 0.0827 U
4-Nitrophenol	0.1	--	--	--	--	--	MG/KG	< 0.0108 U	< 0.0158 U	< 0.0103 U	< 0.0105 U	< 0.00997 UJ	< 0.0134 U	< 0.0105 U	< 0.00953 U	< 0.0145 U	< 0.0505 U	< 0.0109 U	< 0.0111 U	< 0.0103 U	< 0.0106 U
Acenaphthene	--	--	500	1000	98	*100*	MG/KG	1.18	< 0.0141 U	34	0.237	0.233	0.108 J	< 0.00932 U	< 0.00849 U		*160*	26.8	0.0407 J	1.05	0.165
Acenaphthylene	--	--	500	1000	365	*100*	MG/KG	2.94	< 0.00857 U	5.96 J	0.0739 J	0.0527 J	0.0557 J	< 0.00569 U	< 0.00518 U		45.7	19.9	0.0931 J	0.576	1.51
Acetophenone	--	--	--	--	--	--	MG/KG	< 0.0167 U	< 0.0244 U	< 0.016 U	< 0.0162 U	< 0.0155 U	< 0.0208 U	< 0.0162 U	< 0.0148 U	0.12 J	< 0.0782 U	< 0.0169 U	< 0.0172 U	0.218 J	< 0.0164 U
Anthracene	--	--	500	1000	1000	*100*	MG/KG	3.89	< 0.0357 U	19	0.169	0.145 J	0.177 J	< 0.0237 U	< 0.0216 U	1.00	*157*	65.1		1.56	0.675
Atrazine	--	--	--	--	--	--	MG/KG	< 0.0158 U	< 0.0231 U	< 0.0152 U	< 0.0153 U	< 0.0146 U	< 0.0197 U	< 0.0154 U	< 0.014 U	< 0.0213 U	< 0.0741 U	< 0.016 U	< 0.0163 U	< 0.0151 U	< 0.0155 U
Benzaldehyde	--	--	--	--	--	--	MG/KG	< 0.0517 U	< 0.0757 U	< 0.0496 UJ	< 0.0502 UJ	< 0.0479 UJ	< 0.0645 U	< 0.0502 U	< 0.0457 U	< 0.0695 U	< 0.242 U	< 0.0522 U	< 0.0534 U	0.279 J	< 0.0508 U
Benzo(a)anthracene	--	--	37	37	1	*1*	MG/KG	*3.66*	< 0.0248 U	*10.1 J*	0.086 J	0.0732 J	0.371	< 0.0165 U	< 0.015 U	1.00	*86.8*	*46.5*		*2.33*	*1.02*
Benzo(a)pyrene	--	--	3.7	3.7	22	*1*	MG/KG	*3.36*	< 0.043 U	*7.85 J*	0.0716 J	0.0593 J	0.351	< 0.0285 U	< 0.0259 U	*2.00*	*73.2*	*35.6*	1.00	*2.32*	*2.04*
Benzo(b)fluoranthene	--	--	37	37	2.1	*1*	MG/KG	*2.64*	< 0.0346 U	*5.4 J*	0.0382 J	0.0333 J	0.469	< 0.023 U	< 0.0209 U	*2.00*	*65.4*	*36.7*	1.00	*2.88*	*2.2*
Benzo(g,h,i)perylene	--	--	47	78	1000	*1.2*	MG/KG	*2.56*	< 0.02 U	*3.06 J*	0.0311 J	< 0.0126 U	0.228 UJ	< 0.0133 U	< 0.0121 U	1.00	*47.2*	*25.9*		*1.68*	*4.08*
Benzo(k)fluoranthene	--	--	47	78	2	*1.2*	MG/KG	*1.37*	< 0.0283 U	*2.19 J*	< 0.0188 U	< 0.0179 U	0.159 J	< 0.0188 U	< 0.0171 U	1.0	*14.2*	*8.33*		*1.28*	0.712
Benzyl butyl phthalate	122	100	--	--	--	--	MG/KG	< 0.0153 U	< 0.0224 U	< 0.0147 U	< 0.0148 U	< 0.0142 U	< 0.0191 U	< 0.0149 U	< 0.0135 U	< 0.0206 U	< 0.0717 U	< 0.0155 U	< 0.0158 U	< 0.0146 U	< 0.015 U
Biphenyl (Diphenyl)	--	--	--	--	--	--	MG/KG	< 0.0148 U	< 0.0217 U	8.24 J	0.0388 J	0.03 J	< 0.0185 U	< 0.0144 U	< 0.0131 U	0.099 J	3.14	63.2	0.0345 J	0.227	< 0.0145 U
bis(2-Chloroethoxy)methane	--	--	--	--	--	--	MG/KG	< 0.0232 U	< 0.0341 U	< 0.0223 U	< 0.0226 U	< 0.0215 U	< 0.029 U	< 0.0226 U	< 0.0206 U	< 0.0313 U	< 0.109 U	< 0.0235 U	< 0.024 U	< 0.0222 U	< 0.0228 U
bis(2-Chloroethyl)ether	--	--	--	--	--	--	MG/KG	< 0.0184 U	< 0.027 U	< 0.0177 U	< 0.0179 U	< 0.0171 U	< 0.023 U	< 0.0179 U	< 0.0163 U	< 0.0248 U	< 0.0865 U	< 0.0186 U	< 0.0191 U	< 0.0176 U	< 0.0181 U
bis(2-Chloroisopropyl)ether	--	--	--	--	--	--	MG/KG	< 0.0605 U	< 0.0887 U	< 0.0581 UR	< 0.0588 UJ	< 0.0561 UJ	< 0.0756 U	< 0.0588 U	< 0.0536 U	< 0.0814 U	< 0.284 U	< 0.0612 U	< 0.0625 U	< 0.0577 U	< 0.0595 U
bis(2-Ethylhexyl)phthalate	435	50	--	--	--	--	MG/KG	< 0.0336 U	< 0.0493 U	< 0.0323 U	< 0.0326 U	< 0.0311 U	< 0.042 U	< 0.0327 U	< 0.0298 U	0.146 J	< 0.158 U	< 0.034 U	< 0.0347 U	< 0.032 U	< 0.033 U
Caprolactam	--	--	--	--	--	--	MG/KG	< 0.0217 U	< 0.0319 U	< 0.0209 U	< 0.0211 U	< 0.0201 U	< 0.0271 U	< 0.0211 U	< 0.0192 U	< 0.0292 UJ	< 0.102 U	< 0.022 U	< 0.0224 UJ	< 0.0207 U	< 0.0214 U
Carbazole	--	--	--	--	--	--	MG/KG	< 0.0323 U	< 0.0474 U	0.525	< 0.0314 U	< 0.03 U	0.0407 J	< 0.0314 U	< 0.0286 U	0.113 J	< 0.152 U	< 0.0327 U	0.0591 J	0.429	0.0809 J
Chrysene	--	--	47	78	1	*1.2*	MG/KG	*3.68*	< 0.0169 U	*10.1*	0.0897 J	0.0756 J	0.321	< 0.0112 U	< 0.0102 U	*2.00*	*87.8*	*43.3*	1.00	*2.51*	1.18
Dibenz(a,h)anthracene	--	--	3.7	3.7	1000	*0.33*	MG/KG	*0.471*	< 0.0244 U	*0.921*	< 0.0162 U	< 0.0155 U	< 0.0208 U	< 0.0162 U	< 0.0148 U		*2.48*	*1.2*	0.117 J	0.131 J	0.135 J
Dibenzofuran	**6.2**	--	180	29	110	*4.2*	MG/KG	< 0.01 U	< 0.0147 U	2.57 J	< 0.00973 U	< 0.00928 U	0.065 J	< 0.00974 U	< 0.00887 U		3.04	< 0.0101 U	0.0626 J	0.63	< 0.00985 U
Diethyl phthalate	7.1	100	--	--	--	--	MG/KG	< 0.0326 U	< 0.0478 U	< 0.0313 U	< 0.0316 U	< 0.0302 U	< 0.0407 U	0.0447 J	< 0.0289 U	< 0.0439 U	< 0.153 U	< 0.0329 U	< 0.0337 U	< 0.0311 U	< 0.032 U
Dimethyl phthalate	27	100	--	--	--	--	MG/KG	< 0.0104 U	< 0.0153 U	< 0.01 U	< 0.0101 U	< 0.00967 U	< 0.013 U	< 0.0101 U	< 0.00924 U	< 0.014 U	< 0.0489 U	< 0.0105 U	< 0.0108 U	< 0.00995 U	< 0.0103 U
Di-n-Butyl phthalate	8.1	100	--	--	--	--	MG/KG	< 0.0687 U	< 0.101 U	< 0.066 U	< 0.0667 U	< 0.0637 U	< 0.0858 U	< 0.0668 U	< 0.0608 U	< 0.0925 U	< 0.322 U	< 0.0695 U	< 0.071 U	< 0.0655 U	< 0.0676 U
Di-n-Octyl phthalate	120	100	--	--	--	--	MG/KG	< 0.0345 U	< 0.0506 U	< 0.0331 U	< 0.0335 U	< 0.032 U	< 0.0431 U	< 0.0335 U	< 0.0305 U	< 0.0464 U	< 0.162 U	< 0.0349 U	< 0.0356 U	< 0.0329 U	< 0.0339 U
Fluoranthene	--	--	500	1000	1000	*100*	MG/KG	5.78	< 0.0231 U	19.1	0.134 J	0.133 J	0.781	< 0.0154 U	< 0.014 U	3.00	*249*	92.1	1.0	6.54	1.65
Fluorene	--	--	500	1000	386	*100*	MG/KG	2.6	< 0.0206 U	22	0.183	0.12 J	0.0881 J	< 0.0136 U	< 0.0124 U		*144*	72.8	< 0.0145 U	1.03	0.295
Hexachlorobenzene	1.4	0.41	1.8	2.9	3.2	0.33	MG/KG	< 0.022 U	< 0.0322 U	< 0.0211 U	< 0.0213 U	< 0.0204 U	< 0.0274 U	< 0.0214 U	< 0.0195 U	< 0.0296 U	< 0.103 U	< 0.0222 U	< 0.0227 U	< 0.021 U	< 0.0216 U
Hexachlorobutadiene	--	--	--	--	--	--	MG/KG	< 0.0807 U	< 0.118 U	< 0.0775 U	< 0.0784 U	< 0.0748 U	< 0.101 U	< 0.0785 U	< 0.0715 U	< 0.109 U	< 0.379 U	< 0.0816 U	< 0.0834 U	< 0.077 U	< 0.0794 U
Hexachlorocyclopentadiene	--	--	--	--	--	--	MG/KG	< 0.0701 U	< 0.103 U	< 0.0673 UJ	< 0.0681 UJ	< 0.065 UJ	< 0.0875 UJ	< 0.0682 UJ	< 0.0621 UJ	< 0.0944 UJ	< 0.329 UJ	< 0.0709 UJ	< 0.0724 UJ	< 0.0668 UJ	< 0.0689 UJ
Hexachloroethane	--	--	--	--	--	--	MG/KG	< 0.0184 U	< 0.027 U	< 0.0177 U	< 0.0179 U	< 0.0171 U	< 0.023 U	< 0.0179 U	< 0.0163 U	< 0.0248 U	< 0.0865 U	< 0.0186 U	< 0.0191 U	< 0.0176 U	< 0.0181 U
Indeno(1,2,3-c,d)pyrene	--	--	37	37	6.6	*0.5*	MG/KG	*1.4*	< 0.0265 U	*2.24*	< 0.0175 U	< 0.0167 U	0.18 J	< 0.0176 U	< 0.016 U	*1.00*	*25.9*	*10.4*		*1.15*	*2.06*
Isophorone	4.4	100	--	--	--	--	MG/KG	< 0.011 U	< 0.0161 U	< 0.0106 U	< 0.0107 U	< 0.0102 U	< 0.0138 U	< 0.0107 U	< 0.00975 U	< 0.0148 U	< 0.0517 U	< 0.0111 U	< 0.0114 U	< 0.0105 U	< 0.0108 U
Naphthalene	--	--	500	1000	12	*84*	MG/KG	0.328	< 0.0183 U	81.1	0.33	0.0464 J	0.135 J	< 0.0121 U	< 0.011 U	1.00	*181*	*619*	0.112 J	1.14	0.153 J
Nitrobenzene	0.17	3.7	8.9	8.9	0.08	0.77	MG/KG	< 0.0285 U	< 0.0418 U	< 0.0274 U	< 0.0277 U	< 0.0265 U	< 0.0356 U	< 0.0278 U	< 0.0253 U	< 0.0384 U	< 0.134 U	< 0.0289 U	< 0.0295 U	< 0.0272 U	< 0.0281 U
N-Nitroso-di-n-propylamine	--	--	--	--	--	--	MG/KG	< 0.00901 U	< 0.0132 U	< 0.00865 U	< 0.00875 U	< 0.00835 U	< 0.0112 U	< 0.00876 U	< 0.00797 U	< 0.0121 U	< 0.0422 U	< 0.0091 U	< 0.00931 U	< 0.00859 U	< 0.00885 U
N-Nitrosodiphenylamine	--	--	--	--	--	--	MG/KG	< 0.0359 U	< 0.0526 U	< 0.0344 U	< 0.0348 U	< 0.0332 U	< 0.0448 U	< 0.0349 U	< 0.0318 U	< 0.0483 U	< 0.168 U	< 0.0363 U	< 0.0371 U	< 0.0342 U	< 0.0353 U
Pentachlorophenol	--	--	6.9	7	0.8	0.8	MG/KG	< 0.0231 U	< 0.0339 U	< 0.0222 UJ	< 0.0224 UJ	< 0.0214 UJ	< 0.0289 U	< 0.0225 U	< 0.0205 UJ	< 0.0311 UJ	< 0.108 UJ	< 0.0234 UJ	< 0.0239 UJ	< 0.022 UJ	< 0.0227 UJ
Phenanthrene	--	--	47	78	1000	*1.2*	MG/KG	*3.02*	< 0.0324 U	*61*	0.527	0.473	0.513	< 0.0215 U	< 0.0196 U	*2.00*	*562*	*254*	1.00	*5.81*	1.02
Phenol	--	--	500	1000	0.33	100	MG/KG	< 0.0136 U	< 0.02 U	< 0.0131 U	< 0.0132 U	< 0.0126 U	< 0.017 U	< 0.0133 U	< 0.0121 U	< 0.0184 U	< 0.064 U	< 0.0138 U	< 0.0141 U	< 0.013 U	< 0.0134 U
Pyrene	--	--	500	1000	1000	*100*	MG/KG	13.5	< 0.0181 U	24.8	0.243	0.229	0.561	< 0.012 U	< 0.0109 U	3.00	*414*	*159*	1.00	6.51	2.67

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the method detection limit
mg/kg = milligrams per kilogram
concentrations above NYS_SUP_PGW are boldfaced
concentrations above NYS_SUP_RES are shaded gray
concentrations above NYSPART375C_DEC2025 are outlined
cconcentrations above NYSPART375I_DEC2025 are printed in red font
concentrations above NYSPART375PGW_DEC2025 are underlined
concentrations above NYSPART375R_DEC2025 are italicized

TABLE 3C
SOIL QUALITY DATA - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

						Location ID	MR-101	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202	MR-202	MR-202
						Sample ID	MR-101-6.0-8.0-20230616	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725
						Depth (feet)	6-8	20-22	65-67	6-8	20-22	80-82	6-8	20-22	35-37	50-52	65-67	4-6	12-14	17-19	30-32	2-4	8-10	15-17	30-32
						Sample Date	6/16/2023	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023	7/25/2023	7/25/2023
Chemical Name	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																			
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	0.297	< 0.0084 U	< 0.00573 U	1.11	0.0281	< 0.00563 U	0.306	0.0375	0.0369	< 0.00633 U	< 0.0062 U	0.669	3.15	< 0.0086 U	< 0.00586 U	0.217	0.0272	< 0.0107 U	< 0.00618 U
Aluminum	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	--	16	16	16	16	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	410	10000	820	410	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	--	670	750	47	8.8	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	30	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	280	10000	1720	280	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	**2000**	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	1000	3900	450	400	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	10000	10000	2000	2000	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	320	5900	130	87	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	1700	2000	4	22	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	1700	2000	8.3	22	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	100	--	--	--	--	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	10000	10000	2480	1300	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aluminum	--	--	--	--	--	MG/KG	11800	23000 J	6060 J	12800	12000	5190	5530	15500	9120	7370	3900	5640	5550	18000	5330	2750	11500	17300	5220
Antimony	--	--	--	--	--	MG/KG	< 0.189 U	< 0.218 UJ	< 0.149 UJ	< 0.189 U	< 0.19 U	< 0.157 U	2.45	< 0.215 U	< 0.169 U	< 0.175 U	< 0.174 U	< 0.162 U	1.79	< 0.237 U	< 0.153 U	< 0.145 U	< 0.162 U	< 0.283 U	< 0.165 U
Arsenic	--	16	16	16	16	MG/KG	3.63	9.18 J	< 0.0974 UJ	8.18	4.26	< 0.103 U	6.05	7.11	9.16	4.27	< 0.114 U	4.32	5.69	8.89	2	1.74	2.26	4.73	6.02
Barium	--	410	10000	820	410	MG/KG	109	59.8	60	67.9	40.8	43.3	225	84.6	71.2	28.5	29.4	64.1	59.4	39.4	24.5	22.6	39.5	37.3	34
Beryllium	--	670	750	47	8.8	MG/KG	0.126	0.66 J	0.298 J	0.643	0.567	0.386	0.387	0.903	0.689	0.494	0.331	0.423	0.414	1.05	0.477	0.313	0.756	1.03	0.453
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	< 0.0675 U	< 0.078 UJ	< 0.0532 UJ	0.506	< 0.0681 U	< 0.056 U	1.91	0.759	< 0.0603 U	< 0.0627 U	< 0.0623 U	0.332	< 0.0651 U	< 0.0847 U	< 0.0549 U	< 0.0521 U	< 0.0581 U	< 0.101 U	< 0.059 U
Calcium	--	--	--	--	--	MG/KG	3810	2750	9570	12600	3440	7550	143000	27400	3310	4000	7910	14800	34100	6540	5560	7060	1600	2370	1460
Chromium	--	--	--	--	--	MG/KG	27.4	35.7 J	11.9 J	25	14.9	12	32.1	33.5	17.3	14.6	8.03	11.1	11.3	30.6	12.3	6.84	16.1	28.4	10.5
Cobalt	30	--	--	--	--	MG/KG	3.91	10.2 J	3.96 J	7.27	5.83	4.6	4.81	8.03	6.78	4.66	3.29	4.03	4.48	9.34	4.28	3.34	4.98	7.59	4.03
Copper	--	280	10000	1720	280	MG/KG	14.5	17.8 J	11.3 J	17.5	8.55	15.4	226	78.7	15.8	11.2	8.41	41.5	59.1	22.4	18.8	19.2	18.3	15.7	8.26
Iron	**2000**	--	--	--	--	MG/KG	**20600**	**16600 J**	**10300 J**	**26300**	**18100**	**10400**	**20300**	**34200**	**20100**	**16800**	**8310**	**12100**	**13800**	**36500**	**11900**	**8250**	**13300**	**25900**	**11900**
Lead	--	1000	3900	450	400	MG/KG	120	17.7 J	6.71 J	74.7	14.6	4.98	364	126	16.7	13.3	6.84	197	172	38.3	7.64	51	16.2	14.9	5.03
Magnesium	--	--	--	--	--	MG/KG	4010	7560 J	4720 J	4600	3200	4810	5590	7410	4170	3620	4200	2530	2360	7200	4400	1410	2970	7170	2780
Manganese	--	10000	10000	2000	2000	MG/KG	152	382	254	229	140	228	217	321	176	189	167	144	165	416	264	183	226	271	162
Nickel	--	320	5900	130	87	MG/KG	11.8	29.5 J	15.7 J	20.4	12	17.8	61.6	39.1	18.5	14.5	16.1	15.5	14.4	27.4	15	9.56	20.5	28.3	11.4
Potassium	--	--	--	--	--	MG/KG	2900	5310 J	1580 J	2740	1740	1370	616	3210	1610	1490	964	687	822	3800	1620	573	965	3240	1070
Selenium	--	1700	2000	4	22	MG/KG	< 0.332 U	< 0.384 UJ	< 0.262 UJ	< 0.332 U	< 0.335 U	< 0.276 U	< 0.302 UJ	< 0.38 UJ	< 0.297 UJ	< 0.309 UJ	< 0.307 UJ	< 0.285 UJ	< 0.321 UJ	< 0.417 UJ	< 0.27 UJ	< 0.256 UJ	< 0.286 UJ	< 0.499 UJ	< 0.291 UJ
Silver	--	1700	2000	8.3	22	MG/KG	< 0.0589 U	< 0.068 UJ	< 0.0464 UJ	0.225	< 0.0594 U	< 0.0489 U	1.11	0.436	< 0.0526 U	< 0.0547 U	< 0.0544 U	0.239	0.436	< 0.0739 U	< 0.0479 U	< 0.0454 U	< 0.0507 U	< 0.0885 U	< 0.0515 U
Sodium	--	--	--	--	--	MG/KG	1750	2650 J	485 J	2560	2010	446	3690	3070	1040	751	349	507	722	3200	611	182	285	2840	688
Thallium	--	--	--	--	--	MG/KG	< 0.116 U	< 0.135 UJ	< 0.0918 UJ	< 0.117 U	< 0.117 U	< 0.0967 U	< 0.106 U	< 0.133 U	< 0.104 U	< 0.108 U	< 0.108 U	< 0.0998 U	< 0.112 U	< 0.146 U	< 0.0948 U	< 0.0899 U	< 0.1 U	< 0.175 U	< 0.102 U
Vanadium	100	--	--	--	--	MG/KG	33.1	45.2	17.9	32.1	21.9	17	46.5	40.7	24.7	17.2	10.6	17.3	14.9	36.3	17.6	12.3	23.8	42.8	17.3
Zinc	--	10000	10000	2480	1300	MG/KG	35.6	75.2 J	21.4 J	57.1	31.5	20.8	591	162	51.7	40.2	20.9	83.4	83.8	87.3	28.7	28	42.3	65.5	30.9
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	28	240	40	2.6	MG/KG	0.466	< 0.0115 U	< 0.00787 U	< 0.00908 U	< 0.0103 U	< 0.00716 U	0.544	< 0.0233 U	< 0.0177 U	0.31	< 0.0161 U	< 0.0178 U	8.14	< 0.0262 U	0.547	--	--	--	--	--

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
mg/kg = milligrams per kilogram
< MDL = less than the medthod detection limit
Concentrations above NYSPART375C_DEC2025 are shaded gray
Concentration above NYSPART375I_DEC2025 is outlined
Concentrations above NYSPART375PGW_DEC2025 are printed in red font
Concentrations above NYSPART375R_DEC2025 are underlined

TABLE 3C
SOIL QUALITY DATA - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

						Location ID	MR-203	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208	MR-208	MR-208	MR-209	MR-209
						Sample ID	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720
						Depth (feet)	6-8	10-14	15-17	30-32	6-8	20-32	6-7	8-10	15-17	2-4	12-14	30-32	9-10	30-32	6-8	15-17	30-32	5-7	15-17
						Sample Date	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023	7/24/2023	7/24/2023	7/20/2023	7/20/2023
Chemical Name	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																			
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	0.0752	< 0.0061 U	< 0.0156 U	< 0.00594 U	< 0.00566 U	< 0.00555 U	< 0.00579 U	0.0285	0.183	< 0.0061	< 0.00615 U	< 0.00567	< 0.00594 U	< 0.00578 U	< 0.00554 U	< 0.00586 U	< 0.00567 U	< 0.00545 U	0.0741
Aluminum	--	--	--	--	--	MG/KG	12400	12000	15000	6810	--	--	--	--	--	9000	4940	6880	--	--	--	--	--	--	--
Antimony	--	--	--	--	--	MG/KG	< 0.156 U	< 0.16 U	< 0.439 U	< 0.155 U	--	--	--	--	--	< 0.164	< 0.16	< 0.147	--	--	--	--	--	--	--
Arsenic	--	16	16	16	16	MG/KG	< 0.102 U	1.95	< 0.288 U	< 0.101 U	--	--	--	--	--	2.61	< 0.105	< 0.0964	--	--	--	--	--	--	--
Barium	--	410	10000	820	410	MG/KG	74	50.4	59.4	34.3	--	--	--	--	--	28.8	42	44.4	--	--	--	--	--	--	--
Beryllium	--	670	750	47	8.8	MG/KG	0.731	0.752	0.918	0.491	--	--	--	--	--	0.39	0.367	0.768	--	--	--	--	--	--	--
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	< 0.0558 U	< 0.0572 U	< 0.157 U	< 0.0554 U	--	--	--	--	--	< 0.0586	< 0.0574	< 0.0527	--	--	--	--	--	--	--
Calcium	--	--	--	--	--	MG/KG	11800	2950	16800	7550	--	--	--	--	--	1310	1760	4150	--	--	--	--	--	--	--
Chromium	--	--	--	--	--	MG/KG	22.4	22.2	27.3	15.6	--	--	--	--	--	13.5	11.8	18.2	--	--	--	--	--	--	--
Cobalt	30	--	--	--	--	MG/KG	7.47	6.33	7.69	5.14	--	--	--	--	--	5.29	3.94	4.81	--	--	--	--	--	--	--
Copper	--	280	10000	1720	280	MG/KG	57.3	22.4	24.5	14.4	--	--	--	--	--	17.1	10.2	36.2	--	--	--	--	--	--	--
Iron	**2000**	--	--	--	--	MG/KG	**18500**	**17600**	**21400**	**13400**	--	--	--	--	--	**16400**	**10600**	**15300**	--	--	--	--	--	--	--
Lead	--	1000	3900	450	400	MG/KG	50.6	16.8	18	7.49	--	--	--	--	--	61.7	7	7.46	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	MG/KG	4980	3770	7210	5230	--	--	--	--	--	2670	2510	5910	--	--	--	--	--	--	--
Manganese	--	10000	10000	2000	2000	MG/KG	161	228	242	145	--	--	--	--	--	164	349	269	--	--	--	--	--	--	--
Nickel	--	320	5900	130	87	MG/KG	23.1	21.7	26.3	16.6	--	--	--	--	--	12.1	12.8	14.7	--	--	--	--	--	--	--
Potassium	--	--	--	--	--	MG/KG	1610	1400	2340	1820	--	--	--	--	--	937	1050	2460	--	--	--	--	--	--	--
Selenium	--	1700	2000	4	22	MG/KG	< 0.275 U	< 0.281 U	< 0.774 U	< 0.273 U	--	--	--	--	--	< 0.289 U	< 0.283 U	< 0.259 U	--	--	--	--	--	--	--
Silver	--	1700	2000	8.3	22	MG/KG	0.186	< 0.0499 U	< 0.137 U	< 0.0483 U	--	--	--	--	--	< 0.0511 U	< 0.0501 U	< 0.046 U	--	--	--	--	--	--	--
Sodium	--	--	--	--	--	MG/KG	514	424	4260	883	--	--	--	--	--	235	274	404	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	MG/KG	< 0.0963 U	< 0.0986 U	< 0.271 U	< 0.0956 U	--	--	--	--	--	< 0.101 U	< 0.099 U	< 0.0909 U	--	--	--	--	--	--	--
Vanadium	100	--	--	--	--	MG/KG	31.8	31.1	40.6	25.6	--	--	--	--	--	17.1	13.7	24.7	--	--	--	--	--	--	--
Zinc	--	10000	10000	2480	1300	MG/KG	101	48.4	52.6	30.1	--	--	--	--	--	40.6	24.5	31.9	--	--	--	--	--	--	--
Aluminum	--	--	--	--	--	MG/KG	--	--	--	--	9540	6820	10100	2630	5050	--	--	--	5260	8460	6900	8840	3430	6710	12000
Antimony	--	--	--	--	--	MG/KG	--	--	--	--	< 0.148 U	< 0.158 U	< 0.158 U	< 0.159 U	< 0.618 U	--	--	--	< 0.154 U	< 0.15 U	< 0.144 U	< 0.152 U	< 0.155 U	< 0.141 U	< 0.161 U
Arsenic	--	16	16	16	16	MG/KG	--	--	--	--	2.85	1.62	2.62	< 0.104 U	< 0.405 U	--	--	--	1.98	1.77	3.8	2.88	1.78	< 0.0925 U	2.01
Barium	--	410	10000	820	410	MG/KG	--	--	--	--	51.1	37	43.2	12	596	--	--	--	18.9	41.5	19.5	38.6	23.5	36.1	26.9
Beryllium	--	670	750	47	8.8	MG/KG	--	--	--	--	0.596	0.538	0.653	0.172	0.243	--	--	--	0.395	0.625	0.323	0.638	0.34	0.629	0.662
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	--	--	--	--	< 0.0528 U	< 0.0564 U	< 0.0567 U	< 0.0569 U	1.61	--	--	--	< 0.0551 U	< 0.0536 U	< 0.0516 U	< 0.0544 U	< 0.0553 U	< 0.0506 U	< 0.0574 U
Calcium	--	--	--	--	--	MG/KG	--	--	--	--	4430	2030	1590	2360	37300	--	--	--	510	9150	471	919	7550	1540	996
Chromium	--	--	--	--	--	MG/KG	--	--	--	--	16.3	21.6	18.2	4.78	33.9	--	--	--	8.54	15.7	9.16	16	7.46	14.8	24.4
Cobalt	30	--	--	--	--	MG/KG	--	--	--	--	5.04	8.1	6.49	1.62	4.35	--	--	--	5.15	5.72	4.56	5.33	3.46	4.85	5.98
Copper	--	280	10000	1720	280	MG/KG	--	--	--	--	14.5	14	16.5	4.2	913	--	--	--	6.64	13.6	6.06	14.1	17.2	13.2	14.8
Iron	**2000**	--	--	--	--	MG/KG	--	--	--	--	**15400**	**14900**	**15300**	**4030**	**22000**	--	--	--	**10600**	**15500**	**13100**	**14400**	**9420**	**12100**	**22300**
Lead	--	1000	3900	450	400	MG/KG	--	--	--	--	16.6	6.11	14.1	4.3	64.1	--	--	--	3.75	7.45	7.79	6.97	44.3	8.65	7.52
Magnesium	--	--	--	--	--	MG/KG	--	--	--	--	3560	9020	4030	2080	5080	--	--	--	1600	5930	1590	3940	1840	2640	5850
Manganese	--	10000	10000	2000	2000	MG/KG	--	--	--	--	177	147	225	68.1	1710	--	--	--	202	274	190	205	191	244	321
Nickel	--	320	5900	130	87	MG/KG	--	--	--	--	16.4	69.4	27.8	6.42	23.5	--	--	--	12.6	16.3	9.72	15.5	9.93	19	20.4
Potassium	--	--	--	--	--	MG/KG	--	--	--	--	1630	1510	1550	472	1940	--	--	--	1200	2380	622	1970	747	1710	1400
Selenium	--	1700	2000	4	22	MG/KG	--	--	--	--	< 0.26 U	< 0.278 U	< 0.279 U	< 0.28 U	7.25	--	--	--	< 0.271 U	< 0.264 U	< 0.254 U	< 0.268 UJ	< 0.272 UJ	< 0.249 U	< 0.283 U
Silver	--	1700	2000	8.3	22	MG/KG	--	--	--	--	< 0.0461 U	< 0.0492 U	< 0.0495 U	< 0.0496 U	5.3	--	--	--	< 0.0481 U	< 0.0468 U	< 0.045 U	< 0.0475 U	< 0.0482 U	< 0.0441 U	< 0.0501 U
Sodium	--	--	--	--	--	MG/KG	--	--	--	--	350	553	326	542	2200	--	--	--	304	467	269	206	194	487	343
Thallium	--	--	--	--	--	MG/KG	--	--	--	--	< 0.0911 U	< 0.0973 U	< 0.0979 U	< 0.0982 U	< 0.382 U	--	--	--	< 0.0951 U	< 0.0926 U	< 0.0891 U	< 0.0939 U	< 0.0954 U	< 0.0872 U	< 0.0991 U
Vanadium	100	--	--	--	--	MG/KG	--	--	--	--	24.5	23.3	26.8	7.29	17.6	--	--	--	18.9	24.9	14.3	20.9	13.3	22	37.1
Zinc	--	10000	10000	2480	1300	MG/KG	--	--	--	--	48.2	40.2	39.9	10.5	2370	--	--	--	28.3	31.9	28.6	32.9	30.6	33.7	36.2
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	28	240	40	2.6	MG/KG	0.204	0.0704	0.171	0.148	< 0.00827 U	< 0.00719 U	< 0.00722 U	< 0.00914 U	< 0.031 U	< 0.00776	< 0.00862 U	< 0.00847 U	< 0.00799 U	< 0.00826 U	--	--	--	0.0754	0.105

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sam
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
R = The sample detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verifiec
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be v
mg/kg = milligrams per kilogram
< MDL = less than the medthod detection limit
Concentrations above NYSPART375C_DEC2025 are shaded gray
Concentration above NYSPART375I_DEC2025 is outlined
Concentrations above NYSPART375PGW_DEC2025 are printed in red font
Concentrations above NYSPART375R_DEC2025 are underlined

TABLE 3C
SOIL QUALITY DATA - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

						Location ID	MR-209	MR-210	MR-210	MR-210	MR-301	MR-301	MR-301	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303	MR-304	MR-304	MR-304	SCPT-101
						Sample ID	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-301-6.0-8.0-20230612	MR-301-25.0-27.0-20230612	MR-301-65.0-67.0-20230613	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817
						Depth (feet)	30-32	0-2	15-17	30-32	6-8	25-27	65-67	6-8	25-27	65-67	4-6	15-17	20-22	35-37	75-77	6-8	27-29	65-67	4-5
						Sample Date	7/20/2023	7/6/2023	7/6/2023	7/6/2023	6/12/2023	6/12/2023	6/13/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023
Chemical Name	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																		
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	< 0.00604 U	0.0451	< 0.00561	0.153	1.44	< 0.00596 U	< 0.00595 U	--	--	--	0.302	0.0396	< 0.00606 U	< 0.00613 U	< 0.00585 U	0.277	< 0.00614 U	< 0.00559 U	1.00
Aluminum	--	--	--	--	--	MG/KG	--	7270	10800	11900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	--	--	--	MG/KG	--	< 0.144	1.72	1.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	--	16	16	16	16	MG/KG	--	1.89	2.75	4.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	410	10000	820	410	MG/KG	--	27.4	76.6	65.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	--	670	750	47	8.8	MG/KG	--	0.505	0.772	0.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	--	< 0.0516	< 0.0525	< 0.0552	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	--	MG/KG	--	4350	2730	4020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	--	--	--	MG/KG	--	16.4	28.3	19.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	30	--	--	--	--	MG/KG	--	5.4	7.95	7.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	280	10000	1720	280	MG/KG	--	22.9	29.4	35.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	**2000**	--	--	--	--	MG/KG	--	**13200**	**22100**	**19900**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	1000	3900	450	400	MG/KG	--	16.8	15.9	221	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	MG/KG	--	2990	5300	3780	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	10000	10000	2000	2000	MG/KG	--	166	226	256	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	320	5900	130	87	MG/KG	--	17	22	16.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	--	MG/KG	--	1520	2690	1450	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	1700	2000	4	22	MG/KG	--	< 0.254 U	< 0.259 U	< 0.272 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	1700	2000	8.3	22	MG/KG	--	< 0.045 U	< 0.0458 U	< 0.0482	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	--	MG/KG	--	438	987	783	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	MG/KG	--	< 0.089 U	< 0.0907 U	< 0.0953 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	100	--	--	--	--	MG/KG	--	25.3	35.8	27.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	10000	10000	2480	1300	MG/KG	--	36.8	49.3	88.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aluminum	--	--	--	--	--	MG/KG	8940	--	--	--	8200	7030	6310	5010	10600	4440	6700	18800	4500	5740	4300	11400	5190	3350	5510 J
Antimony	--	--	--	--	--	MG/KG	< 0.159 U	--	--	--	2.09	< 0.158 U	< 0.161 U	< 0.304 U	< 0.169 U	< 0.166 U	< 0.164 U	< 0.25 U	< 0.161 U	< 0.162 U	< 0.155 U	< 0.218 U	< 0.169 U	< 0.156 U	2.00 J
Arsenic	--	16	16	16	16	MG/KG	< 0.104 U	--	--	--	25.6	< 0.103 U	1.94	9.58	4.17	< 0.108 U	5.63	8.12	2.88	< 0.106 U	1.58	5.52	2.13	< 0.102 U	12.0 J
Barium	--	410	10000	820	410	MG/KG	55.1	--	--	--	71.6	23.6	58.4	198	49.1	58.8	111	34.6	14.7	35.5	39.9	115	29.7	34.0	1520
Beryllium	--	670	750	47	8.8	MG/KG	0.712	--	--	--	0.543	0.274	0.255	0.562	0.645	0.455	0.48	1.1	0.375	0.465	0.473	0.972	0.384	--	1.00 J
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	< 0.0569 U	--	--	--	0.404	< 0.0564 U	< 0.0577 U	0.989	0.351	< 0.0592 U	0.304	< 0.0894 U	< 0.0577 U	< 0.058 U	< 0.0554 U	< 0.078 U	< 0.0605 U	< 0.0559 U	< 0.0552 UJ
Calcium	--	--	--	--	--	MG/KG	6290	--	--	--	31100	339	7430	94300	15600	8080	33700	1980	320	12300	7760	2990	1990	6760	15400
Chromium	--	--	--	--	--	MG/KG	17.3	--	--	--	20.8	10.3	11.5	12.2	16.5	9.48	12.9	33.7	8.31	10.8	8.3	29.1	11	8.0	179
Cobalt	30	--	--	--	--	MG/KG	5.34	--	--	--	8.93	2	4.02	5.26	9.53	3.55	4.93	9.12	3.13	4.82	2.95	6.41	4.22	3.0	7.00 J
Copper	--	280	10000	1720	280	MG/KG	12.8	--	--	--	168	5.33	12.3	98.9	29	13.9	92.6	13.3	4.32	13.2	8.95	35.7	10.4	11.0	81.0
Iron	**2000**	--	--	--	--	MG/KG	**16100**	--	--	--	**20200**	**5960**	**11500**	**12000**	**22500**	**8110**	**16600**	**37700**	**9870**	**11900**	**8890**	**18500**	**9270**	**8000**	**18800 J**
Lead	--	1000	3900	450	400	MG/KG	7.06	--	--	--	316	3.64	4.59	826	55.7	6.63	185	14	3.54	4.1	5.8	103	14.6	5.0	6940
Magnesium	--	--	--	--	--	MG/KG	4910	--	--	--	2860	1660	4370	3320	7600	3560	2520	7730	1460	5920	3530	3940	2260	3540	5070 J
Manganese	--	10000	10000	2000	2000	MG/KG	273	--	--	--	106	52.3	223	175	433	221	243	346	73.5	375	191	147	103	189	130
Nickel	--	320	5900	130	87	MG/KG	12.9	--	--	--	35	6.6	15.4	17.1	21.1	9.27	13.2	27.1	7.25	14.7	8.44	26.6	11.6	13.0	17.0 J
Potassium	--	--	--	--	--	MG/KG	2480	--	--	--	1450	1460	1150	480	1610	1320	826	4000	1090	1390	1150	2560	961	857	749 J
Selenium	--	1700	2000	4	22	MG/KG	< 0.28 U	--	--	--	< 0.353 U	< 0.278 U	< 0.284 U	< 0.536 U	< 0.298 U	< 0.292 U	< 0.289 UJ	< 0.44 UJ	< 0.284 UJ	< 0.286 UJ	< 0.273 UJ	< 0.384 U	< 0.298 U	< 0.275 U	< 0.272 UJ
Silver	--	1700	2000	8.3	22	MG/KG	< 0.0496 U	--	--	--	0.985	0.221	< 0.0503 U	1.05	0.215	< 0.0517 U	0.454	< 0.078 U	< 0.0503 U	< 0.0506 U	< 0.0483 U	< 0.0681 U	< 0.0527 U	< 0.0488 U	0.0442 J
Sodium	--	--	--	--	--	MG/KG	428	--	--	--	3340	661	654	2360	1140	386	486	3020	863	416	215	3500	758	237	5720 J
Thallium	--	--	--	--	--	MG/KG	< 0.0981 U	--	--	--	< 0.124 U	< 0.0974 U	< 0.0995 U	< 0.188 U	< 0.104 U	< 0.102 U	< 0.101 U	< 0.154 U	< 0.0995 U	< 0.1 U	< 0.0956 U	< 0.135 U	< 0.104 U	< 0.0965 U	3.00 J
Vanadium	100	--	--	--	--	MG/KG	25.5	--	--	--	26.4	12.7	18.2	21.2	20.3	11.7	17.7	37.9	11.7	13.9	13.9	32.6	12.7	12.0	23.0 J
Zinc	--	10000	10000	2480	1300	MG/KG	28.7	--	--	--	720	18.7	22.5	307	73.3	27.6	158	75.2	22.4	25.9	24.3	74.1	57.1	19.0	1.00
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	--	--	--	--	1.29	< 0.0191 U	< 0.0165 U	--	--	--	--	--	--	--	--	--
Cyanide	--	28	240	40	2.6	MG/KG	0.0739	< 0.00734 U	< 0.00802	< 0.00742	< 0.0104 U	0.0876	< 0.008 U	< 0.0337 U	< 0.0183 U	< 0.0167 U	< 0.0174 U	3.11	< 0.017 U	< 0.0165 U	--	--	--	--	--

Notes:
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mg/kg = milligrams per kilogram
< MDL = less than the medthod detection limit
Concentrations above NYSPART375C_DEC2025 are shaded gray
Concentration above NYSPART375I_DEC2025 is outlined
Concentrations above NYSPART375PGW_DEC2025 are printed in red font
Concentrations above NYSPART375R_DEC2025 are underlined

TABLE 3C
SOIL QUALITY DATA - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

						Location ID	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
						Sample ID	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
						Depth (feet)	4-5	5-6	3-4.5	4-5	4-5
						Sample Date	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units					
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--		--	--
Aluminum	--	--	--	--	--	MG/KG	--	--	--	--	--
Antimony	--	--	--	--	--	MG/KG	--	--	--	--	--
Arsenic	--	16	16	16	16	MG/KG	--	--	--	--	--
Barium	--	410	10000	820	410	MG/KG	--	--	--	--	--
Beryllium	--	670	750	47	8.8	MG/KG	--	--	--	--	--
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	--	--	--	--	--
Calcium	--	--	--	--	--	MG/KG	--	--	--	--	--
Chromium	--	--	--	--	--	MG/KG	--	--	--	--	--
Cobalt	30	--	--	--	--	MG/KG	--	--	--	--	--
Copper	--	280	10000	1720	280	MG/KG	--	--	--	--	--
Iron	**2000**	--	--	--	--	MG/KG	--	--	--	--	--
Lead	--	1000	3900	450	400	MG/KG	--	--	--	--	--
Magnesium	--	--	--	--	--	MG/KG	--	--	--	--	--
Manganese	--	10000	10000	2000	2000	MG/KG	--	--	--	--	--
Nickel	--	320	5900	130	87	MG/KG	--	--	--	--	--
Potassium	--	--	--	--	--	MG/KG	--	--	--	--	--
Selenium	--	1700	2000	4	22	MG/KG	--	--	--	--	--
Silver	--	1700	2000	8.3	22	MG/KG	--	--	--	--	--
Sodium	--	--	--	--	--	MG/KG	--	--	--	--	--
Thallium	--	--	--	--	--	MG/KG	--	--	--	--	--
Vanadium	100	--	--	--	--	MG/KG	--	--	--	--	--
Zinc	--	10000	10000	2480	1300	MG/KG	--	--	--	--	--
Aluminum	--	--	--	--	--	MG/KG	2410	2360	5180 J	3550	8000
Antimony	--	--	--	--	--	MG/KG	< 0.157 U	2.28	< 0.178 UJ	1.79	< 0.168 U
Arsenic	--	16	16	16	16	MG/KG	2.18	11.5	5.00	3.29	3.78
Barium	--	410	10000	820	410	MG/KG	59	146	216 J	99.6	44.6
Beryllium	--	670	750	47	8.8	MG/KG	0.266	0.258	1.00 J	0.506	0.542
Cadmium	--	3.7	4.4	7.5	2.5	MG/KG	< 0.0563 U	0.589	< 0.0636 UJ	1.57	< 0.0602 U
Calcium	--	--	--	--	--	MG/KG	69700	17500	30300 J	39400	3280
Chromium	--	--	--	--	--	MG/KG	8.79	23.2	1.00 J	15.7	13.2
Cobalt	30	--	--	--	--	MG/KG	2.26	7.68	4.0 J	4.34	6.3
Copper	--	280	10000	1720	280	MG/KG	23.9	73.4	27 J	428	31.2
Iron	**2000**	--	--	--	--	MG/KG	**5860**	**49000**	**9660 J**	**11100**	**13600**
Lead	--	1000	3900	450	400	MG/KG	160	461	1.00 J	320	100
Magnesium	--	--	--	--	--	MG/KG	1390	913	13500 J	1620	2420
Manganese	--	10000	10000	2000	2000	MG/KG	85.3	237	82.0 J	122	138
Nickel	--	320	5900	130	87	MG/KG	5.2	25.4	13.0 J	14.3	21.5
Potassium	--	--	--	--	--	MG/KG	279	355	308	614	752
Selenium	--	1700	2000	4	22	MG/KG	< 0.277 UJ	< 0.296 UJ	2.00 J	< 0.288 UJ	< 0.297 UJ
Silver	--	1700	2000	8.3	22	MG/KG	< 0.0492 U	0.282	1.00 J	< 0.051 U	< 0.0525 U
Sodium	--	--	--	--	--	MG/KG	1050	1640	1950	471	205
Thallium	--	--	--	--	--	MG/KG	< 0.0972 U	< 0.104 U	4.00 J	< 0.101 U	< 0.104 U
Vanadium	100	--	--	--	--	MG/KG	6.99	19	27.0 J	16.4	19
Zinc	--	10000	10000	2480	1300	MG/KG	28.1	376	39.0 J	5420	68.6
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	< 0.0176 U	0.123	--	--	--
Mercury	--	1.1	1.1	0.73	0.3	MG/KG	--	--	--	0.158	0.353
Cyanide	--	28	240	40	2.6	MG/KG	--	--	--	--	--

Notes:
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mg/kg = milligrams per kilogram
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Concentrations above NYSPART375C_DEC2025 are shaded gray
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Concentrations above NYSPART375PGW_DEC2025 are printed in red font
Concentrations above NYSPART375R_DEC2025 are underlined

TABLE 3D
SOIL QUALITY DATA - PCBs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

					Location ID	MR-101	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202	MR-202	MR-202	MR-203
					Sample ID	MR-101-6.0-8.0-20230616	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717
					Depth (feet)	6-8	20-22	65-67	6-8	20-22	80-82	6-8	20-22	35-37	50-52	65-67	4-6	12-14	17-19	30-32	2-4	8-10	15-17	30-32	6-8
					Sample Date	6/16/2023	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023	7/25/2023	7/25/2023	7/17/2023
Chemical Name	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																			
Aroclor 1016	1	25	3.2	1	MG/KG	< 0.00622 UJ	< 0.00743 U	< 0.00507 U	< 0.00644 U	< 0.00609 U	< 0.00499 U	< 0.112 U	< 0.00707 U	< 0.00559 U	< 0.0056 U	< 0.00549 U	< 0.00541 U	< 0.006 UJ	< 0.00761 UJ	< 0.00519 U	< 0.00487 U	< 0.00538 U	< 0.00949 U	< 0.00547 U	< 0.00532 U
Aroclor 1221	1	25	3.2	1	MG/KG	< 0.0122 UJ	< 0.0146 U	< 0.00998 U	< 0.0127 U	< 0.012 U	< 0.00981 U	< 0.221 U	< 0.0139 U	< 0.011 U	< 0.011 U	< 0.0108 U	< 0.0106 U	< 0.0118 UJ	< 0.015 UJ	< 0.0102 U	< 0.00958 U	< 0.0106 U	< 0.0187 U	< 0.0108 U	< 0.0105 U
Aroclor 1232	1	25	3.2	1	MG/KG	< 0.0156 UJ	< 0.0186 U	< 0.0127 U	< 0.0161 U	< 0.0152 U	< 0.0125 U	< 0.281 U	< 0.0177 U	< 0.014 U	< 0.014 U	< 0.0137 U	< 0.0135 U	< 0.015 UJ	< 0.019 UJ	< 0.013 U	< 0.0122 U	< 0.0135 U	< 0.0237 U	< 0.0137 U	< 0.0133 U
Aroclor 1242	1	25	3.2	1	MG/KG	< 0.00911 UJ	< 0.0109 U	< 0.00743 U	< 0.00943 U	< 0.00892 U	< 0.00731 U	< 0.165 U	< 0.0104 U	< 0.00819 U	< 0.00821 U	< 0.00805 U	< 0.00793 U	< 0.0088 UJ	< 0.0112 UJ	< 0.0076 U	< 0.00713 U	< 0.00789 U	< 0.0139 U	< 0.00801 U	< 0.0078 U
Aroclor 1248	1	25	3.2	1	MG/KG	< 0.00953 UJ	< 0.0114 U	< 0.00777 U	< 0.00987 U	< 0.00933 U	< 0.00764 U	< 0.172 U	< 0.0108 U	< 0.00857 U	< 0.00859 U	< 0.00841 U	< 0.00829 U	< 0.0092 UJ	< 0.0117 UJ	< 0.00795 U	< 0.00746 U	< 0.00825 U	< 0.0145 U	< 0.00838 U	< 0.00816 U
Aroclor 1254	1	25	3.2	1	MG/KG	< 0.00748 UJ	< 0.00894 U	< 0.0061 U	< 0.00775 U	< 0.00733 U	< 0.006 U	13.1 J	< 0.00851 U	< 0.00673 U	< 0.00674 U	< 0.00661 U	< 0.00651 U	< 0.00722 UJ	< 0.00916 UJ	< 0.00624 U	< 0.00586 U	< 0.00648 U	< 0.0114 U	< 0.00658 U	< 0.0064 U
Aroclor 1260	1	25	3.2	1	MG/KG	< 0.00581 UJ	< 0.00694 U	< 0.00474 U	< 0.00601 U	< 0.00568 U	< 0.00466 U	< 0.105 U	< 0.0066 U	< 0.00522 U	< 0.00523 U	< 0.00513 U	< 0.00505 U	< 0.0056 UJ	< 0.00711 UJ	< 0.00484 U	< 0.00455 U	< 0.00503 U	< 0.00886 U	< 0.0051 U	0.302
Aroclor 1262	1	25	3.2	1	MG/KG	< 0.0125 UJ	< 0.0149 U	< 0.0102 U	< 0.0129 U	< 0.0122 U	< 0.01 U	< 0.226 U	< 0.0142 U	< 0.0112 U	< 0.0112 U	< 0.011 U	< 0.0109 U	< 0.012 UJ	< 0.0153 UJ	< 0.0104 U	< 0.00977 U	< 0.0108 U	< 0.019 U	< 0.011 U	< 0.0107 U
Aroclor 1268	1	25	3.2	1	MG/KG	< 0.00561 UJ	< 0.0067 U	< 0.00458 U	< 0.00581 U	< 0.00549 U	< 0.0045 U	< 0.101 U	< 0.00638 U	< 0.00504 U	< 0.00506 U	< 0.00495 U	< 0.00488 U	< 0.00541 UJ	< 0.00687 UJ	< 0.00468 U	< 0.00439 U	< 0.00486 U	< 0.00856 U	< 0.00493 U	< 0.0048 U
Total PCBs	1	25	3.2	1	MG/KG	< 0.00433 UJ	< 0.00517 U	< 0.00353 U	< 0.00448 U	< 0.00424 U	< 0.00347 U	13.1 J	< 0.00492 U	< 0.00389 U	< 0.0039 U	< 0.00382 U	< 0.00377 U	< 0.00418 UJ	< 0.0053 UJ	< 0.00361 U	< 0.00339 U	< 0.00375 U	< 0.0066 U	< 0.00381 U	0.302

Notes:

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< MDL = less than the medthod detection limit

mg/kg = milligrams per kilogram

TABLE 3D
SOIL QUALITY DATA - PCBs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

					Location ID	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208	MR-208	MR-208	MR-209	MR-209	MR-209	MR-210
					Sample ID	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706
					Depth (feet)	10-14	15-17	30-32	6-8	20-32	6-7	8-10	15-17	2-4	12-14	30-32	9-10	30-32	6-8	15-17	30-32	5-7	15-17	30-32	0-2
					Sample Date	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023	7/24/2023	7/24/2023	7/20/2023	7/20/2023	7/20/2023	7/6/2023
Chemical Name	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																			
Aroclor 1016	1	25	3.2	1	MG/KG	< 0.0054 U	< 0.0138 U	< 0.00526 U	< 0.00501 U	< 0.00492 U	< 0.00512 U	< 0.00542 U	< 0.0196 U	< 0.0054 U	< 0.00545 U	< 0.00502 U	< 0.00526 UJ	< 0.00511 U	< 0.0049 U	< 0.00519 U	< 0.00502 U	< 0.00482 U	< 0.00529 U	< 0.00534 U	< 0.00492 U
Aroclor 1221	1	25	3.2	1	MG/KG	< 0.0106 U	< 0.0272 U	< 0.0103 U	< 0.00985 U	< 0.00967 U	< 0.0101 U	< 0.0107 U	< 0.0385 U	< 0.0106 U	< 0.0107 U	< 0.00988 U	< 0.0103 UJ	< 0.0101 U	< 0.00964 U	< 0.0102 U	< 0.00988 U	< 0.00948 U	< 0.0104 U	< 0.0105 U	< 0.00967 U
Aroclor 1232	1	25	3.2	1	MG/KG	< 0.0135 U	< 0.0346 U	< 0.0132 U	< 0.0125 U	< 0.0123 U	< 0.0128 U	< 0.0136 U	< 0.049 U	< 0.0135 U	< 0.0136 U	< 0.0126 U	< 0.0131 UJ	< 0.0128 U	< 0.0123 U	< 0.013 U	< 0.0126 U	< 0.0121 U	< 0.0132 U	< 0.0134 U	< 0.0123 U
Aroclor 1242	1	25	3.2	1	MG/KG	< 0.00791 U	< 0.0203 U	< 0.0077 U	< 0.00734 U	< 0.0072 U	< 0.00751 U	< 0.00795 U	< 0.0287 U	< 0.00791 U	< 0.00798 U	< 0.00736 U	< 0.0077 UJ	< 0.00749 U	< 0.00718 U	< 0.0076 U	< 0.00736 U	< 0.00706 U	< 0.00776 U	< 0.00783 U	< 0.00721 U
Aroclor 1248	1	25	3.2	1	MG/KG	< 0.00827 U	< 0.0212 U	< 0.00805 U	< 0.00768 U	< 0.00754 U	< 0.00785 U	< 0.00831 U	< 0.03 U	< 0.00828 U	< 0.00835 U	< 0.0077 U	< 0.00805 UJ	< 0.00784 U	< 0.00751 U	< 0.00795 U	< 0.0077 U	< 0.00739 U	< 0.00811 U	< 0.00819 U	< 0.00754 U
Aroclor 1254	1	25	3.2	1	MG/KG	< 0.00649 U	< 0.0167 U	< 0.00632 U	< 0.00603 U	< 0.00592 U	< 0.00617 U	< 0.00653 U	< 0.0236 U	< 0.0065 U	< 0.00655 U	< 0.00604 U	< 0.00632 UJ	< 0.00615 U	< 0.0059 U	< 0.00624 U	< 0.00604 U	< 0.0058 U	< 0.00637 U	< 0.00643 U	< 0.00592 U
Aroclor 1260	1	25	3.2	1	MG/KG	< 0.00504 U	< 0.0129 U	< 0.00491 U	< 0.00468 U	< 0.00459 U	< 0.00478 U	< 0.00506 U	< 0.0183 U	< 0.00504 U	< 0.00508 U	< 0.00469 U	< 0.00491 UJ	< 0.00477 U	< 0.00457 U	< 0.00484 U	< 0.00469 U	< 0.0045 U	< 0.00494 U	< 0.00499 U	< 0.00459 U
Aroclor 1262	1	25	3.2	1	MG/KG	< 0.0108 U	< 0.0278 U	< 0.0105 U	< 0.0101 U	< 0.00987 U	< 0.0103 U	< 0.0109 U	< 0.0393 U	< 0.0108 U	< 0.0109 U	< 0.0101 U	< 0.0105 UJ	< 0.0103 U	< 0.00983 U	< 0.0104 U	< 0.0101 U	< 0.00967 U	< 0.0106 U	< 0.0107 U	< 0.00987 U
Aroclor 1268	1	25	3.2	1	MG/KG	< 0.00487 U	< 0.0125 U	< 0.00474 U	< 0.00452 U	< 0.00444 U	< 0.00462 U	< 0.00489 U	< 0.0177 U	< 0.00487 U	< 0.00491 U	< 0.00453 U	< 0.00474 UJ	< 0.00461 U	< 0.00442 U	< 0.00468 U	< 0.00453 U	< 0.00435 U	< 0.00478 U	< 0.00482 U	< 0.00444 U
Total PCBs	1	25	3.2	1	MG/KG	< 0.00376 U	< 0.00964 U	< 0.00366 U	< 0.00349 U	< 0.00342 U	< 0.00357 U	< 0.00378 U	< 0.0136 U	< 0.00376 U	< 0.00379 U	< 0.0035 U	< 0.00366 UJ	< 0.00356 U	< 0.00341 U	< 0.00361 U	< 0.0035 U	< 0.00336 U	< 0.00369 U	< 0.00372 U	< 0.00342 U

Notes:
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< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3D
SOIL QUALITY DATA - PCBs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

					Location ID	MR-210	MR-210	MR-301	MR-301	MR-301	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303	MR-303	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109
					Sample ID	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-301-6.0-8.0-20230612	MR-301-25.0-27.0-20230612	MR-301-65.0-67.0-20230613	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817
					Depth (feet)	15-17	30-32	6-8	25-27	65-67	6-8	25-27	65-67	4-6	15-17	20-22	35-37	75-77	6-8	27-29	65-67	4-5	4-5	5-6	3-4.5
					Sample Date	7/6/2023	7/6/2023	6/12/2023	6/12/2023	6/13/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023
Chemical Name	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																				
Aroclor 1016	1	25	3.2	1	MG/KG	< 0.023 U	< 0.00527 U	< 0.00644 U	< 0.00528 U	< 0.00526 U	< 0.0094 U	< 0.00566 U	< 0.00516 U	< 0.00559 U	< 0.0082 U	< 0.00537 U	< 0.00543 U	< 0.00518 U	< 0.00698 U	< 0.00544 U	< 0.00495 U	< 0.00502 U	< 0.00524 U	< 0.00565 U	< 0.00578 UJ
Aroclor 1221	1	25	3.2	1	MG/KG	< 0.0166 U	< 0.0104 U	< 0.0127 U	< 0.0104 U	< 0.0104 U	< 0.0185 U	< 0.0111 U	< 0.0102 U	< 0.011 U	< 0.0161 U	< 0.0106 U	< 0.0107 U	< 0.0102 U	< 0.0137 U	< 0.0107 U	< 0.00974 U	< 0.00986 U	< 0.0103 U	< 0.0111 U	< 0.0114 UJ
Aroclor 1232	1	25	3.2	1	MG/KG	< 0.026 U	< 0.0132 U	< 0.0161 U	< 0.0132 U	< 0.0132 U	< 0.0235 U	< 0.0142 U	< 0.0129 U	< 0.014 U	< 0.0205 U	< 0.0134 U	< 0.0136 U	< 0.013 U	< 0.0175 U	< 0.0136 U	< 0.0124 U	< 0.0126 U	< 0.0131 U	< 0.0141 U	< 0.0145 UJ
Aroclor 1242	1	25	3.2	1	MG/KG	< 0.0276 U	< 0.00771 U	< 0.00943 U	< 0.00773 U	< 0.00771 U	< 0.0138 U	< 0.0083 U	< 0.00757 U	< 0.00819 U	< 0.012 U	< 0.00786 U	< 0.00796 U	< 0.00759 U	< 0.0102 U	< 0.00796 U	< 0.00725 U	< 0.00735 U	< 0.00768 U	< 0.00828 U	< 0.00846 UJ
Aroclor 1248	1	25	3.2	1	MG/KG	< 0.0257 U	< 0.00807 U	< 0.00987 U	< 0.00809 U	< 0.00807 U	< 0.0144 U	< 0.00868 U	< 0.00791 U	< 0.00857 U	< 0.0126 U	< 0.00822 U	< 0.00832 U	< 0.00794 U	< 0.0107 U	< 0.00833 U	< 0.00759 U	< 0.00769 U	< 0.00804 U	< 0.00866 U	< 0.00885 UJ
Aroclor 1254	1	25	3.2	1	MG/KG	< 0.0218 U	< 0.00634 U	< 0.00775 U	< 0.00635 U	< 0.00633 U	< 0.0113 U	< 0.00681 U	< 0.00621 U	< 0.00673 U	< 0.00986 U	< 0.00646 U	< 0.00653 U	< 0.00623 U	< 0.0084 U	< 0.00654 U	< 0.00596 U	< 0.00604 U	< 0.00631 U	< 0.0068 U	< 0.00695 UJ
Aroclor 1260	1	25	3.2	1	MG/KG	< 0.0267 U	< 0.00492 U	< 0.00601 U	< 0.00493 U	< 0.00491 U	< 0.00877 U	< 0.00529 U	< 0.00482 U	< 0.00522 U	< 0.00765 U	< 0.00501 U	< 0.00507 U	< 0.00484 U	< 0.00652 U	< 0.00507 U	< 0.00462 U	< 0.00468 U	< 0.0049 U	< 0.00528 U	< 0.00539 UJ
Aroclor 1262	1	25	3.2	1	MG/KG	< 0.028 U	< 0.0106 U	< 0.0129 U	< 0.0106 U	< 0.0106 U	< 0.0189 U	< 0.0114 U	< 0.0104 U	< 0.0112 U	< 0.0164 U	< 0.0108 U	< 0.0109 U	< 0.0104 U	< 0.014 U	< 0.0109 U	< 0.00993 U	< 0.0101 U	< 0.0105 U	< 0.0113 U	< 0.0116 UJ
Aroclor 1268	1	25	3.2	1	MG/KG	< 0.0313 U	< 0.00475 U	< 0.00581 U	< 0.00476 U	< 0.00475 U	< 0.00848 U	< 0.00511 U	< 0.00466 U	< 0.00504 U	< 0.00739 U	< 0.00484 U	< 0.0049 U	< 0.00467 U	< 0.0063 U	< 0.0049 U	< 0.00446 U	< 0.00452 U	< 0.00473 U	< 0.0051 U	< 0.00521 UJ
Total PCBs	1	25	3.2	1	MG/KG	< 0.0166 U	< 0.00367 U	< 0.00448 U	< 0.00367 U	< 0.00366 U	< 0.00654 U	< 0.00394 U	< 0.00359 U	< 0.00389 U	< 0.00571 U	< 0.00374 U	< 0.00378 U	< 0.00361 U	< 0.00486 U	< 0.00378 U	< 0.00345 U	< 0.00349 U	< 0.00365 U	< 0.00393 U	< 0.00402 UJ

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the anal
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is appro
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3D
SOIL QUALITY DATA - PCBs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

					Location ID	SCPT-110	SCPT-111
					Sample ID	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
					Depth (feet)	4-5	4-5
					Sample Date	8/21/2023	8/21/2023
Chemical Name	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW__DEC2025	NYSPART375R_DEC2025	Units		
Aroclor 1016	1	25	3.2	1	MG/KG	< 0.00533 UJ	< 0.0055 U
Aroclor 1221	1	25	3.2	1	MG/KG	< 0.0105 UJ	< 0.0108 U
Aroclor 1232	1	25	3.2	1	MG/KG	< 0.0133 UJ	< 0.0138 U
Aroclor 1242	1	25	3.2	1	MG/KG	< 0.00781 UJ	< 0.00805 U
Aroclor 1248	1	25	3.2	1	MG/KG	< 0.00817 UJ	< 0.00842 U
Aroclor 1254	1	25	3.2	1	MG/KG	< 0.00641 UJ	< 0.00661 U
Aroclor 1260	1	25	3.2	1	MG/KG	< 0.00498 UJ	< 0.00513 U
Aroclor 1262	1	25	3.2	1	MG/KG	< 0.0107 UJ	< 0.011 U
Aroclor 1268	1	25	3.2	1	MG/KG	< 0.00481 UJ	< 0.00496 U
Total PCBs	1	25	3.2	1	MG/KG	< 0.00371 UJ	< 0.00383 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the anal
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approx
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< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3E
SOIL QUALITY DATA - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-101	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202	MR-202
							Sample ID	MR-101-6.0-8.0-20230616	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725
							Depth (feet)	6-8	20-22	65-67	6-8	20-22	80-82	6-8	20-22	35-37	50-52	65-67	4-6	12-14	17-19	30-32	2-4	8-10	15-17
							Sample Date	6/16/2023	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023	7/25/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375L_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																		
4,4'-DDD	--	--	33	33	14	1.2	MG/KG	< 0.000836 U	< 0.000999 U	< 0.000682 U	0.00205	< 0.000819 U	< 0.000671 U	< 0.000756 U	< 0.00095 U	< 0.000751 U	< 0.000753 U	< 0.000738 U	< 0.000727 U	< 0.000807 U	< 0.00102 U	< 0.000697 U	< 0.000655 U	< 0.000724 U	< 0.00128 U
4,4'-DDE	--	--	22	22	9.3	0.78	MG/KG	< 0.000999 U	< 0.00119 U	< 0.000815 U	0.00328	< 0.000978 U	< 0.000801 U	< 0.000903 U	< 0.00114 U	< 0.000898 U	< 0.0009 U	< 0.000882 U	< 0.000869 U	< 0.000964 U	< 0.00122 U	< 0.000833 U	< 0.000782 U	< 0.000865 U	< 0.00152 U
4,4'-DDT	--	--	27	27	135	0.78	MG/KG	< 0.00129 U	< 0.00154 U	< 0.00105 U	< 0.00134 U	< 0.00126 U	< 0.00103 U	0.218	< 0.00147 U	< 0.00116 U	< 0.00116 U	< 0.00114 U	< 0.00112 U	< 0.00125 U	< 0.00158 U	< 0.00108 U	< 0.00101 U	< 0.00112 U	< 0.00197 U
Aldrin	--	--	0.33	0.33	0.19	0.0088	MG/KG	< 0.000866 U	< 0.00103 U	< 0.000706 U	< 0.000896 U	< 0.000847 U	< 0.000694 U	< 0.000782 U	< 0.000984 U	< 0.000778 U	< 0.00078 U	< 0.000764 U	< 0.000753 U	< 0.000835 U	< 0.00106 U	< 0.000722 U	< 0.000678 U	< 0.000749 U	< 0.00132 U
alpha Endosulfan (Endosulfan I)	--	--	360	580	65	8.4	MG/KG	< 0.000863 U	< 0.00103 U	< 0.000704 U	< 0.000893 U	< 0.000845 U	< 0.000692 U	< 0.00078 U	< 0.000981 U	< 0.000775 U	< 0.000778 U	< 0.000762 U	< 0.00075 U	< 0.000833 U	< 0.00106 U	< 0.00072 U	< 0.000676 U	< 0.000747 U	< 0.00132 U
beta Endosulfan (Endosulfan II)	--	--	36	580	44	8.4	MG/KG	< 0.00083 UJ	< 0.000992 UJ	< 0.000677 UJ	< 0.00086 UJ	< 0.000813 UJ	< 0.000666 UJ	< 0.000751 U	< 0.000944 U	< 0.000746 U	< 0.000748 U	< 0.000733 U	< 0.000722 U	< 0.000802 U	< 0.00102 U	< 0.000693 U	< 0.00065 U	< 0.000719 UJ	< 0.00127 UJ
BHC, alpha	--	--	1.2	1.2	0.02	0.042	MG/KG	< 0.000544 U	< 0.00065 U	< 0.000444 U	< 0.000563 U	< 0.000532 U	< 0.000436 U	< 0.000492 U	< 0.000618 U	< 0.000489 U	< 0.00049 U	< 0.00048 U	< 0.000473 U	< 0.000525 U	< 0.000666 U	< 0.000454 U	< 0.000426 U	< 0.000471 U	< 0.000829 U
BHC, beta	--	--	1.8	2.9	0.09	0.042	MG/KG	< 0.000873 U	< 0.00104 U	< 0.000712 U	< 0.000903 U	< 0.000854 U	< 0.0007 U	< 0.000789 U	< 0.000992 U	< 0.000784 U	< 0.000786 U	< 0.00077 U	< 0.000759 U	< 0.000842 U	< 0.00107 U	< 0.000728 U	< 0.000683 U	< 0.000755 U	< 0.00133 U
BHC, delta	--	--	500	1000	0.1	100	MG/KG	< 0.000849 U	< 0.00101 U	< 0.000692 U	< 0.000879 U	< 0.000831 U	< 0.000681 U	< 0.000767 U	< 0.000965 U	< 0.000763 U	< 0.000765 U	< 0.000749 U	< 0.000738 U	< 0.000819 U	< 0.00104 U	< 0.000708 U	< 0.000665 U	< 0.000735 U	< 0.00129 U
BHC, gamma (Lindane)	--	--	0.21	3.4	0.05	0.05	MG/KG	< 0.000579 U	< 0.000692 UJ	< 0.000472 U	< 0.000599 U	< 0.000567 U	< 0.000464 U	< 0.000523 U	< 0.000658 U	< 0.00052 U	< 0.000522 U	< 0.000511 U	< 0.000504 U	< 0.000559 U	< 0.000709 U	< 0.000483 U	< 0.000453 U	< 0.000501 U	< 0.000883 U
Chlordane (Technical)	--	--	--	--	--	--	MG/KG	< 0.000812 U	< 0.000971 U	< 0.000663 U	< 0.000841 U	< 0.000795 U	< 0.000651 U	< 0.000734 U	< 0.000923 U	0.129	< 0.000732 U	< 0.000717 U	< 0.000706 U	< 0.000784 U	< 0.000994 U	< 0.000677 U	< 0.000636 U	< 0.000703 U	< 0.00124 U
Dieldrin	--	--	0.48	0.48	0.1	0.017	MG/KG	< 0.000955 U	< 0.00114 U	< 0.000779 U	< 0.000989 U	< 0.000936 U	< 0.000766 U	< 0.000864 U	< 0.00109 U	< 0.000859 U	< 0.000861 U	< 0.000844 U	< 0.000831 U	< 0.000922 U	< 0.00117 U	< 0.000797 U	< 0.000748 U	< 0.000827 U	< 0.00146 U
Endosulfan	--	--	--	--	--	--	MG/KG	< 0.00083 U	< 0.000992 U	< 0.000677 U	< 0.00086 U	< 0.000813 U	< 0.000666 U	< 0.000751 U	< 0.000944 U	< 0.000746 U	< 0.000748 U	< 0.000733 U	< 0.000722 U	< 0.000802 U	< 0.00102 U	< 0.000693 U	< 0.00065 U	< 0.000719 U	< 0.00127 U
Endosulfan sulfate	--	--	36	580	47	8.4	MG/KG	< 0.000687 U	< 0.000821 U	< 0.00056 U	< 0.000711 U	< 0.000673 U	< 0.000551 U	< 0.000621 U	< 0.000781 U	< 0.000618 U	< 0.000619 U	< 0.000607 U	< 0.000598 U	< 0.000663 U	< 0.000841 U	< 0.000573 U	< 0.000538 U	< 0.000595 U	< 0.00105 U
Endrin	--	--	55	87	0.06	1.2	MG/KG	< 0.000631 U	< 0.000754 U	< 0.000515 U	< 0.000653 U	< 0.000618 U	< 0.000506 U	< 0.00057 U	< 0.000717 U	< 0.000567 U	< 0.000569 U	< 0.000557 U	< 0.000549 U	< 0.000609 U	< 0.000772 U	< 0.000526 U	< 0.000494 U	< 0.000546 U	< 0.000962 U
Endrin aldehyde	--	--	--	--	--	--	MG/KG	< 0.000728 U	< 0.00087 U	< 0.000594 U	< 0.000753 U	< 0.000713 U	< 0.000584 U	< 0.000658 U	< 0.000827 U	< 0.000654 U	< 0.000656 U	< 0.000643 U	< 0.000633 U	< 0.000703 U	< 0.000891 U	< 0.000607 U	< 0.00057 U	< 0.00063 U	< 0.00111 U
Endrin ketone	--	--	--	--	--	--	MG/KG	< 0.000644 U	< 0.000769 UJ	< 0.000525 U	< 0.000666 U	< 0.00063 U	< 0.000516 U	< 0.000582 U	< 0.000732 U	< 0.000578 U	< 0.00058 U	< 0.000568 U	< 0.00056 U	< 0.000621 U	< 0.000788 U	< 0.000537 U	< 0.000504 U	< 0.000557 U	< 0.000982 U
Heptachlor	--	--	5.1	5.1	0.38	0.12	MG/KG	< 0.000489 U	< 0.000584 U	< 0.000399 U	< 0.000506 U	< 0.000479 U	< 0.000392 U	< 0.000442 U	< 0.000556 U	< 0.000439 U	< 0.000441 U	< 0.000432 U	< 0.000425 U	< 0.000472 U	< 0.000598 U	< 0.000408 U	< 0.000383 U	< 0.000423 U	< 0.000746 U
Heptachlor epoxide	0.02	0.077	--	--	--	--	MG/KG	< 0.000922 U	< 0.0011 U	< 0.000752 U	< 0.000954 U	< 0.000902 U	< 0.000739 U	< 0.000833 U	< 0.00105 U	< 0.000828 U	< 0.000831 U	< 0.000814 U	< 0.000802 U	< 0.00089 U	< 0.00113 U	< 0.000769 U	< 0.000722 U	< 0.000798 U	< 0.00141 U
Methoxychlor	900	100	--	--	--	--	MG/KG	< 0.000535 U	< 0.00064 UJ	< 0.000437 U	< 0.000554 U	< 0.000524 U	< 0.000429 U	< 0.000484 U	< 0.000609 U	< 0.000481 U	< 0.000482 U	< 0.000473 UJ	< 0.000466 UJ	< 0.000517 UJ	< 0.000655 U	< 0.000447 U	< 0.000419 U	< 0.000463 U	< 0.000817 U
Toxaphene	--	--	--	--	--	--	MG/KG	< 0.088 U	< 0.105 U	< 0.0718 U	< 0.0911 U	< 0.0862 U	< 0.0706 U	< 0.0796 U	< 0.1 U	< 0.0791 U	< 0.0793 U	< 0.0777 U	< 0.0765 U	< 0.0849 U	< 0.108 U	< 0.0734 U	< 0.0689 U	< 0.0762 U	< 0.134 U
2,4-D	0.5	100	--	--	--	--	MG/KG	< 0.0233 UJ	< 0.0279 UJ	< 0.019 UJ	< 0.0241 UJ	< 0.0228 UJ	< 0.0187 UJ	< 0.0211 U	< 0.0265 U	< 0.021 U	< 0.021 U	< 0.0206 U	< 0.0203 U	< 0.0225 U	< 0.0285 U	< 0.0195 U	< 0.0183 U	< 0.0202 U	< 0.0356 U
Silvex (2,4,5-TP)	--	--	500	1000	3.8	58	MG/KG	< 0.0138 U	< 0.0165 UJ	< 0.0112 UJ	< 0.0143 U	< 0.0135 U	< 0.011 U	< 0.0124 U	< 0.0157 U	< 0.0124 U	< 0.0124 U	< 0.0122 U	< 0.012 U	< 0.0133 U	< 0.0169 U	< 0.0115 U	< 0.0108 U	< 0.0119 U	< 0.021 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3E
SOIL QUALITY DATA - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-202	MR-203	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208	MR-208	MR-208
							Sample ID	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207-9.0-10.0_20230710	MR-207-30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724
							Depth (feet)	30-32	6-8	10-14	15-17	30-32	6-8	20-32	6-7	8-10	15-17	2-4	12-14	30-32	9-10	30-32	6-8	15-17	30-32
							Sample Date	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023	7/24/2023	7/24/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375L_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																			
4,4'-DDD	--	--	33	33	14	1.2	MG/KG	< 0.000735 U	< 0.000716 U	< 0.000726 U	0.00325 J	< 0.000706 U	< 0.000674 U	< 0.000661 U	< 0.000689 U	< 0.000729 U	< 0.00263 U	< 0.000726 U	< 0.000732 U	< 0.000675 U	< 0.000706 U	< 0.000687 U	< 0.000659 U	< 0.000697 U	< 0.000675 U
4,4'-DDE	--	--	22	22	9.3	0.78	MG/KG	< 0.000878 U	< 0.000855 U	< 0.000867 U	0.00269 J	< 0.000844 U	< 0.000805 U	< 0.00079 U	< 0.000823 U	< 0.000871 U	< 0.00315 U	< 0.000868 U	< 0.000875 U	< 0.000807 U	< 0.000844 U	< 0.000821 U	< 0.000787 U	< 0.000833 U	< 0.000807 U
4,4'-DDT	--	--	27	27	135	0.78	MG/KG	< 0.00113 U	0.00467	< 0.00112 U	< 0.00287 U	< 0.00109 U	< 0.00104 U	< 0.00102 U	< 0.00106 U	< 0.00112 U	< 0.00406 U	< 0.00112 U	< 0.00113 U	< 0.00104 U	< 0.00109 UR	< 0.00106 U	< 0.00102 U	< 0.00108 U	< 0.00104 U
Aldrin	--	--	0.33	0.33	0.19	0.0088	MG/KG	< 0.000761 U	< 0.000741 U	< 0.000751 U	< 0.00193 U	< 0.000731 U	< 0.000697 U	< 0.000684 U	< 0.000713 U	< 0.000755 U	< 0.00273 U	< 0.000752 U	< 0.000758 U	< 0.000699 U	< 0.000731 U	< 0.000712 U	< 0.000682 U	< 0.000722 U	< 0.000699 U
alpha Endosulfan (Endosulfan I)	--	--	360	580	65	8.4	MG/KG	< 0.000758 U	< 0.000738 U	< 0.000749 U	< 0.00192 U	< 0.000729 U	< 0.000695 U	< 0.000682 U	< 0.000711 U	< 0.000752 U	< 0.00272 U	< 0.000749 U	< 0.000755 U	< 0.000697 U	< 0.000729 U	< 0.000709 U	< 0.00068 U	< 0.00072 U	< 0.000697 U
beta Endosulfan (Endosulfan II)	--	--	36	580	44	8.4	MG/KG	< 0.00073 UJ	< 0.000711 UJ	< 0.000721 UJ	< 0.00185 UJ	< 0.000702 UJ	< 0.000669 U	< 0.000657 U	< 0.000684 U	< 0.000724 U	< 0.00262 U	< 0.000721 UJ	< 0.000727 UJ	< 0.00671 UJ	< 0.000702 UJ	< 0.000683 UJ	< 0.000654 UJ	< 0.000693 UJ	< 0.000671 UJ
BHC, alpha	--	--	1.2	1.2	0.02	0.042	MG/KG	< 0.000478 U	< 0.000465 U	< 0.000472 U	< 0.00121 U	< 0.00046 U	< 0.000438 U	< 0.00043 U	< 0.000448 U	< 0.000474 U	< 0.00171 U	< 0.000472 U	< 0.000476 U	< 0.000439 U	< 0.000459 U	< 0.000447 U	< 0.000428 U	< 0.000454 U	< 0.000439 U
BHC, beta	--	--	1.8	2.9	0.09	0.042	MG/KG	< 0.000767 U	< 0.000747 U	< 0.000757 U	< 0.00194 U	< 0.000737 U	< 0.000703 U	< 0.00069 U	< 0.000719 U	< 0.000761 U	< 0.00275 U	< 0.000758 U	< 0.000764 U	< 0.000705 U	< 0.000737 U	< 0.000717 U	< 0.000687 U	< 0.000728 U	< 0.000705 U
BHC, delta	--	--	500	1000	0.1	100	MG/KG	< 0.000746 U	< 0.000726 U	< 0.000737 U	< 0.00189 U	< 0.000717 U	< 0.000684 U	< 0.000671 U	< 0.000699 U	< 0.00074 U	< 0.00267 U	< 0.000737 U	< 0.000743 U	< 0.000685 U	< 0.000717 U	< 0.000698 U	< 0.000669 U	< 0.000708 U	< 0.000685 U
BHC, gamma (Lindane)	--	--	0.21	3.4	0.05	0.05	MG/KG	< 0.000509 U	< 0.000495 U	< 0.000502 U	< 0.00129 U	< 0.000489 U	< 0.000466 U	< 0.000458 U	< 0.000477 U	< 0.000505 U	< 0.00182 U	< 0.000503 U	< 0.000507 U	< 0.000468 U	< 0.000489 U	< 0.000476 U	< 0.000456 U	< 0.000483 U	< 0.000467 U
Chlordane (Technical)	--	--	--	--	--	--	MG/KG	< 0.000714 U	< 0.000695 U	< 0.000705 U	< 0.00181 U	< 0.000686 U	< 0.000654 U	< 0.000642 U	< 0.000669 U	< 0.000708 U	< 0.00256 U	< 0.000705 U	< 0.000711 U	< 0.000656 U	< 0.000686 U	< 0.000668 U	< 0.00064 U	< 0.000678 U	< 0.000656 U
Dieldrin	--	--	0.48	0.48	0.1	0.017	MG/KG	< 0.00084 U	0.00538	< 0.000829 U	0.00611	< 0.000807 U	< 0.00077 U	< 0.000755 U	< 0.000787 U	< 0.000833 U	< 0.00301 U	< 0.00083 U	< 0.000837 U	< 0.000772 U	< 0.000807 UJ	< 0.000786 U	< 0.000753 U	< 0.000797 U	< 0.000772 U
Endosulfan	--	--	--	--	--	--	MG/KG	< 0.00073 U	< 0.000711 U	< 0.000721 U	< 0.00185 U	< 0.000702 U	< 0.000669 U	< 0.000657 U	< 0.000684 U	< 0.000724 U	< 0.00262 U	< 0.000721 U	< 0.000727 U	< 0.000671 U	< 0.000702 U	< 0.000683 U	< 0.000654 U	< 0.000693 U	< 0.000671 U
Endosulfan sulfate	--	--	36	580	47	8.4	MG/KG	< 0.000604 U	< 0.000588 U	< 0.000596 U	< 0.00153 U	< 0.000581 U	< 0.000554 UJ	< 0.000543 UJ	< 0.000566 UJ	< 0.000599 UJ	< 0.00217 UJ	< 0.000597 U	< 0.000602 U	< 0.000555 U	< 0.000581 U	< 0.000565 U	< 0.000541 U	< 0.000573 U	< 0.000555 U
Endrin	--	--	55	87	0.06	1.2	MG/KG	< 0.000555 U	< 0.00054 U	< 0.000548 U	< 0.0014 U	< 0.000533 U	< 0.000508 U	< 0.000499 U	< 0.00052 U	< 0.00055 U	< 0.00199 U	< 0.000548 U	< 0.000552 U	< 0.000509 U	< 0.000533 UJ	< 0.000519 U	< 0.000497 U	< 0.000526 U	< 0.000509 U
Endrin aldehyde	--	--	--	--	--	--	MG/KG	< 0.00064 U	< 0.000623 U	< 0.000632 U	< 0.00162 U	< 0.000615 U	< 0.000586 U	< 0.000575 U	0.00081 J	< 0.000635 U	< 0.00229 U	< 0.000632 U	< 0.000637 U	< 0.000588 U	< 0.000615 U	< 0.000598 U	< 0.000573 U	< 0.000607 U	< 0.000588 U
Endrin ketone	--	--	--	--	--	--	MG/KG	< 0.000566 U	< 0.000551 U	< 0.000559 U	< 0.00143 U	< 0.000544 U	< 0.000519 U	< 0.000509 U	< 0.00053 U	< 0.000561 U	< 0.00203 U	< 0.000559 U	< 0.000564 U	< 0.00052 U	< 0.000544 U	< 0.000529 U	< 0.000507 U	< 0.000537 U	< 0.00052 U
Heptachlor	--	--	5.1	5.1	0.38	0.12	MG/KG	< 0.00043 U	< 0.000419 U	< 0.000424 U	< 0.00109 U	< 0.000413 U	< 0.000394 U	< 0.000387 U	< 0.000403 U	< 0.000426 U	< 0.00154 U	< 0.000425 U	< 0.000428 U	< 0.000395 U	< 0.000413 U	< 0.000402 U	< 0.000385 U	< 0.000408 U	< 0.000395 U
Heptachlor epoxide	0.02	0.077	--	--	--	--	MG/KG	< 0.00081 U	< 0.000789 U	< 0.0008 U	< 0.00205 U	< 0.000779 U	< 0.000743 U	< 0.000729 U	< 0.00076 U	< 0.000804 U	< 0.0029 U	< 0.0008 U	< 0.000807 U	< 0.000744 U	< 0.000779 U	< 0.000758 U	< 0.000726 U	< 0.000769 U	< 0.000744 U
Methoxychlor	900	100	--	--	--	--	MG/KG	< 0.000471 U	< 0.000458 U	< 0.000465 U	< 0.00119 U	< 0.000452 U	< 0.000431 UJ	< 0.000423 UJ	< 0.000441 UJ	< 0.000467 UJ	< 0.00169 UJ	< 0.000465 U	< 0.000469 U	< 0.000432 U	< 0.000452 UR	< 0.00044 U	< 0.000422 UR	< 0.000447 U	< 0.000432 U
Toxaphene	--	--	--	--	--	--	MG/KG	< 0.0774 U	< 0.0753 U	< 0.0764 U	< 0.196 U	< 0.0744 U	< 0.0709 U	< 0.0696 U	< 0.0725 U	< 0.0767 U	< 0.277 U	< 0.0764 U	< 0.0771 U	< 0.0711 U	< 0.0744 U	< 0.0724 U	< 0.0693 U	< 0.0734 U	< 0.0711 U
2,4-D	0.5	100	--	--	--	--	MG/KG	< 0.0205 UJ	< 0.02 UJ	< 0.0202 UJ	< 0.0519 UJ	< 0.0197 UJ	< 0.0188 UJ	< 0.0184 UJ	< 0.0192 UJ	< 0.0203 UJ	< 0.0735 UJ	< 0.0203 U	< 0.0204 U	< 0.0188 U	< 0.0197 U	< 0.0192 UJ	< 0.0184 U	< 0.0195 U	< 0.0188 UJ
Silvex (2,4,5-TP)	--	--	500	1000	3.8	58	MG/KG	< 0.0121 UJ	< 0.0118 U	< 0.012 U	< 0.0306 U	< 0.0116 U	< 0.0111 U	< 0.0109 U	< 0.0113 U	< 0.012 U	< 0.0434 U	< 0.012 U	< 0.0121 U	< 0.0111 U	< 0.0116 U	< 0.0113 U	< 0.0108 U	< 0.0115 U	< 0.0111 UJ

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3E
SOIL QUALITY DATA - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-301	MR-301	MR-301	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303	MR-303	MR-304
							Sample ID	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-301-6.0-8.0-20230612	MR-301-25.0-27.0-20230612	MR-301-65.0-67.0-20230613	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811
							Depth (feet)	5-7	15-17	30-32	0-2	15-17	30-32	6-8	25-27	65-67	6-8	25-27	65-67	4-6	15-17	20-22	35-37	75-77	6-8
							Sample Date	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	6/12/2023	6/12/2023	6/13/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375L_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units																		
4,4'-DDD	--	--	33	33	14	1.2	MG/KG	< 0.000648 U	< 0.000712 U	< 0.000718 U	< 0.000661 U	< 0.000667 U	< 0.000708 U	< 0.000866 U	< 0.00071 U	< 0.000708 U	< 0.00126 U	< 0.000761 U	< 0.000694 U	< 0.000752 U	< 0.0011 U	< 0.000721 UJ	< 0.00073 U	< 0.000697 U	< 0.000939 U
4,4'-DDE	--	--	22	22	9.3	0.78	MG/KG	< 0.000774 U	< 0.000851 U	< 0.000858 U	< 0.00079 U	< 0.000797 U	< 0.000846 U	< 0.00103 U	< 0.000848 U	< 0.000846 U	< 0.00151 U	< 0.00091 U	< 0.00083 U	< 0.000898 U	< 0.00132 U	< 0.000862 UJ	< 0.000872 U	< 0.000832 U	< 0.00112 U
4,4'-DDT	--	--	27	27	135	0.78	MG/KG	< 0.001 U	< 0.0011 U	< 0.00111 U	< 0.00102 U	< 0.00102 U	< 0.00109 U	< 0.00134 U	< 0.00109 U	< 0.00109 U	< 0.00195 U	< 0.00117 U	< 0.00107 U	< 0.00116 U	< 0.0017 U	< 0.00111 UJ	< 0.00113 U	< 0.00107 U	< 0.00145 U
Aldrin	--	--	0.33	0.33	0.19	0.0088	MG/KG	< 0.000671 U	< 0.000737 U	< 0.000744 U	< 0.000685 U	< 0.000691 U	< 0.000733 U	< 0.000896 U	< 0.000735 U	< 0.000733 U	< 0.00131 U	< 0.000788 U	< 0.000719 U	< 0.000778 U	< 0.00114 U	< 0.000747 UJ	< 0.000756 U	< 0.000741 U	< 0.000972 U
alpha Endosulfan (Endosulfan I)	--	--	360	580	65	8.4	MG/KG	< 0.000669 U	< 0.000734 U	< 0.000741 U	< 0.000682 U	< 0.000688 U	< 0.00073 U	< 0.000893 U	< 0.000732 U	< 0.00073 U	< 0.0013 U	< 0.000786 U	< 0.000716 U	< 0.000776 U	< 0.00114 U	< 0.000745 UJ	< 0.000753 U	< 0.000719 U	< 0.000968 U
beta Endosulfan (Endosulfan II)	--	--	36	580	44	8.4	MG/KG	< 0.000644 U	< 0.000707 U	< 0.000713 U	< 0.000657 UJ	< 0.000663 UJ	< 0.000703 UJ	< 0.00086 UJ	< 0.000705 UJ	< 0.000703 UJ	< 0.00125 U	< 0.000756 U	< 0.00069 U	< 0.000746 UJ	< 0.00109 UJ	< 0.000717 UJ	< 0.000725 UJ	< 0.000692 UJ	< 0.000932 U
BHC, alpha	--	--	1.2	1.2	0.02	0.042	MG/KG	< 0.000421 U	< 0.000463 U	< 0.000467 U	< 0.00043 U	< 0.000434 U	< 0.00046 U	< 0.000563 U	< 0.000462 U	< 0.00046 U	< 0.000822 U	< 0.000495 U	< 0.000452 U	< 0.000489 U	< 0.000717 U	< 0.000469 UJ	< 0.000475 U	< 0.000453 U	< 0.00061 U
BHC, beta	--	--	1.8	2.9	0.09	0.042	MG/KG	< 0.000676 U	< 0.000743 U	< 0.00075 U	< 0.00069 U	< 0.000696 U	< 0.000739 U	< 0.000903 U	< 0.000741 U	< 0.000739 U	< 0.00132 U	< 0.000794 U	< 0.000725 U	< 0.000784 U	< 0.00115 U	< 0.000753 UJ	< 0.000762 U	< 0.000727 U	< 0.00098 U
BHC, delta	--	--	500	1000	0.1	100	MG/KG	< 0.000658 U	< 0.000723 U	< 0.000729 U	< 0.000671 U	< 0.000677 U	< 0.000719 U	< 0.000879 U	< 0.00072 U	< 0.000718 U	< 0.00128 U	< 0.000773 U	< 0.000705 U	< 0.000763 U	< 0.00112 U	< 0.000732 UJ	< 0.000741 U	< 0.000707 U	< 0.000953 U
BHC, gamma (Lindane)	--	--	0.21	3.4	0.05	0.05	MG/KG	< 0.000449 U	< 0.000493 U	< 0.000497 U	< 0.000458 U	< 0.000462 U	< 0.00049 U	< 0.000599 U	< 0.000491 U	< 0.00049 U	< 0.000875 U	< 0.000527 U	< 0.000481 U	< 0.00052 U	< 0.000763 U	< 0.0005 UJ	< 0.000505 U	< 0.000482 U	< 0.00065 U
Chlordane (Technical)	--	--	--	--	--	--	MG/KG	< 0.000629 U	< 0.000691 U	< 0.000698 U	< 0.000642 U	< 0.000648 U	< 0.000688 U	< 0.000841 U	0.0688 J	0.00389	< 0.00123 U	< 0.000739 U	< 0.000674 U	< 0.00073 U	< 0.00107 U	< 0.000701 UJ	< 0.000709 U	< 0.000677 U	< 0.000912 U
Dieldrin	--	--	0.48	0.48	0.1	0.017	MG/KG	< 0.000741 U	< 0.000813 U	< 0.000821 U	< 0.000756 U	< 0.000762 U	< 0.000809 U	< 0.000989 U	< 0.000811 U	< 0.000809 U	< 0.00144 U	< 0.00087 U	< 0.000793 U	< 0.000859 U	< 0.00126 U	< 0.000825 UJ	< 0.000834 U	< 0.000796 U	< 0.00107 U
Endosulfan	--	--	--	--	--	--	MG/KG	< 0.000644 U	< 0.000707 U	< 0.000713 U	< 0.000657 U	< 0.000663 U	< 0.000703 U	< 0.00086 U	< 0.000705 U	< 0.000703 U	< 0.00125 U	< 0.000756 U	< 0.00069 U	< 0.000746 U	< 0.00109 U	< 0.000717 UJ	< 0.000725 U	< 0.000692 U	< 0.000932 U
Endosulfan sulfate	--	--	36	580	47	8.4	MG/KG	< 0.000533 UJ	< 0.000585 UJ	< 0.00059 UJ	< 0.000544 U	< 0.000548 U	< 0.000582 U	< 0.000711 U	< 0.000583 U	< 0.000582 U	< 0.00104 U	< 0.000626 U	< 0.000571 U	< 0.000618 U	< 0.000906 U	< 0.000593 UJ	< 0.0006 U	< 0.000572 U	< 0.000771 U
Endrin	--	--	55	87	0.06	1.2	MG/KG	< 0.000489 U	< 0.000537 U	< 0.000542 U	< 0.000499 U	< 0.000503 U	< 0.000534 U	< 0.000653 U	< 0.000536 U	< 0.000534 U	< 0.000953 U	< 0.000574 U	< 0.000524 U	< 0.000567 U	< 0.000831 U	< 0.000544 UJ	< 0.000551 U	< 0.000526 U	< 0.000708 U
Endrin aldehyde	--	--	--	--	--	--	MG/KG	< 0.000564 U	< 0.00062 U	< 0.000625 U	< 0.000576 U	< 0.000581 U	< 0.000616 U	< 0.000754 U	< 0.000618 U	< 0.000616 U	0.00167 J	< 0.000663 U	< 0.000604 U	< 0.000654 U	< 0.000959 U	< 0.000628 UJ	< 0.000635 U	< 0.000606 U	< 0.000817 U
Endrin ketone	--	--	--	--	--	--	MG/KG	< 0.000499 U	< 0.000548 U	< 0.000553 U	< 0.000509 U	< 0.000513 U	< 0.000545 U	< 0.000666 U	< 0.000546 U	< 0.000545 U	< 0.000973 U	< 0.000586 U	< 0.000534 U	< 0.000578 U	< 0.000848 U	< 0.000555 UJ	< 0.000562 U	< 0.000536 U	< 0.000722 U
Heptachlor	--	--	5.1	5.1	0.38	0.12	MG/KG	< 0.000379 U	< 0.000416 U	< 0.00042 U	< 0.000387 U	< 0.00039 U	< 0.000414 U	< 0.000506 U	< 0.000415 U	< 0.000414 U	< 0.000739 U	< 0.000445 U	< 0.000406 U	< 0.00044 U	< 0.000644 U	< 0.000422 UJ	< 0.000427 U	< 0.000407 U	< 0.000549 U
Heptachlor epoxide	0.02	0.077	--	--	--	--	MG/KG	< 0.000714 U	< 0.000785 U	< 0.000792 U	< 0.000729 U	< 0.000735 U	< 0.00078 U	< 0.000954 U	< 0.000782 U	< 0.00078 U	< 0.00139 U	< 0.000839 U	< 0.000765 U	< 0.000829 U	< 0.00121 U	< 0.000795 UJ	< 0.000805 U	< 0.000768 U	< 0.00103 U
Methoxychlor	900	100	--	--	--	--	MG/KG	< 0.000415 U	< 0.000456 U	< 0.00046 U	< 0.000423 U	< 0.000427 U	< 0.000453 U	< 0.000554 U	< 0.000454 U	< 0.000453 U	< 0.000809 U	< 0.000487 U	< 0.000445 U	< 0.000481 U	< 0.000706 U	< 0.000462 UJ	< 0.000467 U	< 0.000446 U	< 0.000601 U
Toxaphene	--	--	--	--	--	--	MG/KG	< 0.0682 U	< 0.0749 U	< 0.0756 U	< 0.0696 U	< 0.0702 U	< 0.0745 U	< 0.0911 U	< 0.0747 U	< 0.0745 U	< 0.133 U	< 0.0801 U	< 0.0731 U	< 0.0791 U	< 0.116 U	< 0.0759 UJ	< 0.0768 U	< 0.0733 U	< 0.0988 U
2,4-D	0.5	100	--	--	--	--	MG/KG	< 0.0181 U	< 0.0199 U	< 0.02 U	< 0.0185 U	< 0.0186 U	< 0.0197 U	< 0.0241 UJ	< 0.0198 UJ	< 0.0197 UJ	< 0.0352 U	< 0.0212 U	< 0.0194 U	< 0.021 U	< 0.0307 U	< 0.0201 U	< 0.0204 U	< 0.0194 U	< 0.0262 U
Silvex (2,4,5-TP)	--	--	500	1000	3.8	58	MG/KG	< 0.0107 U	< 0.0117 U	< 0.0118 U	< 0.0109 U	< 0.011 U	< 0.0117 U	< 0.0143 UJ	< 0.0117 UJ	< 0.0117 UJ	< 0.0208 UJ	< 0.0125 UJ	< 0.0114 UJ	< 0.0124 U	< 0.0181 U	< 0.0119 U	< 0.012 U	< 0.0115 U	< 0.0155 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3E
SOIL QUALITY DATA - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

							Location ID	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
							Sample ID	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
							Depth (feet)	27-29	65-67	4-5	4-5	5-6	3-4.5	4-5	4-5
							Sample Date	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	NYS_SUP_PGW	NYS_SUP_RES	NYSPART375C_DEC2025	NYSPART375I_DEC2025	NYSPART375PGW_DEC2025	NYSPART375R_DEC2025	Units								
4,4'-DDD	--	--	33	33	14	1.2	MG/KG	< 0.000731 U	< 0.000665 UJ	< 0.000674 U	< 0.000705 U	< 0.076 U	< 0.000777 U	< 0.000717 U	< 0.000739 UJ
4,4'-DDE	--	--	22	22	9.3	0.78	MG/KG	< 0.000873 U	< 0.000795 UJ	< 0.000806 U	< 0.000843 U	< 0.0908 U	< 0.000928 U	< 0.000856 U	< 0.000883 UJ
4,4'-DDT	--	--	27	27	135	0.78	MG/KG	< 0.00113 U	< 0.00103 U	< 0.00104 U	< 0.00109 U	< 0.117 U	< 0.0012 U	< 0.00111 U	< 0.00114 UJ
Aldrin	--	--	0.33	0.33	0.19	0.0088	MG/KG	< 0.000756 U	< 0.000689 U	< 0.000698 U	< 0.00073 U	< 0.0787 U	< 0.000804 U	< 0.000742 U	< 0.000765 UJ
alpha Endosulfan (Endosulfan I)	--	--	360	580	65	8.4	MG/KG	< 0.000754 U	< 0.000687 U	< 0.000696 U	< 0.000728 U	< 0.0784 U	< 0.000801 U	< 0.000739 U	< 0.000762 UJ
beta Endosulfan (Endosulfan II)	--	--	36	580	44	8.4	MG/KG	< 0.000726 U	< 0.000661 U	< 0.00067 U	< 0.0007 U	< 0.0755 U	< 0.000771 U	< 0.000712 U	< 0.000734 UJ
BHC, alpha	--	--	1.2	1.2	0.02	0.042	MG/KG	< 0.000475 U	< 0.000433 UJ	< 0.000439 U	< 0.000459 U	< 0.0494 U	< 0.000505 U	< 0.000466 U	< 0.000481 UJ
BHC, beta	--	--	1.8	2.9	0.09	0.042	MG/KG	< 0.000763 U	< 0.000695 UJ	< 0.000704 U	< 0.000736 U	< 0.0793 U	< 0.000811 U	< 0.000748 U	< 0.000771 UJ
BHC, delta	--	--	500	1000	0.1	100	MG/KG	< 0.000742 U	< 0.000676 U	< 0.000685 U	< 0.000716 U	< 0.0771 U	< 0.000788 U	< 0.000727 U	< 0.00075 UJ
BHC, gamma (Lindane)	--	--	0.21	3.4	0.05	0.05	MG/KG	< 0.000506 U	< 0.000461 U	< 0.000467 U	< 0.000488 U	< 0.0526 U	< 0.000538 U	< 0.000496 U	< 0.000512 UJ
Chlordane (Technical)	--	--	--	--	--	--	MG/KG	< 0.00071 U	< 0.000646 U	< 0.000655 U	< 0.000685 U	< 0.0738 U	< 0.000754 U	< 0.000696 U	< 0.000718 UJ
Dieldrin	--	--	0.48	0.48	0.1	0.017	MG/KG	< 0.000835 U	< 0.000761 U	< 0.000771 U	< 0.000806 U	< 0.0868 U	< 0.000888 U	< 0.000819 U	< 0.000844 UJ
Endosulfan	--	--	--	--	--	--	MG/KG	< 0.000726 U	< 0.000661 U	< 0.00067 U	< 0.0007 U	< 0.0755 U	< 0.000771 U	< 0.000712 U	< 0.000734 UJ
Endosulfan sulfate	--	--	36	580	47	8.4	MG/KG	< 0.000601 U	< 0.000547 UJ	< 0.000554 U	< 0.000579 U	< 0.0624 U	< 0.000638 U	< 0.000589 U	< 0.000607 UJ
Endrin	--	--	55	87	0.06	1.2	MG/KG	< 0.000551 U	< 0.000502 UJ	< 0.000509 U	< 0.000532 U	< 0.0573 U	< 0.000586 U	< 0.000541 U	< 0.000558 UJ
Endrin aldehyde	--	--	--	--	--	--	MG/KG	< 0.000636 U	< 0.000579 U	< 0.000587 U	< 0.000614 U	--	< 0.000676 U	--	< 0.000643 UJ
Endrin ketone	--	--	--	--	--	--	MG/KG	< 0.000562 U	< 0.000512 U	< 0.000519 U	< 0.000543 U	< 0.0585 U	< 0.000598 U	< 0.000552 U	< 0.000569 UJ
Heptachlor	--	--	5.1	5.1	0.38	0.12	MG/KG	< 0.000427 U	< 0.000389 U	< 0.000394 U	< 0.000412 U	< 0.0444 U	< 0.000454 U	< 0.000419 U	< 0.000432 UJ
Heptachlor epoxide	0.02	0.077	--	--	--	--	MG/KG	< 0.000806 U	< 0.000734 U	< 0.000743 U	< 0.000777 U	< 0.0838 U	< 0.000856 U	< 0.00079 U	< 0.000815 UJ
Methoxychlor	900	100	--	--	--	--	MG/KG	< 0.000468 U	< 0.000426 U	< 0.000432 U	< 0.000451 U	< 0.0487 U	< 0.000497 U	< 0.000459 U	< 0.000473 UJ
Toxaphene	--	--	--	--	--	--	MG/KG	< 0.0769 U	< 0.07 U	< 0.071 U	< 0.0742 U	< 8 U	< 0.0817 U	< 0.0754 U	< 0.0778 UJ
2,4-D	0.5	100	--	--	--	--	MG/KG	< 0.0204 U	< 0.0186 U	< 0.0188 U	< 0.0197 U	< 0.0212 U	< 0.0217 U	< 0.02 U	< 0.0206 U
Silvex (2,4,5-TP)	--	--	500	1000	3.8	58	MG/KG	< 0.012 U	< 0.011 U	< 0.0111 U	< 0.0116 U	< 0.0125 U	< 0.0128 U	< 0.0118 U	< 0.0122 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
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UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
< MDL = less than the medthod detection limit
mg/kg = milligrams per kilogram

TABLE 3F
SOIL QUALITY DATA - GENERAL CHEMISTRY
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

	Location ID	MR-101	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202	MR-202	MR-202	MR-203	MR-203	MR-203	MR-203
	Sample ID	MR-101-6.0-8.0-20230616	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717
	Depth (feet)	6-8	20-22	65-67	6-8	20-22	80-82	6-8	20-22	35-37	50-52	65-67	4-6	12-14	17-19	30-32	2-4	8-10	15-17	30-32	6-8	10-14	15-17	30-32
	Sample Date	6/16/2023	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023	7/25/2023	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023
Chemical Name	Units																							
Percent Solids	MG/KG																				832000	820000	320000	842000
Percent Solids	MG/KG	712000	595000	872000	688000	727000	887000	787000	626000	792000	790000	806000	818000	737000	581000	853000	909000	822000	467000	810000	--	--	--	--
Ignitability	DEG C	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cyanide, Reactive	MG/KG	1.4	< 0.17 U	< 0.11 U	< 0.15 U	< 0.14 U	< 0.11 U	0.54	< 0.16 U	< 0.12 U	0.31	< 0.11 U	< 0.12 U	8.1	< 0.18 U	0.55	< 0.11 UJ	0.35 J	0.28 J	< 0.12 UJ	--	--	--	--
Sulfide	MG/KG	27.8	< 0.168 U	< 0.115 U	6.3 J	< 0.138 UJ	< 0.113 U	0.254	< 0.16 U	< 0.126 U	< 0.127 U	< 0.124 U	< 0.122 U	< 0.136 U	< 0.172 UJ	< 0.117 U	< 0.11 UJ	< 0.122	< 0.214	< 0.124	--	--	--	--
Corrosivity	PH UNITS	7.59	6.69	7.38	8.31	7.84	9.18	9.56	8.76	9.19	9.2	9.19	8.81	8.53	8.07	9.02	8.7	9.6	8.57	9.27	11.1	8.06	7.84	9.33

Notes:
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< MDL = less than the method detection limit
mg/kg = milligrams per kilogram

TABLE 3F
SOIL QUALITY DATA - GENERAL CHEMISTRY
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

	Location ID	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208	MR-208	MR-208	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-301	MR-301	MR-301	MR-302
	Sample ID	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-301-6.0-8.0-20230612	MR-301-25.0-27.0-20230612	MR-301-65.0-67.0-20230613	MR-302-6.0-8.0-20230823
	Depth (feet)	6-8	20-32	6-7	8-10	15-17	2-4	12-14	30-32	9-10	30-32	6-8	15-17	30-32	5-7	15-17	30-32	0-2	15-17	30-32	6-8	25-27	65-67	6-8
	Sample Date	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023	7/24/2023	7/24/2023	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	6/12/2023	6/12/2023	6/13/2023	8/23/2023
Chemical Name	Units																							
Percent Solids	MG/KG						819000	813000	881000									900000	892000	841000				
Percent Solids	MG/KG	883000	900000	864000	816000	226000	--	--	--	842000	866000	903000	853000	881000	918000	836000	828000	--	--	--	687000	838000	841000	471000
Ignitability	DEG C	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20	< 20	< 20	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20	< 20	< 20	< 20 U	< 20 U	< 20 U	< 20 U
Cyanide, Reactive	MG/KG	< 0.11 U	< 0.11 U	< 0.12 U	< 0.12 U	< 0.44 U	--	--	--	< 0.12 U	< 0.12 U	< 0.11 UJ	< 0.12 UJ	< 0.11 UJ	< 0.11 U	< 0.12 U	< 0.12 U	--	--	--	< 0.17 U	< 0.14 U	< 0.14 U	< 0.23 U
Sulfide	MG/KG	93.1	< 0.111 U	< 0.116 U	< 0.123 U	4.29	--	--	--	1.88 J	< 0.116 U	< 0.111	< 0.117	< 0.113	< 0.109 UJ	< 0.12 UJ	< 0.121 UJ	--	--	--	0.524	< 0.119 U	< 0.119 U	27.2
Corrosivity	PH UNITS	9.6	9.37	8.9	9.17	8.51	7.59	7.86	8.76	8.88	9.11	8.9	8.61	8.73	8.01	7.47	8.41	10.1	8.9	9.93	8.3	8.63	7.17	9.67

Notes:
J = The analyte was positively identified; th
UJ = The analyte was not detected above tl
U = The analyte was analyzed for, but was
< MDL = less than the method detection li
mg/kg = milligrams per kilogram

TABLE 3F
SOIL QUALITY DATA - GENERAL CHEMISTRY
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

	Location ID	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303	MR-303	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
	Sample ID	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
	Depth (feet)	25-27	65-67	4-6	15-17	20-22	35-37	75-77	6-8	27-29	65-67	4-5	4-5	5-6	3-4.5	4-5	4-5
	Sample Date	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	Units																
Percent Solids	MG/KG																
Percent Solids	MG/KG	782000	857000	792000	540000	825000	815000	854000	634000	814000	890000	880000	844000	783000	770000	830000	805000
Ignitability	DEG C	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Cyanide, Reactive	MG/KG	< 0.13 U	< 0.12 U	< 0.12 U	3.1	0.13	< 0.12 U	< 0.12 U	< 0.16 U	< 0.12 U	< 0.11 U	< 0.11 U	< 0.12 U	< 0.13 U	< 0.13 U	0.74	0.28
Sulfide	MG/KG	< 0.128 U	< 0.117 U	< 0.126 U	< 0.185 U	< 0.121 U	< 0.123 U	< 0.117 U	674	< 0.123 U	< 0.112 U	< 0.113 U	< 0.118 U	< 0.128 U	< 0.131 U	< 0.12 U	< 0.124 U
Corrosivity	PH UNITS	8.63	8.71	8.66	8.09	8.5	9.05	10.4	8.31	7.74	9.00	8.00	8.78	7.76	7.00	8.2	7.77

Notes:
J = The analyte was positively identified; th
UJ = The analyte was not detected above tl
U = The analyte was analyzed for, but was
< MDL = less than the method detection li
mg/kg = milligrams per kilogram

TABLE 4A
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202
		Sample ID	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725
		Depth (feet)	20.0-22.0	65.0-67.0	6.0-8.0	20-22	80.0-82.0	6.0-8.0	20.0-22.0	35.0-37.0	50.0-52.0	65.0-67.0	4.0-6.0	12.0-14.0	17.0-19.0	30.0-32.0	2.0-4.0	8.0-10.0
		Sample Date	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
1,1-Dichloroethene	0.7	mg/L	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 UJ	< 0.00149 UJ
1,2-Dichloroethane	0.5	mg/L	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 UJ	< 0.00306 UJ
1,4-Dichlorobenzene	7.5	mg/L	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 UJ	< 0.00238 UJ
2-Butanone (MEK)	200	mg/L	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 UJ	< 0.1 UJ
Benzene	0.5	mg/L	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UJ	< 0.00129 UJ	**0.179 J**	< 0.00129 U	< 0.00129 U	< 0.00129 U	< 0.00129 U	< 0.00129 U	< 0.00129 U	< 0.00129 UJ	< 0.00129 UJ
Carbon tetrachloride	0.5	mg/L	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 UJ	< 0.00372 UJ
Chlorobenzene	100	mg/L	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UJ	< 0.003 UJ	< 0.003 UJ	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 UJ	< 0.003 UJ
Chloroform	6	mg/L	**0.00432 J**	< 0.00365 UR	**0.0192 J**	**0.00382 J**	< 0.00365 UR	< 0.00365 UJ	< 0.00365 UJ	< 0.00365 UJ	**0.0363**	**0.0334**	**0.029**	**0.0336**	**0.0343**	**0.0342**	< 0.00365 UJ	< 0.00365 UJ
Tetrachloroethene (PCE)	0.7	mg/L	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 UJ	< 0.00466 UJ
Trichloroethene (TCE)	0.5	mg/L	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 UJ	< 0.00146 UJ
Vinyl chloride	0.2	mg/L	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 UJ	< 0.00157 UJ

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4A
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-202	MR-202	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208
		Sample ID	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724
		Depth (feet)	15.0-17.0	30.0-32.0	10.0-14.0	15.0-17.0	30.0-32.0	6.0-8.0	30.0.0-32.0	6.0-7.0	8.0-10.0	15.0-17.0	2.0-4.0	12.0-14.0	30.0-32.0	9.0-10.0	30-32	6.0-8.0
		Sample Date	7/25/2023	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
1,1-Dichloroethene	0.7	mg/L	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UJ
1,2-Dichloroethane	0.5	mg/L	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UJ
1,4-Dichlorobenzene	7.5	mg/L	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UJ
2-Butanone (MEK)	200	mg/L	< 0.1 UJ	< 0.1 UJ	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UJ
Benzene	0.5	mg/L	< 0.00129 UJ	< 0.00129 UJ	< 0.00129 UR	**0.00976 J**	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UJ
Carbon tetrachloride	0.5	mg/L	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UJ
Chlorobenzene	100	mg/L	< 0.003 UJ	< 0.003 UJ	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UJ
Chloroform	6	mg/L	< 0.00365 UJ	< 0.00365 UJ	< 0.00365 UR	< 0.00365 UR	< 0.00365 UR	< 0.00365 UR	< 0.00365 UR	< 0.00365 UR	< 0.00365 UR	< 0.00365 UR	**0.0228 J**	**0.0215 J**	**0.0198 J**	**0.0181 J**	**0.00434 J**	**0.0127 J**
Tetrachloroethene (PCE)	0.7	mg/L	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UJ
Trichloroethene (TCE)	0.5	mg/L	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UJ
Vinyl chloride	0.2	mg/L	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UJ

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
UR = The sample non-detection results is rejected due to serious deficie
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4A
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-208	MR-208	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303	MR-303
		Sample ID	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728
		Depth (feet)	15.0-17.0	30.0-32.0	5.0-7.0	15.0-17.0	30.0-32.0	0-2.0	15.0-17.0	30.0-32.0	6.0-8.0	25.0-27.0	65.0-67.0	4.0-6.0	15.0-17.0	20.0-22.0	35.0-37.0	75.0-77.0
		Sample Date	7/24/2023	7/24/2023	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
1,1-Dichloroethene	0.7	mg/L	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 U	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 UR	< 0.00149 UR	< 0.00149 UR	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 UJ	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U
1,2-Dichloroethane	0.5	mg/L	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 U	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 UR	< 0.00306 UR	< 0.00306 UR	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 UJ	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U
1,4-Dichlorobenzene	7.5	mg/L	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 U	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 UR	< 0.00238 UR	< 0.00238 UR	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 UJ	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U
2-Butanone (MEK)	200	mg/L	< 0.1 UJ	< 0.1 UJ	< 0.1 U	< 0.1 UJ	< 0.1 UJ	< 0.1 UR	< 0.1 UR	< 0.1 UR	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Benzene	0.5	mg/L	< 0.00129 UJ	< 0.00129 UJ	< 0.00129 U	< 0.00129 UJ	< 0.00129 UJ	< 0.00129 UR	< 0.00129 UR	< 0.00129 UR	< 0.00129 UJ	**0.00456 J**	< 0.00129 UJ	< 0.00129 U	< 0.00129 U	**0.0344**	< 0.00129 U	< 0.00129 U
Carbon tetrachloride	0.5	mg/L	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 U	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 UR	< 0.00372 UR	< 0.00372 UR	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 UJ	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U
Chlorobenzene	100	mg/L	< 0.003 UJ	< 0.003 UJ	< 0.003 U	< 0.003 UJ	< 0.003 UJ	< 0.003 UR	< 0.003 UR	< 0.003 UR	< 0.003 UJ	< 0.003 UJ	< 0.003 UJ	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
Chloroform	6	mg/L	**0.0191 J**	**0.0192 J**	**0.0201**	**0.0172 J**	**0.019 J**	**0.0207 J**	**0.0169 J**	**0.0205 J**	< 0.00365 UJ	< 0.00365 UJ	< 0.00365 UJ	**0.032**	**0.0325**	**0.0335**	**0.0274**	**0.0333**
Tetrachloroethene (PCE)	0.7	mg/L	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 U	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 UR	< 0.00466 UR	< 0.00466 UR	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 UJ	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U
Trichloroethene (TCE)	0.5	mg/L	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 U	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 UJ	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U
Vinyl chloride	0.2	mg/L	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 U	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 UR	< 0.00157 UR	< 0.00157 UR	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 UJ	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
UR = The sample non-detection results is rejected due to serious deficie
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4A
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - VOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
		Sample ID	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
		Depth (feet)	6.0-8.0	27.0-29.0	65.0-67.0	SCPT-101-4.0-5.0	SCPT-102-4.0-5.0	SCPT-108-5.0-6.0	SCPT-109-3.0-4.5	SCPT-110-4.0-5.0	SCPT-111-4.0-5.0
		Sample Date	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	RCRA-BMRC_TCLP	Units									
1,1-Dichloroethene	0.7	mg/L	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 U	< 0.00149 UJ	< 0.00149 UJ
1,2-Dichloroethane	0.5	mg/L	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 U	< 0.00306 UJ	< 0.00306 UJ
1,4-Dichlorobenzene	7.5	mg/L	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 U	< 0.00238 UJ	< 0.00238 UJ
2-Butanone (MEK)	200	mg/L	< 0.1 UJ	< 0.1 UJ	< 0.1 UJ	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 UJ	< 0.1 UJ
Benzene	0.5	mg/L	< 0.00129 U	< 0.00129 U	< 0.00129 U	< 0.00129 U	< 0.00129 U	**0.0285**	< 0.00129 U	< 0.00129 UJ	< 0.00129 UJ
Carbon tetrachloride	0.5	mg/L	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 U	< 0.00372 UJ	< 0.00372 UJ
Chlorobenzene	100	mg/L	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 UJ	< 0.003 UJ
Chloroform	6	mg/L	< 0.00365 U	< 0.00365 U	**0.00422 J**	< 0.00365 U	< 0.00365 U	< 0.00365 U	< 0.00365 U	< 0.00365 UJ	< 0.00365 UJ
Tetrachloroethene (PCE)	0.7	mg/L	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 U	< 0.00466 UJ	< 0.00466 UJ
Trichloroethene (TCE)	0.5	mg/L	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 UJ	< 0.00146 UJ
Vinyl chloride	0.2	mg/L	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 U	< 0.00157 UJ	< 0.00157 UJ

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
UR = The sample non-detection results is rejected due to serious deficie
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4B
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202
		Sample ID	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725
		Depth (feet)	20.0-22.0	65.0-67.0	6.0-8.0	20.0-22.0	80.0-82.0	6.0-8.0	20.0-22.0	35.0-37.0	50.0-52.0	65.0-67.0	4.0-6.0	12.0-14.0	17.0-19.0	30.0-32.0	2.0-4.0	8.0-10.0
		Sample Date	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
2,4,5-Trichlorophenol	400	mg/L	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U
2,4,6-Trichlorophenol	2	mg/L	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U
2,4-Dinitrotoluene	0.13	mg/L	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U
2-Methylphenol (o-cresol)	200	mg/L	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U
3/4-Methylphenol		mg/L	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U
Hexachlorobenzene	0.13	mg/L	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U
Hexachlorobutadiene	0.5	mg/L	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U
Hexachloroethane	3	mg/L	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U
Nitrobenzene	2	mg/L	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U
Pentachlorophenol	100	mg/L	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 UJ	< 0.00152 U
Pyridine	5	mg/L	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
mg/L = milligrams per liter

TABLE 4B
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-202	MR-202	MR-203	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207
		Sample ID	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711
		Depth (feet)	15.0-17.0	30.0-32.0	6.0-8.0	10.0-14.0	15.0-17.0	30.0-32.0	6.0-8.0	30.0.0-32.0	6.0-7.0	8.0-10.0	15.0-17.0	2.0-4.0	12.0-14.0	30.0-32.0	9.0-10.0	30.0-32.0
		Sample Date	7/25/2023	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
2,4,5-Trichlorophenol	400	mg/L	< 0.000438 U	< 0.000438 U	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR
2,4,6-Trichlorophenol	2	mg/L	< 0.00137 U	< 0.00137 U	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR
2,4-Dinitrotoluene	0.13	mg/L	< 0.00108 U	< 0.00108 U	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR
2-Methylphenol (o-cresol)	200	mg/L	< 0.00155 U	< 0.00155 U	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR
3/4-Methylphenol		mg/L	< 0.00122 U	< 0.00122 U	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR
Hexachlorobenzene	0.13	mg/L	< 0.00183 U	< 0.00183 U	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR
Hexachlorobutadiene	0.5	mg/L	< 0.00279 U	< 0.00279 U	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR
Hexachloroethane	3	mg/L	< 0.00111 U	< 0.00111 U	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR
Nitrobenzene	2	mg/L	< 0.00146 U	< 0.00146 U	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR
Pentachlorophenol	100	mg/L	< 0.00152 U	< 0.00152 U	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR
Pyridine	5	mg/L	< 0.000494 U	< 0.000494 U	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
UR = The sample non-detection results is rejected due to serious deficie
mg/L = milligrams per liter

TABLE 4B
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-208	MR-208	MR-208	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303
		Sample ID	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727
		Depth (feet)	6.0-8.0	15.0-17.0	30.0-32.0	5.0-7.0	15.0-17.0	30.0-32.0	0-2.0	15.0-17.0	30.0-32.0	6.0-8.0	25.0-27.0	65.0-67.0	4.0-6.0	15.0-17.0	20.0-22.0	35.0-37.0
		Sample Date	7/24/2023	7/24/2023	7/24/2023	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
2,4,5-Trichlorophenol	400	mg/L	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 UR	< 0.000438 UR	< 0.000438 UR	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U
2,4,6-Trichlorophenol	2	mg/L	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 UR	< 0.00137 UR	< 0.00137 UR	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U
2,4-Dinitrotoluene	0.13	mg/L	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 UR	< 0.00108 UR	< 0.00108 UR	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U
2-Methylphenol (o-cresol)	200	mg/L	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 UR	< 0.00155 UR	< 0.00155 UR	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U
3/4-Methylphenol		mg/L	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 UR	< 0.00122 UR	< 0.00122 UR	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U
Hexachlorobenzene	0.13	mg/L	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 UR	< 0.00183 UR	< 0.00183 UR	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U	< 0.00183 U
Hexachlorobutadiene	0.5	mg/L	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 UR	< 0.00279 UR	< 0.00279 UR	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U
Hexachloroethane	3	mg/L	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 UR	< 0.00111 UR	< 0.00111 UR	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U
Nitrobenzene	2	mg/L	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 UR	< 0.00146 UR	< 0.00146 UR	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U
Pentachlorophenol	100	mg/L	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 UR	< 0.00152 UR	< 0.00152 UR	< 0.00152 U	< 0.00152 U	< 0.00152 U	< 0.00152 UJ	< 0.00152 U	< 0.00152 UJ	< 0.00152 UJ
Pyridine	5	mg/L	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 UR	< 0.000494 UR	< 0.000494 UR	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
UR = The sample non-detection results is rejected due to serious deficie
mg/L = milligrams per liter

TABLE 4B
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - SVOCs
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-303	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
		Sample ID	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
		Depth (feet)	75.0-77.0	6.0-8.0	27.0-29.0	65.0-67.0	4.0-5.0	4.0-5.0	5.0-6.0	3.0-4.5	4.0-5.0	4.0-5.0
		Sample Date	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	RCRA-BMRC_TCLP	Units										
2,4,5-Trichlorophenol	400	mg/L	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U	< 0.000438 U
2,4,6-Trichlorophenol	2	mg/L	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 U	< 0.00137 UJ	< 0.00137 UJ	< 0.00137 UJ	< 0.00137 UJ	< 0.00137 UJ	< 0.00137 UJ
2,4-Dinitrotoluene	0.13	mg/L	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 U	< 0.00108 UJ	< 0.00108 UJ	< 0.00108 UJ	< 0.00108 UJ	< 0.00108 UJ	< 0.00108 UJ
2-Methylphenol (o-cresol)	200	mg/L	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U	< 0.00155 U
3/4-Methylphenol		mg/L	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U	< 0.00122 U
Hexachlorobenzene	0.13	mg/L	< 0.00183 U	< 0.00183 UJ	< 0.00183 UJ	< 0.00183 UJ	< 0.00183 UJ	< 0.00183 UR	< 0.00183 UR	< 0.00183 UJ	< 0.00183 UR	< 0.00183 UR
Hexachlorobutadiene	0.5	mg/L	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U	< 0.00279 U
Hexachloroethane	3	mg/L	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U	< 0.00111 U
Nitrobenzene	2	mg/L	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U
Pentachlorophenol	100	mg/L	< 0.00152 U	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ	< 0.00152 UJ
Pyridine	5	mg/L	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U	< 0.000494 U

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
UR = The sample non-detection results is rejected due to serious deficie
mg/L = milligrams per liter

TABLE 4C
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-101	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202
		Sample ID	MR-101-20.0-22.0-20230619	MR-101-65.0-67.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725
		Depth (feet)	20.0-22.0	65.0-67.0	6.0-8.0	20.0-22.0	80.0-82.0	6.0-8.0	20.0-22.0	35.0-37.0	50.0-52.0	65.0-67.0	4.0-6.0	12.0-14.0	17.0-19.0	30.0-32.0	2.0-4.0	8.0-10.0
		Sample Date	6/19/2023	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
Arsenic	5	mg/L	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
Barium	100	mg/L	**0.186 J**	**1.12 J**	**1.79 J**	**0.656 J**	**1.31 J**	**0.417**	**0.632**	**1.24**	**0.761**	**0.822**	**0.795**	**0.332**	**0.438**	**0.632**	**0.761**	**1.28**
Cadmium	1	mg/L	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U
Chromium	5	mg/L	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U
Lead	5	mg/L	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U
Selenium	1	mg/L	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U
Silver	5	mg/L	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U
Mercury	0.2	mg/L	< 0.000296 UR	< 0.000296 UR	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
mg/L = milligrams per liter
Detections are boldfaced
Concentrations above RCRA-BMRC_TCLP are shaded gray

TABLE 4C
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-202	MR-202	MR-203	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207
		Sample ID	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-15.0-17.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711
		Depth (feet)	15.0-17.0	30.0-32.0	6.0-8.0	10.0-14.0	15.0-17.0	30.0-32.0	6.0-8.0	30.0.0-32.0	6.0-7.0	8.0-10.0	15.0-17.0	2.0-4.0	12.0-14.0	30.0-32.0	9.0-10.0	30-32
		Sample Date	7/25/2023	7/25/2023	7/17/2023	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
Arsenic	5	mg/L	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
Barium	100	mg/L	**1.15**	**1.62**	**0.194 J**	**0.68 J**	**0.654 J**	**0.358 J**	**1.04 J**	**2.21 J**	**0.907 J**	**1.24 J**	**0.864 J**	**0.766 J**	**0.7 J**	**0.602 J**	**1.1 J**	**0.622 J**
Cadmium	1	mg/L	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U
Chromium	5	mg/L	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024	< 0.0024 U	< 0.0024 U	< 0.0024 U
Lead	5	mg/L	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U
Selenium	1	mg/L	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U
Silver	5	mg/L	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U
Mercury	0.2	mg/L	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the sampl
mg/L = milligrams per liter
Detections are boldfaced
Concentrations above RCRA-BMRC_TCLP are shaded gray

TABLE 4C
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-208	MR-208	MR-208	MR-209	MR-209	MR-209	MR-210	MR-210	MR-210	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303
		Sample ID	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727
		Depth (feet)	6.0-8.0	15.0-17.0	30.0-32.0	5.0-7.0	15.0-17.0	30.0-32.0	0-2.0	15.0-17.0	30.0-32.0	6.0-8.0	25.0-27.0	65.0-67.0	4.0-6.0	15.0-17.0	20.0-22.0	35.0-37.0
		Sample Date	7/24/2023	7/24/2023	7/24/2023	7/20/2023	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023
Chemical Name	RCRA-BMRC_TCLP	Units																
Arsenic	5	mg/L	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
Barium	100	mg/L	**1.51**	**0.85**	**1.18**	**1.14**	**0.884**	**1.59**	**0.584 J**	**2.02 J**	**1.3 J**	**0.963**	**4.91**	**4.8**	**0.594**	**0.526**	**0.578**	**1.04**
Cadmium	1	mg/L	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U
Chromium	5	mg/L	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U
Lead	5	mg/L	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255	**5.56**	**0.648**	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U
Selenium	1	mg/L	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U
Silver	5	mg/L	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U
Mercury	0.2	mg/L	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 UJ	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the sampl
mg/L = milligrams per liter
Detections are boldfaced
Concentrations above RCRA-BMRC_TCLP are shaded gray

TABLE 4C
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - METALS
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-303	MR-304	MR-304	MR-304	SCPT-101	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
		Sample ID	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
		Depth (feet)	75.0-77.0	6.0-8.0	27.0-29.0	65.0-67.0	4.0-5.0	4.0-5.0	5.0-6.0	3.0-4.5	4.0-5.0	4.0-5.0
		Sample Date	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	RCRA-BMRC_TCLP	Units										
Arsenic	5	mg/L	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U	< 0.04 U
Barium	100	mg/L	**1.3**	**1.47**	**1.09**	**2.00**	**2.00**	**0.811**	**0.292**		**1.55**	**3.51**
Cadmium	1	mg/L	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U	< 0.0065 U
Chromium	5	mg/L	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U	< 0.0024 U
Lead	5	mg/L	< 0.0255 U	< 0.0255 U	< 0.0255 U	< 0.0255 U	**116**	< 0.0255 U	< 0.0255 U	< 0.0255 U	**0.282**	**0.794**
Selenium	1	mg/L	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U	< 0.076 U
Silver	5	mg/L	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U	< 0.0232 U
Mercury	0.2	mg/L	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U	< 0.000296 U

Notes:
J = The analyte was positively identified; the associated numerical value
UJ = The analyte was not detected above the sample method detection l
U = The analyte was analyzed for, but was not detected above the samp
mg/L = milligrams per liter
Detections are boldfaced
Concentrations above RCRA-BMRC_TCLP are shaded gray

TABLE 4D
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-101	MR-102	MR-102	MR-102	MR-105	MR-105	MR-105	MR-105	MR-105	MR-201	MR-201	MR-201	MR-201	MR-202	MR-202	MR-202	MR-202
		Sample ID	MR-101-20.0-22.0-20230619	MR-102_6.0-8.0_20230710	MR-102_20.0-22.0_20230710	MR-102_80.0-82.0_20230711	MR-105-6.0-8.0-20230726	MR-105-20.0-22.0-20230726	MR-105-35.0-37.0-20230726	MR-105-50.0-52.0-20230726	MR-105-65.0-67.0-20230726	MR-201-4.0-6.0-20230726	MR-201-12.0-14.0-20230726	MR-201-17.0-19.0-20230726	MR-201-30.0-32.0-20230726	MR-202-2.0-4.0-20230725	MR-202-8.0-10.0-20230725	MR-202-15.0-17.0-20230725	MR-202-30.0-32.0-20230725
		Depth (feet)	20.0-22.0	6.0-8.0	20.0-22.0	80.0-82.0	6.0-8.0	20.0-22.0	35.0-37.0	50.0-52.0	65.0-67.0	4.0-6.0	12.0-14.0	17.0-19.0	30.0-32.0	2.0-4.0	8.0-10.0	15.0-17.0	30.0-32.0
		Sample Date	6/19/2023	7/10/2023	7/10/2023	7/11/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/26/2023	7/25/2023	7/25/2023	7/25/2023	7/25/2023
Chemical Name	RCRA-BMRC_TCLP	Units																	
4,4'-DDD		mg/L	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U
4,4'-DDE		mg/L	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 UJ	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U
4,4'-DDT		mg/L	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	**0.00011 J**	< 0.000000319 UJ
Aldrin		mg/L	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 U	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ
alpha Endosulfan (Endosulfan I)		mg/L	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	**0.000488**	< 0.000000380 U
beta Endosulfan (Endosulfan II)		mg/L	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 UJ	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U
BHC, alpha		mg/L	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 UJ	< 0.000000255 U	< 0.000000255 UJ	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U
BHC, beta		mg/L	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 UJ	< 0.000000371 U	< 0.000000371 UJ	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U
BHC, delta		mg/L	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 UJ	< 0.000000320 U	< 0.000000320 UJ	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U
BHC, gamma (Lindane)	0.4	mg/L	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U
Chlordane (Technical)	0.03	mg/L	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U
Dieldrin		mg/L	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 UJ	< 0.000000271 U	< 0.000000271 UJ	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U
Endosulfan sulfate		mg/L	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ
Endrin	0.02	mg/L	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 U	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ
Endrin aldehyde		mg/L	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 U	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 UJ
Endrin ketone		mg/L	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 UJ	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U
Heptachlor	0.008	mg/L	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U
Heptachlor epoxide		mg/L	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 UJ	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U
Methoxychlor	10	mg/L	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U
Toxaphene	0.5	mg/L	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 UJ	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U
2,4-D	10	mg/L	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U
Silvex (2,4,5-TP)	1	mg/L	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4D
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-203	MR-203	MR-203	MR-204	MR-204	MR-205	MR-205	MR-205	MR-206	MR-206	MR-206	MR-207	MR-207	MR-208	MR-208	MR-208	MR-209
		Sample ID	MR-203-6.0-8.0-20230717	MR-203-10.0-14.0-20230717	MR-203-30.0-32.0-20230717	MR-204-6.0-8.0-20230711	MR-204-30.0.0-32.0-20230712	MR-205-6.0-7.0-20230713	MR-205-8.0-10.0-20230713	MR-205-15.0-17.0-20230713	MR-206-2.0-4.0-20230707	MR-206-12.0-14.0-20230707	MR-206-30.0-32.0-20230707	MR-207_9.0-10.0_20230710	MR-207_30-32_20230711	MR-208-6.0-8.0-20230724	MR-208-15.0-17.0-20230724	MR-208-30.0-32.0-20230724	MR-209-5.0-7.0-20230720
		Depth (feet)	6.0-8.0	10.0-14.0	30.0-32.0	6.0-8.0	30.0.0-32.0	6.0-7.0	8.0-10.0	15.0-17.0	2.0-4.0	12.0-14.0	30.0-32.0	9.0-10.0	30.0-32.0	6.0-8.0	15.0-17.0	30.0-32.0	5.0-7.0
		Sample Date	7/17/2023	7/17/2023	7/17/2023	7/11/2023	7/12/2023	7/13/2023	7/13/2023	7/13/2023	7/7/2023	7/7/2023	7/7/2023	7/10/2023	7/11/2023	7/24/2023	7/24/2023	7/24/2023	7/20/2023
Chemical Name	RCRA-BMRC_TCLP	Units																	
4,4'-DDD		mg/L	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U
4,4'-DDE		mg/L	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 UJ
4,4'-DDT		mg/L	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 U	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ
Aldrin		mg/L	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 U	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ
alpha Endosulfan (Endosulfan I)		mg/L	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U
beta Endosulfan (Endosulfan II)		mg/L	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U
BHC, alpha		mg/L	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 UJ
BHC, beta		mg/L	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U
BHC, delta		mg/L	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U
BHC, gamma (Lindane)	0.4	mg/L	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 UJ
Chlordane (Technical)	0.03	mg/L	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 U	**0.000039 J**	< 0.000000327 UJ	< 0.000000327 UJ
Dieldrin		mg/L	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	**0.00001 J**	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 UJ
Endosulfan sulfate		mg/L	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 U	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ
Endrin	0.02	mg/L	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 U	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ
Endrin aldehyde		mg/L	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 U	< 0.000000318 UJ	< 0.000000318 UJ	< 0.000000318 U
Endrin ketone		mg/L	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U
Heptachlor	0.008	mg/L	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U
Heptachlor epoxide		mg/L	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U
Methoxychlor	10	mg/L	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U
Toxaphene	0.5	mg/L	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U
2,4-D	10	mg/L	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U
Silvex (2,4,5-TP)	1	mg/L	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U

Notes:
J = The analyte was positively identified; the associated numerical value is t
UJ = The analyte was not detected above the sample method detection limit
U = The analyte was analyzed for, but was not detected above the sample m
UR = The sample non-detection results is rejected due to serious deficiencie
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4D
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	MR-209	MR-209	MR-210	MR-210	MR-210	MR-302	MR-302	MR-302	MR-303	MR-303	MR-303	MR-303	MR-304	MR-304	MR-304	SCPT-101
		Sample ID	MR-209-15.0-17.0-20230720	MR-209-30.0-32.0-20230720	MR-210-0-2.0-20230706	MR-210-15.0-17.0-20230706	MR-210-30.0-32.0-20230706	MR-302-6.0-8.0-20230823	MR-302-25.0-27.0-20230823	MR-302-65.0-67.0-20230823	MR-303-4.0-6.0-20230727	MR-303-15.0-17.0-20230727	MR-303-20.0-22.0-20230727	MR-303-35.0-37.0-20230727	MR-303-75.0-77.0-20230728	MR-304-6.0-8.0-20230811	MR-304-27.0-29.0-20230811	MR-304-65.0-67.0-20230814	SCPT-101-4.0-5.0-20230817
		Depth (feet)	15.0-17.0	30.0-32.0	0-2.0	15.0-17.0	30.0-32.0	6.0-8.0	25.0-27.0	65.0-67.0	4.0-6.0	15.0-17.0	20.0-22.0	35.0-37.0	75.0-77.0	6.0-8.0	27.0-29.0	65.0-67.0	4.0-5.0
		Sample Date	7/20/2023	7/20/2023	7/6/2023	7/6/2023	7/6/2023	8/23/2023	8/23/2023	8/23/2023	7/27/2023	7/27/2023	7/27/2023	7/27/2023	7/28/2023	8/11/2023	8/11/2023	8/14/2023	8/17/2023
Chemical Name	RCRA-BMRC_TCLP	Units																	
4,4'-DDD		mg/L	< 0.000000378 U	< 0.000000378 U	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UR	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 UJ	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U
4,4'-DDE		mg/L	< 0.000000234 U	< 0.000000234 U	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 UR	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U
4,4'-DDT		mg/L	< 0.000000319 U	< 0.000000319 U	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UR	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 UJ	< 0.000000319 U	< 0.000000319 U	< 0.000000319 U	< 0.000000319 U	< 0.000000319 U
Aldrin		mg/L	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UR	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 UJ	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U
alpha Endosulfan (Endosulfan I)		mg/L	< 0.000000380 U	< 0.000000380 U	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UR	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 UJ	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U
beta Endosulfan (Endosulfan II)		mg/L	< 0.000000254 U	< 0.000000254 U	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 UR	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U
BHC, alpha		mg/L	< 0.000000255 UJ	< 0.000000255 UJ	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UR	< 0.000000255 UJ	< 0.000000255 UJ	< 0.000000255 UJ	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U
BHC, beta		mg/L	< 0.000000371 U	< 0.000000371 U	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 UR	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U
BHC, delta		mg/L	< 0.000000320 U	< 0.000000320 U	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 UR	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U
BHC, gamma (Lindane)	0.4	mg/L	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UR	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 UJ	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U
Chlordane (Technical)	0.03	mg/L	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UR	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 UJ	< 0.000000327 U	< 0.000000327 U	**0.000273**	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U
Dieldrin		mg/L	< 0.000000271 U	< 0.000000271 U	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 UR	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U
Endosulfan sulfate		mg/L	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UR	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 U	< 0.000000138 U	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 UJ	< 0.000000138 U	< 0.000000138 U	< 0.000000138 U	< 0.000000138 U
Endrin	0.02	mg/L	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UR	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 UJ	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U
Endrin aldehyde		mg/L	< 0.000000318 U	< 0.000000318 U	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 UR	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U
Endrin ketone		mg/L	< 0.000000203 U	< 0.000000203 U	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 UR	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U
Heptachlor	0.008	mg/L	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UR	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 UJ	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U
Heptachlor epoxide		mg/L	< 0.000000302 U	< 0.000000302 U	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 UR	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U
Methoxychlor	10	mg/L	< 0.000000343 U	< 0.000000343 U	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 UR	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 UJ	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U
Toxaphene	0.5	mg/L	< 0.0000237 U	< 0.0000237 U	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 UR	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U
2,4-D	10	mg/L	< 0.009 U	< 0.009 U	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U
Silvex (2,4,5-TP)	1	mg/L	< 0.009 U	< 0.009 U	< 0.009 UR	< 0.009 UR	< 0.009 UR	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U

Notes:
J = The analyte was positively identified; the associated numerical value is t
UJ = The analyte was not detected above the sample method detection limit
U = The analyte was analyzed for, but was not detected above the sample m
UR = The sample non-detection results is rejected due to serious deficiencie
mg/L = milligrams per liter
Detections are boldfaced

TABLE 4D
TOXICITY CHARACTERISTIC LEACHING PROCEDURE RESULTS - PESTICIDES AND HERBICIDES
OH-007 SUPPLEMENTAL PRE-DESIGN INVESTIGATION
FORCED MAIN ALIGNMENT AND DSNY PROPERTY
BROOKLYN, NEW YORK

		Location ID	SCPT-102	SCPT-108	SCPT-109	SCPT-110	SCPT-111
		Sample ID	SCPT-102-4.0-5.0-20230818	SCPT-108-5.0-6.0-20230818	SCPT-109-3.0-4.5-20230817	SCPT-110-4.0-5.0-20230821	SCPT-111-4.0-5.0-20230821
		Depth (feet)	4.0-5.0	5.0-6.0	3.0-4.5	4.0-5.0	4.0-5.0
		Sample Date	8/18/2023	8/18/2023	8/17/2023	8/21/2023	8/21/2023
Chemical Name	RCRA-BMRC_TCLP	Units					
4,4'-DDD		mg/L	< 0.000000378 U	**0.000849**	< 0.000000378 U	< 0.000000378 U	< 0.000000378 U
4,4'-DDE		mg/L	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U	< 0.000000234 U
4,4'-DDT		mg/L		**0.000353**	< 0.000000319 U	< 0.000000319 U	< 0.000000319 U
Aldrin		mg/L	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U	< 0.000000527 U
alpha Endosulfan (Endosulfan I)		mg/L	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U	< 0.000000380 U
beta Endosulfan (Endosulfan II)		mg/L	< 0.000000254 U	**0.000745**	< 0.000000254 U	< 0.000000254 U	< 0.000000254 U
BHC, alpha		mg/L	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U	< 0.000000255 U
BHC, beta		mg/L	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U	< 0.000000371 U
BHC, delta		mg/L	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U	< 0.000000320 U
BHC, gamma (Lindane)	0.4	mg/L	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U	< 0.000000241 U
Chlordane (Technical)	0.03	mg/L	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U	< 0.000000327 U
Dieldrin		mg/L	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	< 0.000000271 U	**0.000022**
Endosulfan sulfate		mg/L	< 0.000000138 U	< 0.000000138 U	< 0.000000138 U	< 0.000000138 U	< 0.000000138 U
Endrin	0.02	mg/L	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U	< 0.000000229 U
Endrin aldehyde		mg/L	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U	< 0.000000318 U
Endrin ketone		mg/L	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U	< 0.000000203 U
Heptachlor	0.008	mg/L	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U	< 0.000000563 U
Heptachlor epoxide		mg/L	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U	< 0.000000302 U
Methoxychlor	10	mg/L	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U	< 0.000000343 U
Toxaphene	0.5	mg/L	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U	< 0.0000237 U
2,4-D	10	mg/L	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U
Silvex (2,4,5-TP)	1	mg/L	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U	< 0.009 U

Notes:
J = The analyte was positively identified; the associated numerical value is t
UJ = The analyte was not detected above the sample method detection limit
U = The analyte was analyzed for, but was not detected above the sample m
UR = The sample non-detection results is rejected due to serious deficiencie
mg/L = milligrams per liter
Detections are boldfaced

Appendix A: Sanborn Maps and Historic Figures

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SUPPLEMENTAL_PDI_REPORT_OH-007_FINAL

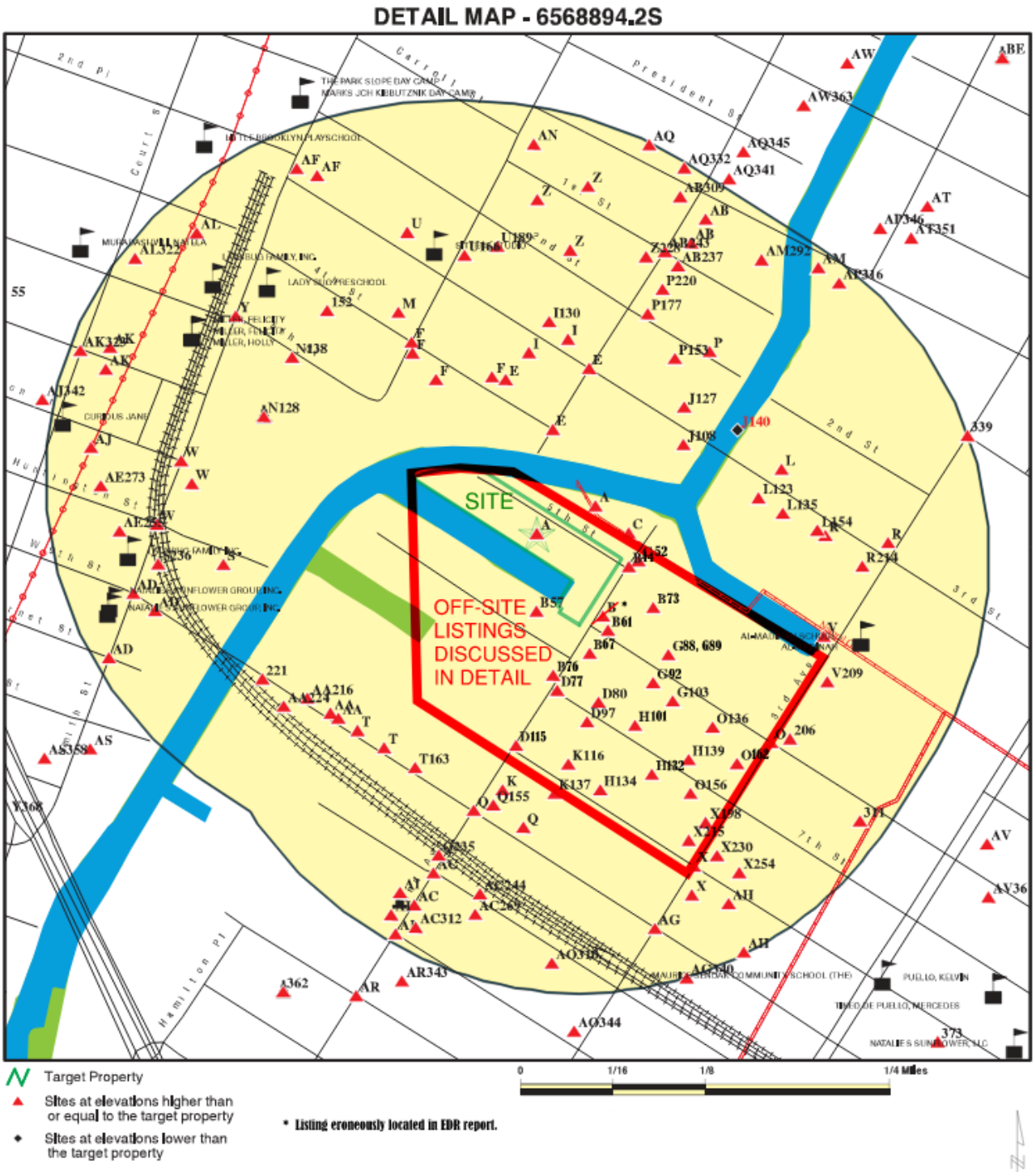

Figure 4-1 Off-site listings discussed in detail

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CSO-GC-SFS DES-R-0H Phase I ESA-Draft-20220408

1/6/2022

Author: tchaturgan Path: V:\Ramsey\NYCDEP\Gowanus\PDI\Owls_Head\Additional_PDI\Fig_2-1_Locations_of_potential_Envt_Concern.mxd

Legend

Phase I ESA Findings

- Retort Cylinders
- Oil Tank
- J.W. Masury & Son Dry Color works (1886)
- David E. Kennedy inc. Limestone and Asbestos Warehouse (1950)
  Phoenix Asbestos Disposal (1994)
  Spartan Dismantling (1995-2004)
- Eppinger and Russel Creosote Works (1886 Sanborn)
- Chemical Storage Shed (1904 Sanborn)
- Unidentified Storage Tank
- Potential Area of UST and Free Product Identified In Soil Boring By Langan Engineering in 2015

GOWANUS CANAL

5th St.

2nd Ave.

6th STREET BASIN

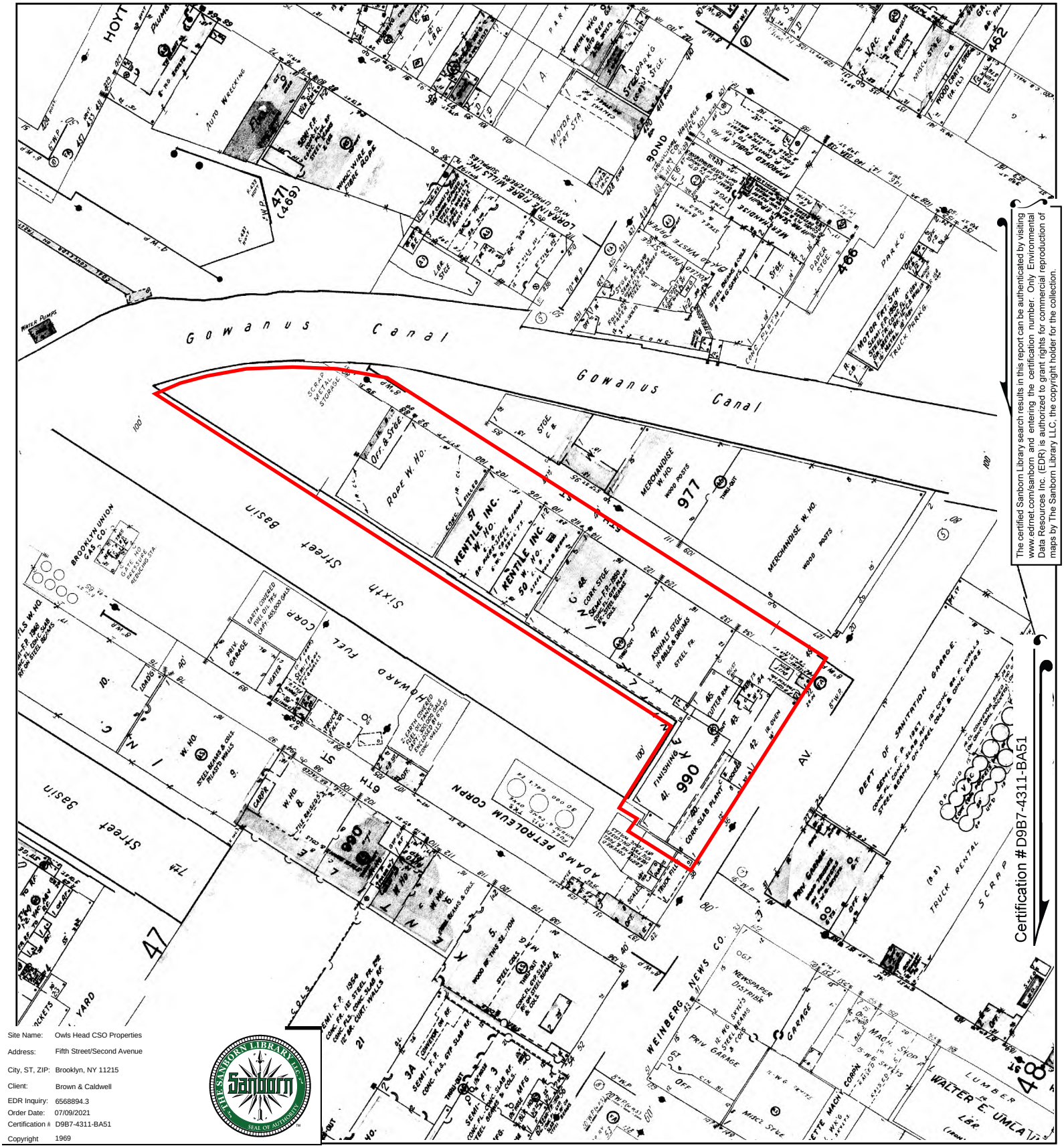
N

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, an

Brown AND Caldwell

FIGURE 2
LOCATIONS OF POTENTIAL ENVIRONMENTAL CONCERNS
GOWANUS CANAL CSO FACILITY - OH-007
BROOKLYN, NEW YORK

0 20 40 60
Feet



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Site Name:	Owls Head CSO Properties
Address:	Fifth Street/Second Avenue
City, ST, ZIP:	Brooklyn, NY 11215
Client:	Brown & Caldwell
EDR Inquiry:	6568894.3
Order Date:	07/09/2021
Certification #:	D9B7-4311-BA51
Copyright	1969

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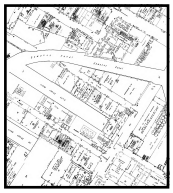
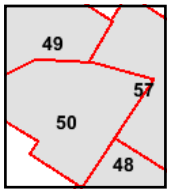
Outlined areas indicate map sheets within the collection.





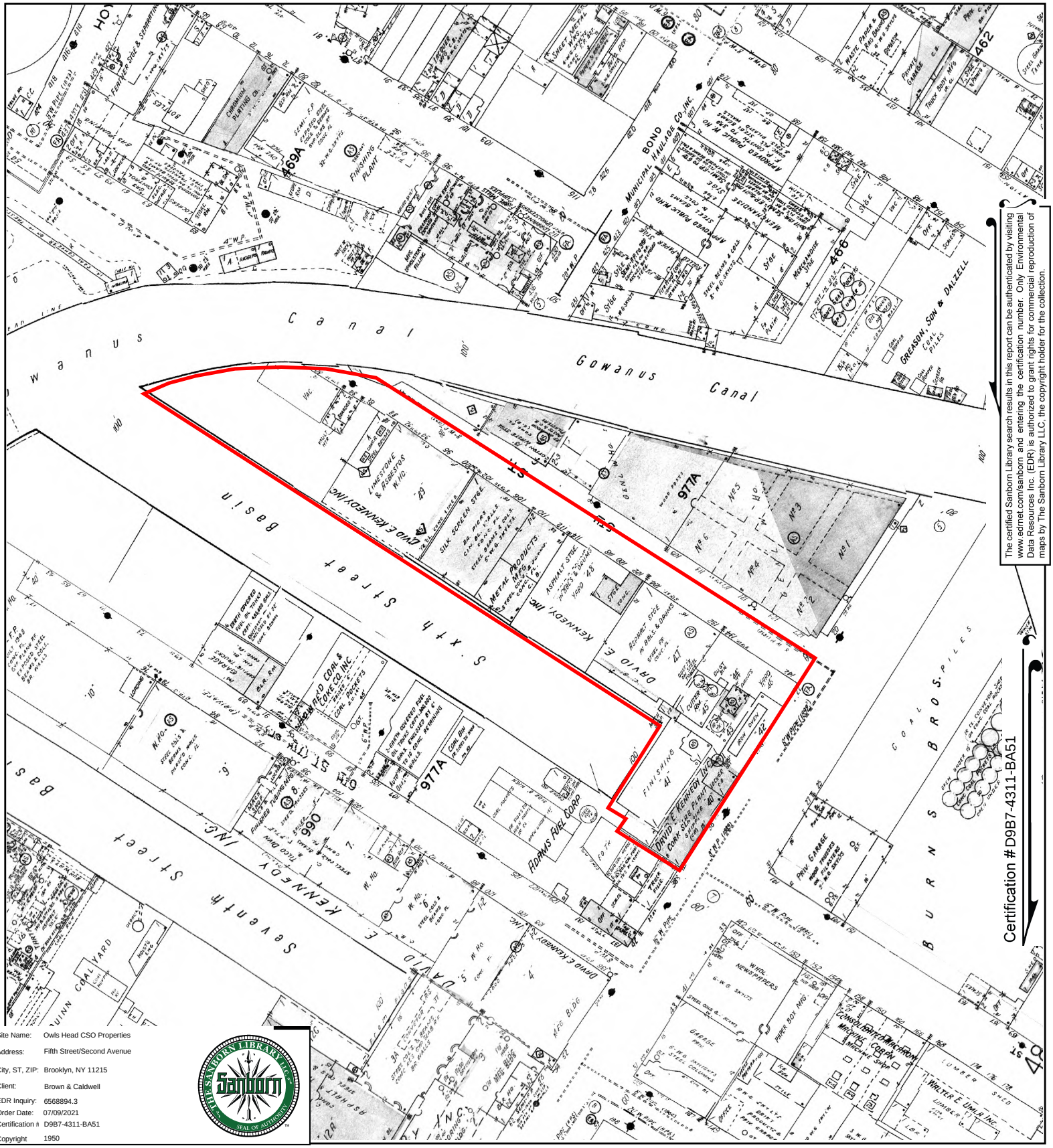
Volume 1, Sheet 50
Volume 1, Sheet 49
Volume 1, Sheet 48
Volume 1, Sheet 57

0 Feet 150 300 600

N

Certified Sanborn® Map

1950



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City, ST, ZIP:	Brooklyn, NY 11215
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EDR Inquiry:	6568894.3
Order Date:	07/09/2021
Certification #:	D9B7-4311-BA51
Copyright	1950

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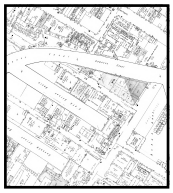

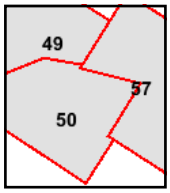

Volume 1, Sheet 57
Volume 1, Sheet 50
Volume 1, Sheet 49

0 Feet 150 300 600

N

Appendix B: Soil Boring Logs

Use of contents on this sheet is subject to the limitations specified at the end of this document.
SUPPLEMENTAL_PDI_REPORT_OH-007_FINAL

APPENDIX B

MRCE 2023 BORING LOGS

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-201U
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 6.66
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:00					**	**0.3**	DRILLED	**Asphalt from 0' to
07-26-23							AHEAD	0.3'.
Wednesday	1HA	2.0	HAND	Brown black fine to coarse sand, some gravel,			4"	Hand auger from 0' to
Sunny		4.0	AUGER	silt (Fill) (SM)				6'.
86°F	2HA	4.0	HAND	Black fine to coarse sand, some silt, gravel		**5**		
		6.0	AUGER	(Fill) (SM)				
	3D	6.0	WH-1	Black fine to coarse sand, some gravel, silt				
		8.0	1-1	(Fill) (SM)	**F**			
	4D	8.0	2-1	Black fine to coarse sand, trace gravel, silt,				REC=5"
		10.0	5-5	organic clay pockets (Fill) (SP-SM)		**10**		
	5D	10.0	6-2	Black fine to coarse sand, some silt, trace				
		12.0	2-1	gravel, organic clay pockets (Fill) (SM)				
	6D	12.0	WH/12"	Black fine to coarse sand, some silt, trace				
		14.0	1-1	gravel, organic clay pockets, wood (Fill) (SM)		**14**		
						15	↓	
	7U	15.0	PUSH=24"	Medium gray organic silty clay, trace gravel,				WC=96, pp=0.5,
		17.0	REC=12"	fine sand, shells (OH)	**O**			TV=0.25, 0.35
	8D	17.0	WH-1	Gray black organic silty clay, some peat pocket				WC=97
		19.0	2-1	(OH&Pt)		**19**		
						20		
	9D	20.0	5-6	Gray fine sandy silt, trace mica (ML)				
		22.0	5-4					
					C			
						25		
	10D	25.0	2-1	Gray black clayey fine sand (SC)				
		27.0	2-2					
						28.5		
						30		
	11D	30.0	8-10	Gray brown silty fine sand, some layers of fine				
		32.0	10-11	to coarse sand, some gravel (SM&SP-SM)				
						35		
	12D	35.0	5-5	Gray brown fine sand, some silt, trace mica				
		37.0	7-9	(SM)				
						40		WC=Water Content
	13D	40.0	4-4	Do 12D (SM)	**S1**			in percent of dry
		42.0	6-6					weight.
								pp=Pocket
						45		Penetrometer
	14D	45.0	2-2	Do 12D (SM)				Unconfined Compres-
		47.0	4-7					sive Strength in tsf.
								TV=Torvane Shear
						50		Strength in tsf.
	15D	50.0	17-10	Gray brown fine to coarse sand, some silt,				
12:00		52.0	4-1	trace gravel (SM)		**52**		End of Boring at 52'.

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

built on firm foundations

BORING NO. MR-201U
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. 6.66
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	X YES		NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	15
SKID		HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO	
OTHER	CME-55 - TRACK								

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	FIXED PISTON
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED X YES NO

DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED X YES NO

TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED YES X NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	1
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER RYAN WARDEN **HELPERS** GARY BULWIN
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-26-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-202
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. +8.07
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:00					**	**0.3**	DRILLED	**Asphalt from 0' to
07-25-23							AHEAD	0.3'.
Tuesday	1HA	2.0	HAND	Black fine to coarse sand, some gravel, trace			4"	Hand auger from 0' to
Sunny		4.0	AUGER	silt (Fill) (SP-SM)				6'.
85°F	2HA	4.0	HAND	Black fine to coarse sand, some gravel, trace		**5**		1HA-2HA: Odor.
		6.0	AUGER	silt (Fill) (SP-SM)				
	3D	6.0	2-2	Black gray fine to coarse sand, trace clay				
		8.0	1-2	pockets, silt, gravel (Fill) (SP-SM)	**F**			
	4D	8.0	8-3	Gray brown sandy silt, trace gravel (Fill) (ML)				
		10.0	1-2			**10**		
	5D	10.0	WH-2	Do 4D (Fill) (ML)				
		12.0	1-1					
	6D	12.0	2-2	Do 4D (Fill) (ML)				
		14.0	2-2			**14**		
						15	▼	
	7D	15.0	2-2	Soft black organic silty clay, some peat (OH&Pt)				Used 3" split spoon.
		17.0	3-3		**O**			
	8UNR	17.0	PUSH=24"	No recovery				
		19.0	REC=0"					
						19.5		
	9D	20.0	5-5	Gray fine to medium sand, some silt, trace silty				
		22.0	7-9	clay seams (SM)				
						25		
	10D	25.0	2-2	Gray fine sandy silt, trace silty clay seams (ML)				
		27.0	2-3		**C**			
						30		
	11D	30.0	3-1	Interlayered gray fine sand, some silt & clayey				
		32.0	2-7	silt, trace roots (SM&ML)				
						33.5		
						35		
	12D	35.0	10-13	Brown silty fine sand, trace gravel (SM)	**S1**			
		37.0	16-13					
						38.5		
						40		
	13D	40.0	7-12	Gray fine to coarse sand, some silt, gravel,				REC=4"
		42.0	17-25	trace clay (SM)				
						45		
	14D	45.0	29-21	Brown fine to coarse sand, some gravel, trace	**S2**			
		47.0	20-15	silt (SP-SM)				
						50		
	15D	50.0	17-16	Top 9": Brn fine to medium sand, tr silt (SP-SM)				
11:15		52.0	18-20	Bot 6": Red brn fine sand, some silt (SM)		**52**		End of Boring at 52'.

MRCE
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14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-202
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
LOCATION BROOKLYN, NEW YORK
BORING LOCATION SEE BORING LOCATION PLAN

FILE NO. 14070
SURFACE ELEV. +8.07
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM 0	TO 15		
SKID		HYDRAULIC	X	DIA., IN.	DEPTH, FT. FROM	TO		
BARGE		OTHER		DIA., IN.	DEPTH, FT. FROM	TO		
OTHER	CME-75							

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED X YES NO
DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED X YES NO
TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED YES X NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING, CO., INC.
DRILLER RYAN WARDEN **HELPERS** GARY BULWIN
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-25-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

MRCE
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Mueser Rutledge Consulting Engineers
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BORING LOG

BORING NO. MR-203U
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 8.56
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
10:20					**	0.3	DRILLED	**Concrete slab from
07-17-23							AHEAD	0' to 0.3'.
Monday	1HA	2.0	HAND	Brown fine to coarse sand, some silt, gravel,			4"	Hand auger from 0' to
Sunny		4.0	AUGER	trace brick (Fill) (SM)				6'.
86°F	2HA	4.0	HAND	Do 1HA (Fill) (SM)		5		
		6.0	AUGER					
	3D	6.0	10-6	Black gray silty fine to medium sand, trace				
		8.0	4-4	coarse sand (Fill) (SM)				
	4D	8.0	4-2	Gray fine to coarse sand, some silt, gravel	F			REC=4"
		10.0	1-1	(Fill) (SP-SM)		10		
	5D	10.0	WH-1	Gray silt, some fine to medium sand, trace				REC=4"
		12.0	2-2	coarse sand, gravel (Fill) (ML)				
	6D	12.0	3-1	Gray silty fine to medium sand, trace gravel,				
		14.0	1-2	coarse sand (Fill) (SM)				
						15		
	7D	15.0	1-2	Top 12":Gray f-c sa silt, tr gravel, cl pkts(Fill)(ML)		16		
		17.0	4-4	Bot 12": Peat (Pt)	O			
	8U	17.0	PUSH=24"	Top 12": Brn gravel, sm peat, tr c-f sa, si, cl (GM)		18		8U Top: WC=33
		19.0	REC=23"	Bot 11": Stiff gray clayey silt, tr fine sand (ML)				8U Bot: WC=32,
	9D	19.0	1-2	Brown fine sandy silt, some gray silty clay		20		pp=1.25, TV=0.55
		21.0	3-6	seams (ML&CL)	C			9D: WC=24
						23.5		
						25		
	10D	25.0	WH-6	Gray silty fine to medium sand, trace gravel,				
		27.0	5-8	trace clay pockets (SM)				
						30		
	11D	30.0	9-8	Brown fine to medium sand, some silt, trace	S1			
		32.0	8-8	coarse sand, gravel (SM)				
						35		
	12D	35.0	9-9	Brown fine to coarse sand, trace gravel, silt				
		37.0	7-24	(SP-SM)				WC=Water Content
								in percent of dry
						38.5		weight.
						40		
	13D	40.0	7-12	Brown fine to coarse sand, some gravel, silt				REC=4"
		42.0	30-35	(SM)				
								pp=Pocket
								Penetrometer
						45		Unconfined Compres-
	14D	45.0	4-4	Red brown silty fine to medium sand, trace	S2			sive Strength in tsf.
		47.0	8-9	clay (SM)				
								TV=Torvane Shear
								Strength in tsf.
						50		
	15D	50.0	12-15	Brown fine to medium sand, some gravel,				
11:15		52.0	14-17	silt, trace coarse sand (SM)		52		End of Boring at 52'.

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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-203U
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. 8.56
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	[X] YES	[ ] NO		
TRUCK	CME-75	MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM 0	TO 42		
SKID		HYDRAULIC	X	DIA., IN.	DEPTH, FT. FROM	TO		
BARGE		OTHER		DIA., IN.	DEPTH, FT. FROM	TO		
OTHER								

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	FIXED PISTON
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO
DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO
TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** MATT MICHELOTTI
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-18-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

MRCE
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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-204U
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 9.58
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
12:30					**	0.3	DRILLED	**Concrete slab from
07-11-23							AHEAD	0' to 0.3'.
Tuesday	1HA	2.0	HAND	Brown fine to coarse sand, some silt, trace			4"	Hand auger from 0' to
Sunny		4.0	AUGER	gravel (Fill) (SM)				5'.
89°F	2HA	4.0	HAND	Brown fine to coarse sandy gravel, trace silt		5		
		5.0	AUGER	(Fill) (GP-GM)				
	3D	5.0	2-4	Brown black fine to coarse sand, some gravel,				REC=6"
		7.0	3-2	silt (Fill) (SP-SM)				
	4D	7.0	7-3	Black gray fine to coarse sand, some gravel,	F			REC=4"
		9.0	5-21	silt (Fill) (SP-SM)		10		
	5D	10.0	2-2	Brown silty fine to medium sand, some gravel,				REC=3"
		12.0	1-2	trace coarse sand (Fill) (SM)				
	6NR	12.0	1-1	No recovery				Piece of gravel in
		14.0	5-3					spoon tip.
						15	↓	
	7D	15.0	WH/12"	Top 10":Brn gry silt, sm f sa, tr m sa, gvl(Fill)(ML)		16		
		17.0		Bot 4": Black Peat (Pt)	O			7D Bot: WC=225
	8U	17.0	PUSH=24"	Top 12.5": Brn f-m sand, sm silt, tr gravel (SM)				8U Top: WC=19
		19.0	REC=15.5"	Bot 3": Brown gravelly peat, trace vegetation (Pt)				8U Bot: WC=309,
	9D	19.0	2-2	Black & brown silty fine sand, some peat		20		pp=2.0, TV=0.15
		21.0	3-11	pockets, trace gravel (SM&Pt)		21		
					C			
						25		
	10D	25.0	2-5	Top 7": Brown gray silty fine sand, trace gravel,		26		
		27.0	5-12	clay (SM)				
				Bot 3": Brown silty fine to medium sand, trace				
				coarse sand (SM)				
					S1	30		
	11D	30.0	7-14	Brown fine to coarse sand, some silt, trace				
		32.0	12-11	gravel (SP-SM)				
						33.5		
						35		
	12D	35.0	16-16	Brown fine to coarse sand, some gravel, trace				
		36.3	50/3"	silt (SP-SM)				WC=Water Content
								in percent of dry
								weight.
						40		
	13D	40.0	3-15	Gray gravel, some fine to coarse sand, trace				REC=6"
		42.0	26-20	silt (GP-GM)				
					S2			pp=Pocket
								Penetrometer
						45		Unconfined Compres-
	14D	45.0	5-17	Brown fine to coarse sand, some gravel, silt				sive Strength in tsf.
		47.0	16-28	clay (SM)				
								TV=Torvane Shear
								Strength in tsf.
						50		
	15D	50.0	8-16	Brown fine to coarse sand, some gravel, silt				
13:30		52.0	14-11	(SP-SM)		52		End of Boring at 52'.

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
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New York, NY 10122

BORING NO. MR-204U
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. 9.58
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED		[X] YES [ ] NO			
TRUCK	CME-75	MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	15
SKID		HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO	
OTHER									

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	FIXED PISTON
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO

DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO

TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	47	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	1
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	5'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** MATT MICHELOTTI
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-12-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-205UP
SHEET 1 OF 4
FILE NO. 14070
SURFACE ELEV. 9.88
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
09:00					**	**0.3**	DRILLED	**Concrete slab from
07-13-23							AHEAD	0' to 0.3'.
Thursday	1HA	2.0	HAND	Brown silty fine to medium sand, trace gravel			4"	Hand auger from 0' to
Sunny		3.0	AUGER	(Fill) (SM)				6'.
89°F	2HA	4.0	HAND	Do 1HA (Fill) (SM)		**5**		
		6.0	AUGER					
	3D	6.0	6-5	Brown fine to medium sand, some silt, trace				Sample moist.
		8.0	2-2	gravel (Fill) (SM)	F			
	4D	8.0	3-2	Gray brown fine to medium sand, some silt,				
		10.0	2-3	trace gravel (Fill) (SM)		**10**		
	5D	10.0	2	Brown gray fine to medium sandy silt, trace				
		12.0	WH/12"-1	gravel, coarse sand, clay (Fill) (ML)				
	6D	12.0	1-1	Brown silty fine to coarse sand, trace gravel				REC=2"
		14.0	5-4	(Fill) (SM)		**14**		
						15	↓	
	7D	15.0	1-2	Black peat (Pt)				Odor.
		17.0	2-3		O			
	8U	17.0	PUSH=24"	Top 15": Brn peat, sm organic silty clay (OH&Pt)				8U Top: WC=77
		19.0	REC=14"	Bot 3": Stiff brown to light brown clayey silt, trace		**18.3**		8U Bot: WC=34
				fine sand, peat pockets (CL-ML)		**20**		
	9D	20.0	WH-2	Gray fine sand, some silt (SM)	C			
		22.0	7-12			**22**		
						25		
	10D	25.0	9-6	Brown silty fine to medium sand, trace gravel,	S1			
		27.0	6-11	coarse sand (SM)				
						28.5		
						30		
	11D	30.0	12-16	Brown gravel, trace fine to coarse sand, silt				REC=1"
		32.0	16-19	(GP)				Piece of gravel in
								spoon tip.
								Rig chatter at 33'.
						35		
	12D	35.0	11-22	Brown fine to coarse sand, some gravel, silt				
		37.0	18-23	(SM)				
								WC=Water Content
						40		in percent of dry
	13D	40.0	15-22	Red brown silty fine to medium sand, some	S2			weight.
		42.0	22-30	gravel, trace coarse sand (SM)				
								Rig chatter at 42.5'.
						45		pp=Pocket
	14D	45.0	14-20	Brown gravelly fine to coarse sand, trace silt				Penetrometer
		47.0	16-13	(SP-SM)				Unconfined Compres-
								sive Strength in tsf.
						50		TV=Torvane Shear
	15D	50.0	13-17	Brown silty fine to medium sand, some gravel,				Strength in tsf.
13:00		52.0	16-17	coarse sand (SM)		**52**		End of Boring at 52'.

MRCE
built on firm foundations

PIEZOMETER RECORD

PIEZOMETER OR BORING NO. MR-20SP

PROJECT: GOWANUS CSO OH-07

SHEET 2 OF 4

LOCATION: BROOKLYN, NY

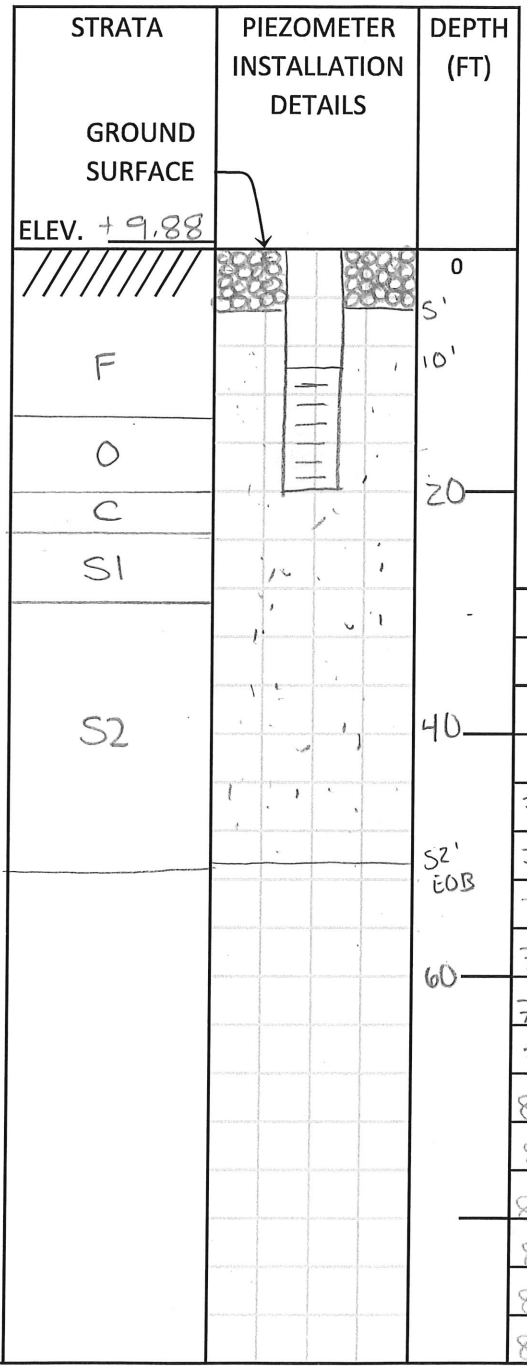
FILE NO. 14070

PIEZOMETER LOCATION: SEE BLP

INSTALLATION DATE 7/17/23

☐ SEE SKETCH ON BACK

RES ENGR. E. MILLS



PIEZOMETER TYPE SLOTTED PVC

INTAKE POINT

depth to bottom, ft = 52

depth to top, ft = 5

length, ft = 47 = L

diameter, in = 2, ft = 0.167 = 2R

STANDPIPE/RISER

elevation of rim, ft = +9.51

diameter, in = 2, ft = 0.167 = 2r

READING TIME		DEPTH – RIM TO WATER	ELEVATION OF WATER	REMARKS
DATE	CLOCK			
7/18/23	1220	5'6"	4.01	
7/21/23	1330	5'7"	3.92	
7/24/23	0830	5'10"	3.68	
7/25/23	0800	5'10"	3.68	
7/26/23	1300	5'10"	3.68	
7/27/23	0830	5'10"	3.68	
7/28/23	0550	5'10"	3.68	
7/31/23	0916	6'	3.51	
8/9/23	1150	6'6"	3.38	
8/10/23	1215	6'5"	3.46	
8/11/23	0755	6'5"	3.46	
8/14/23	1251	6'4"	3.54	
8/17/23	1321	6'4"	3.54	
8/21/23	1335	6'1"	3.88	

SAND BENTONITE

GRAVEL GROUT

GROUND SURFACE ELEV. +9.88

PIEZOMETER NO. MR-20SP

MRCE
built on firm foundations

PIEZOMETER RECORD

PIEZOMETER OR BORING NO. MB-205P

PROJECT: GOWANUS CANAL CSO OH-7

SHEET 3 OF 4

LOCATION: BROOKLYN, NY

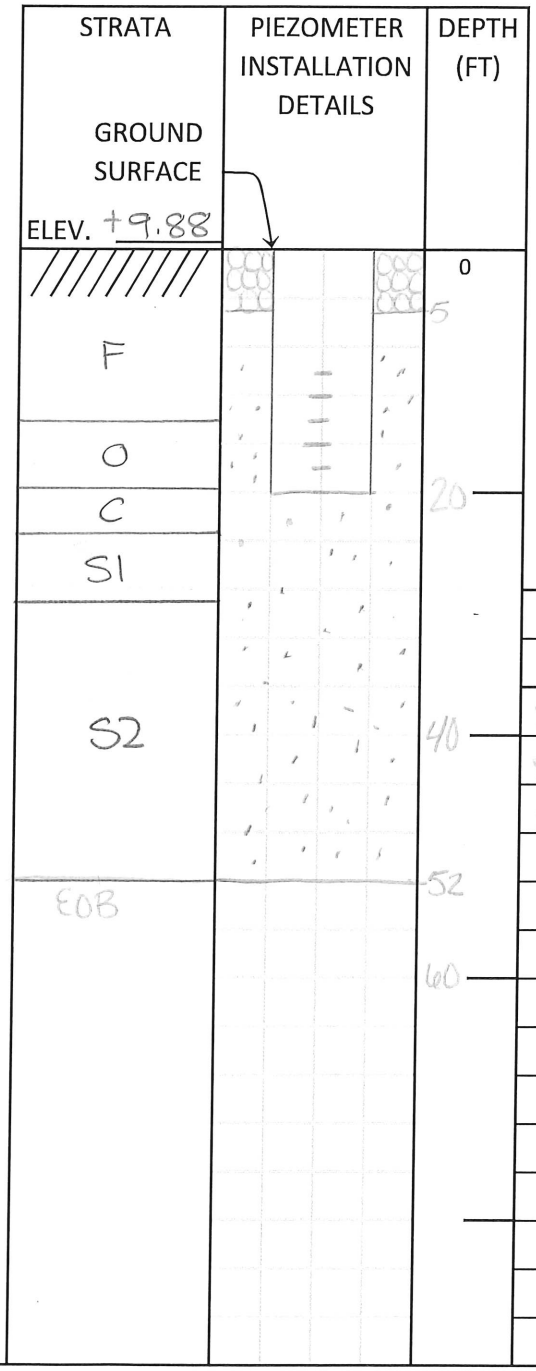
FILE NO. 14070

PIEZOMETER LOCATION: SEE BLP

INSTALLATION DATE 7/17/23

☐ SEE SKETCH ON BACK

RES ENGR. E. MILLS



PIEZOMETER TYPE SLOTTED PVC

INTAKE POINT

depth to bottom, ft = 52

depth to top, ft = 5

length, ft = 47 = L

diameter, in = 2 , ft = 0.167 = 2R

STANDPIPE/RISER

elevation of rim, ft = +9.51

diameter, in = 2 , ft = 0.167 = 2r

READING TIME		DEPTH – RIM TO WATER	ELEVATION OF WATER	REMARKS
DATE	CLOCK			
8/23/23	1330	6'4"	3.54	
8/28/23	1400	6'4"	3.54	
8/29/23	1208	6'2"	3.71	

SAND BENTONITE

GRAVEL GROUT

GROUND SURFACE ELEV. +9.88

PIEZOMETER NO. MB-205P

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

built on firm foundations

BORING NO. MR-205UP
SHEET 4 **OF** 4

PROJECT GOWANUS CANAL CSO OH-007
LOCATION BROOKLYN, NEW YORK
BORING LOCATION SEE BORING LOCATION PLAN

FILE NO. 14070
SURFACE ELEV. 9.88
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	[X] YES [ ] NO			
TRUCK	CME-75	MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM	0	TO	15
SKID		HYDRAULIC	X	DIA., IN.	DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.	DEPTH, FT. FROM		TO	
OTHER								

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	FIXED PISTON
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO

DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO

TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					SEE PIEZOMETER SHEET NO. 2.

PIEZOMETER INSTALLED [X] YES [ ] NO **SKETCH SHOWN ON** SEE SHEET NO. 2

STANDPIPE:	TYPE	PVC	ID, IN.		LENGTH, FT.		TOP ELEV.	
INTAKE ELEMENT:	TYPE	SLOTTED PVC	OD, IN.	2	LENGTH, FT.	20	TIP ELEV.	
FILTER:	MATERIAL	FILTER SAND	OD, IN.		LENGTH, FT.		BOT. ELEV.	

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	52	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	1
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** MATT MICHELOTTI
REMARKS PIEZOMETER INSTALLED.
RESIDENT ENGINEER EMMA MILLS **DATE** 07-13-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

BORING LOG

MRCE
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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-206
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 12.52
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
10:30					**	0.3	DRILLED	**Concrete slab from
07-07-23							AHEAD	0' to 0.3'.
Friday	1HA	2.0	HAND	Brown silty fine to medium sand, trace gravel,			4"	Hand auger from 0.3' to
Sunny		3.0	AUGER	glass (Fill) (SM)				6'.
86°F	2HA	4.0	HAND	Brown fine to coarse sand, some silt, trace		5		
		6.0	AUGER	gravel (Fill) (SM)	F			
	3D	6.0	1-1	Brown fine to coarse sand, some gravel, trace				Sample moist.
		8.0	3-3	silt (Fill) (SP-SM)				
	4D	8.0	6-3	Brown silty fine sand, trace medium sand				Gasoline odor.
		10.0	2-1	(Fill) (SM)		10		
	5D	10.0	1-3	Top 5": Brown sandy silt (ML)	C	11		
		12.0	4-3	Bot 12": Brown silty fine to medium sand (SM)				
	6D	12.0	5-6	Brown silty fine sand, trace medium sand,				
		14.0	8-8	gravel (SM)				
						15		
	7D	15.0	5-6	Brown silty fine to medium sand (SM)				
		17.0	6-8					
						20		
	8D	20.0	7-8	Brown fine to medium sand, some silt, trace				
		22.0	12-14	coarse sand, gravel (SM)				
						25		
	9D	25.0	10-23	Brown fine to medium sand, some silt, trace				
		27.0	37-20	gravel (SM)				
						30		
	10D	30.0	9-13	Brown fine to coarse sand, some silt, trace				Used 3" spoon.
13:00		32.0	17-14	gravel (SM)	S1			
09:00								
07-10-23								
Monday						35		
Sunny	11D	35.0	13-13	Brown fine to coarse sand, some silt, trace				
75°F		37.0	14-13	gravel (SM)				
						40		
	12D	40.0	6-6	Brown fine to coarse sand, trace silt, gravel				
		42.0	8-7	(SP-SM)				
						45		
	13D	45.0	7-8	Brown fine to medium sand, trace silt, coarse				
		47.0	10-10	sand, gravel (SP-SM)				
						50		
	14D	50.0	7-10	Brown fine to medium sand, trace silt, gravel,				
10:00		52.0	10-11	coarse sand (SP-SM)		52		End of Boring at 52'.

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14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-206
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. 12.52
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED		[X] YES [ ] NO			
TRUCK	CME-75	MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	20
SKID		HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO	
OTHER									

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO
DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO
TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** MATT MICHELOTTI
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-10-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

BORING LOG

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

built on firm foundations

BORING NO. MR-207
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 14.23
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
11:40					**	0.3	DRILLED	**Concrete slab from
07-10-23							AHEAD	0' to 0.3'.
Monday	1HA	2.0	HAND	Brown fine to coarse sand, some silt, gravel			4"	Hand auger from 0.3' to
Sunny		4.0	AUGER	(Fill) (SM)				6'.
75°F						5		
	2HA	5.0	HAND	Brown fine to medium sand, some silt, trace				
		6.0	AUGER	gravel (Fill) (SM)				
	3D	6.0	3-4	Brown fine to medium sand, some silt	F			
		8.0	3-3	(Fill) (SM)				Gasoline odor.
	4D	8.0	4-3	Top 7": Brn f-m sand, sm gvl, tr silt (Fill) (SP-SM)		10		
		10.0	3-3	Bot 12": Blk fine sand, sm silt, tr gravel (Fill) (SM)				
	5D	10.0	3-2	Brown silty fine sand, trace medium sand				
		12.0	2-4	(Fill) (SM)				
	6D	12.0	4-4	Brown fine to medium sand, some silt, trace				
		14.0	5-4	gravel (Fill) (SM)		15		
	7D	15.0	4-4	Top 7": Brown fine to medium sand, some silt,	***	16		***Clay from 15' to 16'.
		17.0	4-6	trace clay (SM)				
13:30				Mid 6": Gray & brown fine sandy clay layer (CL)				7D Mid: WC=20
09:00				Bot 1": Brown fine to medium sand, some silt				Rig chatter at 19'.
07-11-23				(SM)		20		
Tuesday	8D	20.0	8-9	Brown silty fine sand, trace gravel, mica (SM)				
Sunny		22.0	8-7	(SM)				
89°F								
						25		
	9D	25.0	12-14	Brown silty fine sand, trace layer of fine to				Bottom 1" gravel.
		27.0	20-14	coarse sand, trace silt, gravel (SM)				
						30		
	10D	30.0	8-12	Brown silty fine sand, trace gravel (SM)				
		32.0	10-10					
					S1			
						35		
	11D	35.0	18-17	Brown fine to medium sand, some silt, trace				
		37.0	11-8	gravel (SM)				
						40		
	12D	40.0	8-13	Brown fine to coarse sand, trace silt, gravel				
		42.0	9-9	(SP-SM)				
						45		
	13D	45.0	8-11	Brown fine to coarse sand, trace silt, gravel				
		47.0	9-8	(SP-SM)				
								WC=Water Content
								in percent of dry
						50		weight.
	14D	50.0	8-10	Brown fine to coarse sand, trace silt, gravel,				
10:30		52.0	11-9	(SP-SM)		52		End of Boring at 52'.

MRCE
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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-207
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. 14.23
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED		[X] YES [ ] NO			
TRUCK	CME-75	MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	15
SKID		HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO	
OTHER									

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO
DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO
TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. AVERAGE FALL, IN.
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** MATT MICHELOTTI
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-11-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

M|R|C|E
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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-208
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 15.05
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
09:00					**	**0.7**	DRILLED	**Asphalt slab from
07-24-23							AHEAD	0' to 0.7'.
Monday	1HA	2.0	HAND	Brown silty fine sand (Fill) (SM)			4"	Hand auger from 0.7' to
Sunny		4.0	AUGER		F			6'.
85°F	2HA	4.0	HAND	Brown silty fine sand, trace medium sand		**5**		
		6.0	AUGER	(Fill) (SM)		**6**		
	3D	6.0	3-4	Brown fine sandy silt, trace medium sand (ML)	C			
		8.0	4-3			**8**		
	4D	8.0	4-4	Brown fine to medium sand, some silt (SM)				
		10.0	4-5			**10**		
	5D	10.0	2-3	Brown fine to medium sand, some silt (SM)				
		12.0	2-2					Sample moist.
	6D	12.0	2-2	Brown fine to medium sand, some silt (SM)				
		14.0	1-2					
						15		
	7D	15.0	3-6	Brown fine to medium sand, some silt, trace				
		17.0	7-7	gravel, coarse sand (SM)				
						20		
	8D	20.0	12-11	Brown fine to medium sand, some gravel, silt,				Used 3" split spoon.
		22.0	16-21	trace coarse sand (SM)				REC=6"
						25		
	9D	25.0	7-10	Brown fine to medium sand, some silt, gravel,				Used 3" split spoon.
		27.0	9-13	trace coarse sand (SM)				
								Rig chatter at 28'.
						30		
	10D	30.0	15-4	Brown gravelly fine to coarse sand, some silt	S1			Used 3" split spoon:
		32.0	14-25	(SM)				14-14-13-22.
						35		
	11D	35.0	15-9	Brown fine sand, some silt, trace gravel (SM)				
		37.0	10-15					
						40		
	12NR	40.0	19-14	No recovery				
		42.0	14-15					
						45		
	13D	45.0	11-14	Red brown silty fine sand (SM)				
		47.0	12-13					
						50		
	14D	50.0	11-14	Brown fine to medium sand, some silt (SM)				
11:45		52.0	14-17			**52**		End of Boring at 52'.

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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-208
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
LOCATION BROOKLYN, NEW YORK
BORING LOCATION SEE BORING LOCATION PLAN

FILE NO. 14070
SURFACE ELEV. 15.05
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED		[X] YES [ ] NO			
TRUCK	CME-75	MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	35
SKID		HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO	
OTHER									

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO

DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO

TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** GARY BULWIN
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-24-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-209
SHEET 1 OF 2
FILE NO. 14070
SURFACE ELEV. 16.33
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
09:00					**	**0.3**	DRILLED	**Concrete slab from
07-20-23							AHEAD	0' to 0.3'.
Thursday	1HA	2.0	HAND	Brown silty fine to medium sand, trace gravel,			4"	Hand auger from 0.3'
Sunny		4.0	AUGER	coarse sand (Fill) (SM)				to 5'.
84°F	2HA	4.0	HAND	Brown silty fine to medium sand, trace gravel,	F	**5**		Used 3" split spoon:
		5.0	AUGER	coarse sand (Fill) (SM)				5-2-9-9.
	3D	5.0	7-7	Red brown silty fine to coarse sand, trace gravel				
		7.0	10-7	(Fill) (SM)				
	4D	7.0	7-3	Red brown silty fine to medium sand, trace		**9**		
		9.0	2-1	coarse sand, gravel (Fill) (SM)		**10**		
	5D	9.0	2-1	Brown fine sandy silt, trace clay (ML)	C			
		11.0	1-1					
	6D	11.0	1-1	Brown green fine sandy silt, trace clay (ML)		**13**		
		13.0	1-2					
	7D	13.0	3-4	Brown silty fine to medium sand, trace gravel,		**15**		
		15.0	6-9	(SM)				
	8D	15.0	6-7	Brown fine to medium sand, some silt, trace				
		17.0	5-4	gravel, coarse sand (SM)				
						20		
	9D	20.0	6-11	Brown fine to coarse sand, some silt, trace				
		22.0	12-9	gravel (SM)				
						25		
	10D	25.0	7-5	Brown fine to medium sand, trace silt, coarse				
		27.0	7-8	sand (SP-SM)				
						30		
	11D	30.0	6-4	Brown interlayered clayey silt & silty fine sand				WC=22
		32.0	5-5	(ML&SM)				
					S1			
						35		
	12D	35.0	4-4	Brown clayey silt, trace fine to coarse sand (ML)				WC=21
		37.0	5-5					
						40		
	13D	40.0	2-3	Brown clayey silt, trace silty fine to coarse sand				
		42.0	8-6	layer (ML)				
						45		
	14D	45.0	9-8	Brown silt, some fine sand, trace gravel with				
		47.0	16-11	some layer of fine to medium sand, trace silt				
				(ML&SP-SM)				WC=Water Content
								in percent of dry
						50		weight.
	15D	50.0	7-12	Brown clayey silt, some layer of fine to medium				
11:45		52.0	15-12	sand, sm silt, trace gravel, coarse sand (ML&SM)		**52**		End of Boring at 52'.

MRCE
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BORING NO. MR-209
SHEET 2 **OF** 2

PROJECT GOWANUS CANAL CSO OH-007
LOCATION BROOKLYN, NEW YORK
BORING LOCATION SEE BORING LOCATION PLAN

FILE NO. 14070
SURFACE ELEV. 16.33
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	[X] YES	[ ] NO		
TRUCK	CME-75	MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM	0	TO	15
SKID		HYDRAULIC	X	DIA., IN.	DEPTH, FT. FROM		TO	
BARGE		OTHER		DIA., IN.	DEPTH, FT. FROM		TO	
OTHER								

TYPE AND SIZE OF

D-SAMPLER	2" O. D. SPLIT SPOON
U-SAMPLER	
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO

DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO

TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	47	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	5'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** GARY BULWIN
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-20-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

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New York, NY 10122

BORING LOG

BORING NO. MR-210P
SHEET 1 OF 4
FILE NO. 14070
SURFACE ELEV. 17.41
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
09:00	1HA	0.0	HAND	Brown black fine to coarse sand, some silt,	**	0.2	DRILLED	**Concrete slab from
07-06-23		2.0	AUGER	trace gravel (Fill) (SM)			AHEAD	0' to 0.2'.
Thursday							4"	Hand auger from 0' to
Sunny					F			6'.
87°F						5		
	2HA	5.0	HAND	Brown black fine sandy silt (Fill) (ML)		6		
		6.0	AUGER					
	3D	6.0	1-2	Brown fine sandy silt (ML)				
		8.0	2-2					
	4D	8.0	1-1	Brown clayey silt, trace fine sand (ML)	C	10		Sample moist.
		10.0	1-2					
	5NR	10.0	3-3	No recovery				
		12.0	4-5			13		
	6D	12.0	7-8	Top 5": Brn clayey silt, tr fine sand, gravel (ML)				
		14.0	11-10	Bot 9": Brn silty f-m sand, tr gravel, c sand (SM)		15		Rig chatter at 14.7'.
	7D	15.0	9-17	Brown silty fine to coarse sand, trace gravel,				
		17.0	17-25	coarse sand (SM)				
						20		
	8D	20.0	5-17	Red brown fine to coarse sand, some gravel,				
		22.0	16-13	silt, trace black coarse sand layer (SM)				
						25		
	9D	25.0	2-8	Red brown clayey silt, some fine to medium				
		27.0	16-18	sand, trace gravel (ML)				
						30		
	10D	30.0	3-6	Brown fine to medium sand, some silt (SM)				Used 3" split spoon
		32.0	6-9					for Environmental
					S1			Sampling.
						35		
	11D	35.0	8-18	Brown fine to coarse sand, trace silt, gravel,				
		37.0	19-14	trace mica (SP-SM)				
						40		
	12D	40.0	5-14	Brown fine to coarse sand, trace silt, gravel				
		42.0	21-19	(SP-SM)				
						45		
	13D	45.0	8-8	Brown fine to coarse sand, trace silt, gravel				
		47.0	8-9	(SP-SM)				
						50		
	14D	50.0	5-7	Brown fine to coarse sand, trace gravel, silt				
13:30		52.0	8-9	(SP-SM)		52		End of Boring at 52'.

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PIEZOMETER RECORD

PIEZOMETER OR BORING NO. MR-210P

PROJECT: GOWANUS CSO OH-07

SHEET 2 OF 4

LOCATION: BROOKLYN, NY

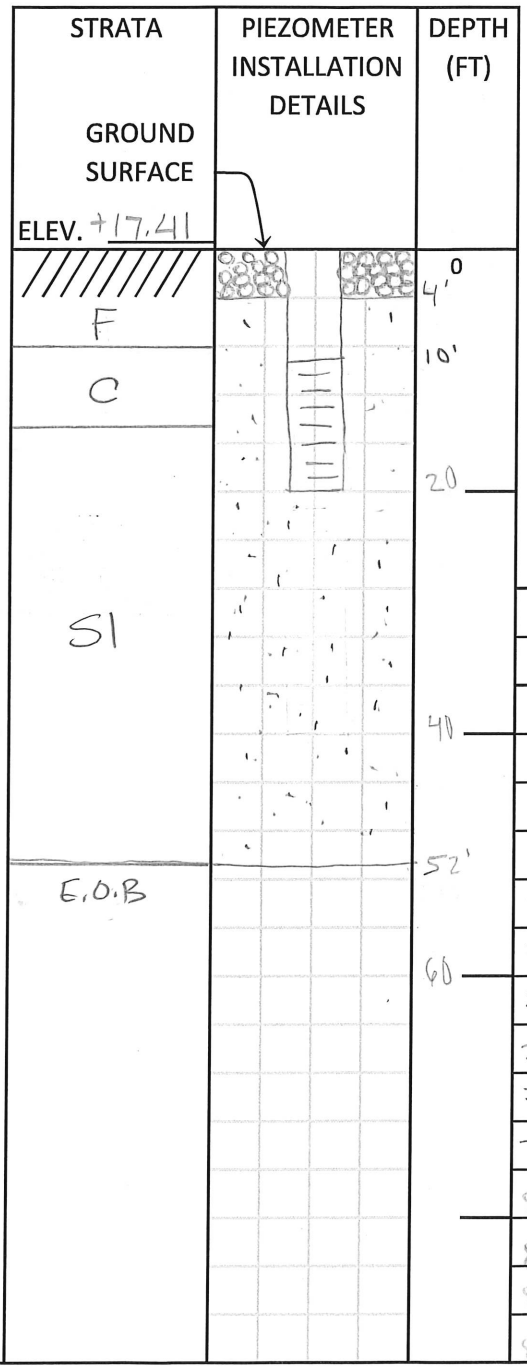
FILE NO. 14070

PIEZOMETER LOCATION: SEE BLP

INSTALLATION DATE 7/7/23

☐ SEE SKETCH ON BACK

RES ENGR. E MILLS



PIEZOMETER TYPE SLOTTED PVC

INTAKE POINT

depth to bottom, ft = 52

depth to top, ft = 4

length, ft = 48 = L

diameter, in = 2 , ft = 0.167 = 2R

STANDPIPE/RISER

elevation of rim, ft = +17.17

diameter, in = 2 , ft = 0.167 = 2r

READING TIME		DEPTH – RIM TO WATER	ELEVATION OF WATER	REMARKS
DATE	CLOCK			
7/12/23	0830	11'	6.17	
7/13/23	1300	11'	6.17	
7/18/23	1215	11'	6.17	
7/20/23	1335	10' 10"	6.34	
7/24/23	0830	10' 10"	6.34	
7/25/23	0731	10' 10"	6.34	
7/26/23	1245	10' 11"	6.25	
7/27/23	0820	10' 11"	6.25	
7/28/23	0660	10' 11"	6.25	
7/31/23	1020	11'	6.17	
8/9/23	1200	11' 5"	5.99	
8/10/23	1220	11' 5"	5.99	
8/11/23	0802	11' 5"	5.99	
8/14/23	1258	11' 5"	5.99	

SAND BENTONITE

GRAVEL GROUT

GROUND SURFACE ELEV. +17.41

PIEZOMETER NO. MR-210P

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PIEZOMETER RECORD

PIEZOMETER OR BORING NO. MR-210P

PROJECT: GOWANUS CANAL CSO GH-7

SHEET 3 **OF** 4

LOCATION: BROOKLYN, NY

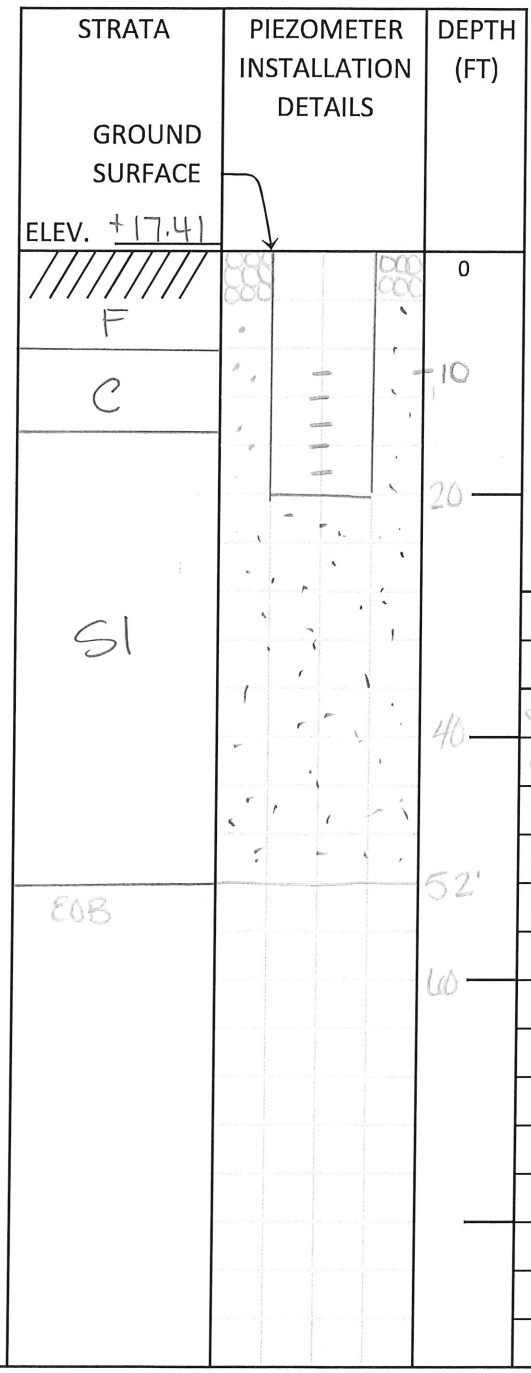
FILE NO. 14070

PIEZOMETER LOCATION: See BLP

INSTALLATION DATE 7/7/23

☐ SEE SKETCH ON BACK

RES ENGR. E. MILLS



PIEZOMETER TYPE SLOTTED PVC

INTAKE POINT

depth to bottom, ft = 52

depth to top, ft = 4

length, ft = 48 = L

diameter, in = 2 , ft = 0.167 = 2R

STANDPIPE/RISER

elevation of rim, ft = +17.17

diameter, in = 2 , ft = 0.167 = 2r

READING TIME		DEPTH – RIM TO WATER	ELEVATION OF WATER	REMARKS
DATE	CLOCK			
8/17/23	1330	11'5"	5.99	
8/21/23	1328	11'	6.41	
8/23/23	1337	11' 5"	5.99	
8/28/23	1407	11' 2"	6.24	
8/29/23	1218	11' 2"	6.24	

SAND BENTONITE

GRAVEL GROUT

GROUND SURFACE ELEV. +17.41

PIEZOMETER NO. MR-210P

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BORING NO. MR-210P
SHEET 4 **OF** 4

PROJECT GOWANUS CANAL CSO OH-007
LOCATION BROOKLYN, NEW YORK
BORING LOCATION SEE BORING LOCATION PLAN
FILE NO. 14070
SURFACE ELEV. 17.41
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	[X] YES	[ ] NO		
TRUCK	CME-75	MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM 0	TO 20		
SKID		HYDRAULIC	X	DIA., IN.	DEPTH, FT. FROM	TO		
BARGE		OTHER		DIA., IN.	DEPTH, FT. FROM	TO		
OTHER								

TYPE AND SIZE OF

D-SAMPLER	2" & 3" O. D. SPLIT SPOON
U-SAMPLER	
S-SAMPLER	
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO
DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO
TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					SEE PIEZOMETER SHEET NO. 2.

PIEZOMETER INSTALLED [X] YES [ ] NO **SKETCH SHOWN ON** SEE SHEET NO. 2

STANDPIPE:	TYPE	PVC	ID, IN.		LENGTH, FT.		TOP ELEV.	
INTAKE ELEMENT:	TYPE	SLOTTED PVC	OD, IN.	2	LENGTH, FT.	20	TIP ELEV.	
FILTER:	MATERIAL	FILTER SAND	OD, IN.		LENGTH, FT.		BOT. ELEV.	

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	46	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER BRYAN GREGOR **HELPERS** MATT MICHELOTTI
REMARKS PIEZOMETER INSTALLED.
RESIDENT ENGINEER EMMA MILLS **DATE** 07-07-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

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New York, NY 10122

BORING LOG

BORING NO. MR-303U
SHEET 1 OF 4
FILE NO. 14070
SURFACE ELEV. +8.13
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
06:30					**	**0.3**	DRILLED	**Asphalt from 0' to
07-27-23							AHEAD	0.3'.
Thursday	1HA	2.0	HAND	Brown black fine to medium sand, some silt,			4"	Hand auger from 2' to
Sunny		4.0	AUGER	trace gravel, trace wood (Fill) (SM)			↓	6'.
89°F	2HA	4.0	HAND	Black gray fine to coarse sand, some gravel,		**5**		Soil moist.
		6.0	AUGER	silt, trace wood (Fill) (SM)				
	3D	6.0	7-4	Brown gray silty fine to medium sand, trace	**F**			
		8.0	5-5	gravel, coarse sand (Fill) (SM)				
	4D	8.0	6-5	Brown fine to coarse sand, some silt, gravel,				
		10.0	2-1	trace brick, shells (Fill) (SM)		**10**		
	5NR	10.0	1-2	No recovery				
		12.0	4-2					
	6D	12.0	3-2	Gray fine to coarse sand, some clay, gravel,		**13**		
		14.0	1-1	trace brick, shells (Fill) (SC)				
						15		
	7D	15.0	WH/12"	Soft gray organic silty clay, trace vegetation (OH)	**O**			WC=96
		17.0	1-1					
	8U	17.0	PUSH=24"	Do 7D (OH)				
		19.0	REC=24"					
						19.5		
	9D	20.0	5-5	Gray fine to medium sand, some silt (SM)				
		22.0	9-6					
						25		
	10D	25.0	1-3	Soft gray silty clay, trace gravel (CL)				WC=30
		27.0	3-3		**C**			
						30		
	11D	30.0	WR/12"	Gray silty fine to medium sand (SM)				
		32.0	WH-1					
						33.5		
						35		
	12D	35.0	6-9	Gray fine to coarse sand, some silt (SM)				
		37.0	12-16					
						40		
	13D	40.0	11-11	Brown fine sand, some silt (SM)				
		42.0	12-13					
					S1			
						45		
	14D	45.0	5-7	Brown fine sand, some silt (SM)				
		47.0	8-10					
						50		
	15D	50.0	6-8	Brown fine to medium sand, some silt (SM)				
		52.0	8-12					

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BORING LOG

BORING NO. MR-303U
SHEET 2 OF 4
FILE NO. 14070
SURFACE ELEV. +8.13
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
Cont'd								
07-27-23								
Thursday								
Sunny								
89°F						**55**		
	16D	55.0	6-8	Brown fine to coarse sand, some silt, trace				
		57.0	6-7	gravel (SM)	**S1**			
						60		
	17D	60.0	3-3	Brown fine to medium sand, some clay, trace				
		62.0	4-30	coarse sand, gravel (SC)				
						63.5		
						65		
	18NR	65.0	100/1"	No recovery				
12:15		65.1						
06:30								
07-28-23								
Friday						**70**		
Sunny	19D	70.0	19-13	Brown gravelly fine to coarse sand, some clay				
90°F		72.0	7-10	(SC)				
						75		
	20D	75.0	12-8	Brown fine to coarse sand, some gravel, trace				Used 3" split spoon:
		77.0	7-11	silt (SP-SM)				15-21-16-21.
						80		
	21D	80.0	13-11	Brown fine to coarse sand, some gravel, silt				REC=5"
		82.0	12-10	(SM)				
					S2			
						85		
	22D	85.0	13-11	Brown fine to coarse sand, some gravel, silt				
		87.0	10-8	(SM)				
						90		
	23D	90.0	10-11	Brown fine to medium sand, trace gravel, silt,				
		92.0	12-12	coarse sand (SP-SM)				
								Rig chatter at 93'.
						95		
	24D	95.0	9-11	Do 23D (SP-SM)				
		97.0	13-16					
						100		
	25D	100.0	10-10	Brown silty fine sand (SM)				
		102.0	10-13					

Mueser Rutledge Consulting Engineers
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New York, NY 10122
built on firm foundations

BORING LOG

BORING NO. MR-303U
SHEET 3 OF 4
FILE NO. 14070
SURFACE ELEV. +8.13
RES. ENGR. EMMA MILLS

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
Cont'd								
07-28-23								
Friday								
Sunny								
90°F						**105**		
						110		
	26D	110.0	24-33	Brown silty fine sand (SM)				
		112.0	28-21					
					S2	**115**		
						120		
	27D	120.0	14-27	Brown fine to medium sand, some silt, trace				
		122.0	35-35	gravel, silty clay pockets, coarse sand (SM)				
						125		
						128.5		
						130		
	28D	130.0	26-24	Gray brown fine to coarse sand, trace silt,				
		132.0	31-31	gravel (SP-SM)				
						135		
						140		
	29D	140.0	17-25	Do 28D (SP-SM)	**S3**			
		142.0	20-20					
						145		
								WC=Water Content
								in percent of dry
						150		weight.
	30D	150.0	17-17	Do 28D (SP-SM)				
12:30		152.0	18-20			**152**		End of Boring at 152'.

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BORING NO. MR-303U
SHEET 4 **OF** 4

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. +8.13
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:

TRUCK
SKID
BARGE
OTHER CME-75

TYPE OF FEED DURING CORING

MECHANICAL
HYDRAULIC X
OTHER

CASING USED [X] YES [ ] NO

DIA., IN.	4	DEPTH, FT. FROM	0	TO	15
DIA., IN.		DEPTH, FT. FROM	0	TO	
DIA., IN.		DEPTH, FT. FROM	0	TO	

TYPE AND SIZE OF

D-SAMPLER 2" & 3" O. D. SPLIT SPOON
U-SAMPLER FIXED PISTON
S-SAMPLER
CORE BARREL
CORE BIT
DRILL RODS NWJ

DRILLING MUD USED [X] YES [ ] NO

DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO

TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	152	NO. OF 3" SHELBY TUBE SAMPLES	
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER RYAN WARDEN **HELPERS** GARY BULWIN
REMARKS
RESIDENT ENGINEER EMMA MILLS **DATE** 07-28-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-304U
SHEET 1 OF 4
FILE NO. 14070
SURFACE ELEV. +6.93
RES. ENGR. DEIRDRE BALLESTY

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:15							DRILLED	Hand auger from 0' to
08-11-23	1HA	1.0	HAND	Black to gray fine to coarse sand, some silt,			AHEAD	5'.
Friday		3.0	AUGER	gravel, trace brick (Fill) (SM)			4"	
Sunny	2HA	3.0	HAND	Black to gray fine to coarse sand, some gravel,				
70°F		5.0	AUGER	silt, trace brick (Fill) (SM)		5		
					F			
	3D	6.0	3-4	Black to brown fine to coarse sand, some silt,				Used 3" split spoon for
		8.0	3-8	gravel, trace brick (Fill) (SM)				Yu.
	4D	8.0	8-3/12"	Top 11": Blk gravelly f-m sand, sm silt (Fill) (SM)				
		10.0	1	Bot 9": Soft blk organic si clay, tr peat (Fill) (OH)		10		4D Bot: WC=79
	5D	10.0	6-2	Black gravelly fine to medium sand, some				REC=5"
		12.0	1-1	silt (Fill) (SM)		12		
	6D	12.0	1-/12"	Soft black organic silty clay, trace peat, shells				WC=75
		14.0	1	(OH)				
	7D	14.0	WH/24"	Soft black organic silty clay, trace shells (OH)		15		WC=68
		16.0						
					O			
	8U	17.0	PUSH=24"	Soft gray organic silty clay, trace fine sand, shells				WC=72, pp=0.11,
		19.0	REC=8"	(OH)				0.17, TV=0.1, 0.15
	9D	19.0	WH/24"	Soft gray to black organic silty clay, trace shells,		20		WC=71
		21.0		vegetation (OH)		21		
	10D	21.0	WH/18"	Soft gray black silty clay, sm layers of silt, tr				WC=53
		23.0	4	fine to medium sand, tr peat pkts, shells(CL&ML)				
	11U	23.0	PUSH=24"	Top 4": Gray f-m sand, some silt (SM)				11U Top: WC=24
		25.0	REC=24"	Bot 20": M to stiff gray si clay, tr fine sand (CL)		25		11U Bot: WC=21,
	12D	25.0	WH-1	Top 9": Gray fine to medium sand, tr silt(SP-SM)				pp=0.75, TV=0.25
		27.0	3-1	Bot 15": M gray silty clay, tr f-m sand seams(CL)				12D Bot: WC=28,
	13D	27.0	WH/12"	Soft gray silty clay, trace to some fine sand (CL)	C			pp=1.75, 1.0
		29.0	1-1					
	14D	29.0	1-3	Gray silty fine sand, trace clay (SM)		30		
		31.0	3-4					
	15D	31.0	3-1	Gray silty fine sand, trace silt seams, silty clay				
		33.0	5-5	seams (SM)		33		
	16D	33.0	3-6	Gray silty fine sand, trace clay, gravel (SM)				
		35.0	9-8			35		
	17D	35.0	11-8	Top 18":Gray f-m sand, tr silt, silt seams (SP-SM)				
		37.0	12-10	Bot 11": Gray silty fine sand (SM)				
	18D	37.0	10-7	Gray brown silty fine sand, trace medium				
		39.0	10-7	sand, mica (SM)				
	19D	39.0	6-7	Top 7": Gray f-c sand, sm gravel, silt (SM)		40		Possible wash sample.
		41.0	6-10	Bot 13": Gray brn si f sand, tr gvl, mica (SM)				
	20D	41.0	4-6	Brown fine to medium sand, some silt (SM)				
		43.0	9-6		S1			
	21D	43.0	7-4	Brown silty fine sand varved with some silt				
		45.0	10-10	(SM&ML)		45		
	22S	45.0	PUSH=24"	Top 1.5": Stiff gray silty clay, sm f sand, tr gvl(CL)				22S Top: WC=20,
		47.0	REC=21"	Mid 9": Gray f sand, sm gvl, tr silt, mica (SP-SM)				pp=1.5, 1.75, TV=0.2,
				Bot 9.5": Red brown fine sand, some silt (SM)				0.4
	23D	47.0	2-3	Brown fine sand, some silt, trace mica (SM)				22U Bot: WC=23
13:40		49.0	3-4			50		
07:20	24D	49.0	4-6	Brown gray fine to medium sand, trace silt, mica				
08-14-23		51.0	6-6	(SP-SM)				

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING LOG

BORING NO. MR-304U
SHEET 2 OF 4
FILE NO. 14070
SURFACE ELEV. +6.93
RES. ENGR. C. C./D. BALLESTY

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
Cont'd								
08-14-23								
Monday								
Cloudy								
85°F						**55**		
	25D	55.0	5-5	Brown fine to coarse sand, trace silt (SP-SM)				
		57.0	6-6					
					S1	**60**		
	26D	60.0	5-4	Brown fine to medium sand, some clay, trace				
		62.0	4-2	gravel, coarse sand (SC)				
						65		
	27D	65.0	11-6	Brown fine to coarse sand, some clay, trace				No recovery with 2"
		67.0	5-5	gravel (SC)				split spoon. Used 3"
								split spoon.
						68.5		
						70		Rig chatter from 70' to
	28D	70.0	23-29	Brown silty fine to medium sand, trace gravel,				72'.
11:30		72.0	16-16	coarse sand (SM)				Hard drilling from 72'
07:00								to 74.5'.
08-15-23								
Tuesday						**75**		
Cloudy	29D	75.0	31-20	Brown fine to medium sand, some silt, trace				
85°F		77.0	21-22	coarse sand, mica (SM)				
						80		
	30D	80.0	21-20	Brown fine to coarse sandy gravel, some clay				REC=3"
		82.0	24-20	(GC)				
					S2	**85**		Rig chatter from 85' to
	31D	85.0	12-12	Brown fine to medium sand, some silt, gravel,				86'.
		87.0	11-12	trace coarse sand, clay (SM)				
						90		
	32D	90.0	54-51	Brown fine to coarse sand, some gravel, silt,				Rig chatter from 91' to
		92.0	52-49	trace gray clay pockets (SM)				92'.
								Rig chatter from 93' to
								93.5'.
						95		
	33D	95.0	31-42	Brown fine to coarse sand, some silt, gravel				
		97.0	42-62	(SM)				
						100		
	34D	100.0	41-38	Brown medium to coarse sand, some gravel,	**S3**			
		102.0	38-43	trace silt (SP-SM)				

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New York, NY 10122

BORING LOG

BORING NO. MR-304U
SHEET 3 OF 4
FILE NO. 14070
SURFACE ELEV. +6.93
RES. ENGR. DEIRDRE BALLESTY

PROJECT: GOWANUS CANAL CSO OH-007
LOCATION: BROOKLYN, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
Cont'd								
08-15-23								
Tuesday								
Cloudy								
85°F						**105**		
	35D	110.0	21-21	Brown fine to coarse sand, trace silt, gravel				
		112.0	26-29	(SP-SM)				
						110		
						115		
						120		
	36D	120.0	28-30	Brown fine to medium sand, trace silt, coarse				
		122.0	34-31	sand, gravel (SP-SM)				Rig chatter from 122'
								to 122.5'.
						125		
					S3			
								Rig chatter at 129'.
						130		
	37D	130.0	30-45	Brown fine to medium sand, trace silt, coarse				
		132.0	51-91	sand, gravel (SP-SM)				
						135		
						140		WC=Water Content
	38D	140.0	14-16	Brown fine to coarse sand, trace silt (SP-SM)				in percent of dry
		142.0	18-16					weight.
								pp=Pocket
						145		Penetrometer
								Unconfined Compres-
								sive Strength in tsf.
								TV=Torvane Shear
						150		Strength in tsf.
	39D	150.0	18-20	Brown fine to coarse sand, trace gravel, silt				
13:05		152.0	26-29	(SP-SM)		**152**		End of Boring at 152'.

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New York, NY 10122

BORING NO. MR-304U
SHEET 4 **OF** 4

PROJECT GOWANUS CANAL CSO OH-007
FILE NO. 14070
LOCATION BROOKLYN, NEW YORK
SURFACE ELEV. +6.93
BORING LOCATION SEE BORING LOCATION PLAN
DATUM NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG MAKE AND MODEL:		TYPE OF FEED DURING CORING		CASING USED	[X] YES	[ ] NO		
TRUCK		MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM 0	TO 15		
SKID		HYDRAULIC	X	DIA., IN.	DEPTH, FT. FROM	TO		
BARGE		OTHER		DIA., IN.	DEPTH, FT. FROM	TO		
OTHER	CME-55							

TYPE AND SIZE OF

D-SAMPLER	2" & 3" O. D. SPLIT SPOON
U-SAMPLER	FIXED PISTON
S-SAMPLER	3" SHELBY TUBE
CORE BARREL	
CORE BIT	
DRILL RODS	NWJ

DRILLING MUD USED [X] YES [ ] NO
DIAMETER OF ROTARY BIT, IN. 3-7/8
TYPE OF DRILLING MUD QUIK GEL

AUGER USED [X] YES [ ] NO
TYPE AND DIAMETER, IN. 4" HAND AUGER

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC
*HAMMER RATE, BLOWS PER MINUTE (BPM):

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
08-14-23		4.25	0	4.1	ENCOUNTERED WHILE HAND CLEARING.

PIEZOMETER INSTALLED [ ] YES [X] NO **SKETCH SHOWN ON**

STANDPIPE:	TYPE		ID, IN.		LENGTH, FT.		TOP ELEV.
INTAKE ELEMENT:	TYPE		OD, IN.		LENGTH, FT.		TIP ELEV.
FILTER:	MATERIAL		OD, IN.		LENGTH, FT.		BOT. ELEV.

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	146	NO. OF 3" SHELBY TUBE SAMPLES	1
3.5" DIA. U-SAMPLE BORING	LIN. FT.		NO. OF 3" UNDISTURBED SAMPLES	2
CORE DRILLING IN ROCK	LIN. FT.		OTHER: HAND AUGER	6'

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING CO., INC.
DRILLER RYAN WARDEN **HELPERS** MIKE GORSKI
REMARKS BOREHOLE TREMIE GROUTED & SURFACE PATCHED WITH COLD MIX ASPHALT.
RESIDENT ENGINEER DEIRDRE BALLESTY **DATE** 08-15-23
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** EMMA MILLS

Appendix C: Laboratory Data Packages and Data Usability Summary Reports

Lab Data to be provided with Final Report

Use of contents on this sheet is subject to the limitations specified at the end of this document.
SUPPLEMENTAL_PDI_REPORT_OH-007_FINAL

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23F0537
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: August 24, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-301-6.0-8.0-20230612	23F0537-01	6/12/2024	Soil
MR-301-25.0-27.0-20230612	23F0537-02	6/12/2024	Soil

Data validation was performed on the analytical data for two (2) samples collected June 12, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7470A/245.1
Reactive Cyanide	USEPA SW846 9010B
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9040C

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOCs Benzaldehyde and Hexachlorocyclopentadiene were qualified as rejected due to major deviations associated with matrix spike samples and laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, surrogates, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	MR-301-25.0-27.0-20230612	4-Bromobenzene	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-301-6.0-8.0-20230612 MR-301-25.0-27.0-20230612	Acetone	> CL	J (detects) No Action (non-detects)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values except for 1,4-Dichlorobenzene-d4 associated with sample MR-301-25.0-27.0-20230612. Since recoveries were above the control limits and all associated analytes were non-detect, no qualification was required.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-301-6.0-8.0-20230612	Acetone 2-Butanone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MR-301-25.0-27.0-20230612	1,1-Dichloroethene 2-Butanone 2-Hexanone 4-Methyl-2-pentanone Acetone Chloroethane Chloromethane Dichlorodifluoromethane trans-1,2-Dichloroethene trans-1,3-Dichloropropene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Octadecanoic acid, butyl ester. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	MR-301-25.0-27.0-20230612	2,4,6-Tribromophenol	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-301-6.0-8.0-20230612 MR-301-25.0-27.0-20230612	Benzaldehyde Hexachlorocyclopentadiene	10% > %R < CL	J (detects) R (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-301-6.0-8.0-20230612	2,3,4,6-Tetrachlorophenol 2,4,6-Trichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol 4-Nitroaniline Benzo(g,h,i)perylene Caprolactam Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-301-25.0-27.0-20230612	2,3,4,6-Tetrachlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline 4,6-Dinitro-2-methylphenol 4-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	MR-301-25.0-27.0-20230612	TCMX DCB	%R > CL	J (detects) No Action (non-detects)	3H
8151A	MR-301-6.0-8.0-20230612 MR-301-25.0-27.0-20230612	DCAA	10% < %R < CL	J (detects) UJ (non-detects)	3L
8081B	MR-301-25.0-27.0-20230612	TCMX DCB	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-301-6.0-8.0-20230612 MR-301-25.0-27.0-20230612	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met except for 2,4-D was outside the control limits for 8151A soil samples. Results are qualified as estimated, J, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-301-6.0-8.0-20230612 MR-301-25.0-27.0-20230612	2,4-D 2,4,5-TP	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 6010D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Total Cyanide by SW-846 9010c+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9010c+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: A calibration blank associated with soil samples exhibited a detection for iron; however, all sample results were greater than five times the calibration blank detection. No qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis was not performed on a sample location within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: August 24, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23F0537

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: May 10, 2024

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23F0537

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-301-6.0-8.0-20230612	23F0537-01	Soil	06/12/2023 10:55	06/12/2023 16:05
MR-301-25.0-27.0-20230612	23F0537-02	Soil	06/12/2023 13:01	06/12/2023 16:05

PN: 23F0537

APL 23F0537

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CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd floor, Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-963-9621	PHONE: as
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS: Left.
PROJECT or PO #: 156854 12.10	SAMPLED BY: AM.

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

[X] NYS category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0537 -01	MR-301-6.0-8.0-20230612	06/12/23	1055	X		S	4		SVOC, VOC; PCB, Pesticides, Herbicides, TAL Metals, TCN, RCRA Characteristics.
-02	MR-301-25.0-27.0-20230612	"	1301	X		S	4		"

RELINQUISHED BY (Print) Yesenia	DATE 06/12/23	RECEIVED BY (Print) MIKE D'ANGELO	
Signature	Time 1323.	Signature	
RELINQUISHED BY (Print) MIKE D'ANGELO	DATE 6/12/23	RECEIVED BY (Print)	
Signature	Time 16:05	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.8 °C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Pace Analytical Services, LLC-Fairfield
Data Reporting Abbreviations and Qualifiers

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:

"Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifers:

B	Compound was also detected in the blank
D	The concentration is from a dilution
E	Concentration exceeds calibration range
IG_>60	> 60
J	Estimated
U	Compound not detected

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 1010A / 9045D / 9010C+9014 / 9030B]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high). The blank spike met all QC criteria.

Method 9010C+9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 7473 / 1010A / 9045D / 9030B:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Samples 23F0537-01 and 23F0537-02 have surrogates outside of the QC limits (low), due to matrix interferences.

ANALYSIS: PCBs [8082A]

Sample 23F0537-02 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).
The percent recovery for 4,4'-DDT was outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Sample 23F0537-02 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for Benzaldehyde and Hexachlorocyclopentadiene were outside of the QC limits for the blank spike (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high).

Samples 23F0537-02 and 23F0537-02RE1 (1:500) have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low and high).

Sample 23F0537-02 has one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interference.
Sample 23F0537-02 has one surrogate (4-Bromofluorobenzene) outside of the QC limits (low), due to matrix interference.

Reviewed By: _____ (SK) 5/17/2024
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

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Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.44		0.00727	0.0291	mg/kg dry	1	6/22/23 14:49

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8200		0.218	3.67	mg/kg dry	1	6/25/23 9:54
Antimony	2.09		0.200	1.84	mg/kg dry	1	6/25/23 9:54
Arsenic	25.6		0.131	1.84	mg/kg dry	1	6/25/23 9:54
Barium	71.6		0.0555	0.735	mg/kg dry	1	6/25/23 9:54
Beryllium	0.543		0.00425	0.0367	mg/kg dry	1	6/25/23 9:54
Cadmium	0.404		0.0716	0.367	mg/kg dry	1	6/25/23 9:54
Calcium	31100		4.13	36.7	mg/kg dry	1	6/25/23 9:54
Chromium	20.8		0.0415	0.367	mg/kg dry	1	6/25/23 9:54
Cobalt	8.93		0.0375	0.294	mg/kg dry	1	6/25/23 9:54
Copper	168		0.103	0.367	mg/kg dry	1	6/25/23 9:54
Iron	20200		1.04	7.35	mg/kg dry	1	6/25/23 9:54
Lead	316		0.153	1.84	mg/kg dry	1	6/25/23 9:54
Magnesium	2860		13.0	73.5	mg/kg dry	1	6/25/23 9:54
Manganese	106		0.0457	0.367	mg/kg dry	1	6/25/23 9:54
Nickel	35.0		0.0323	0.184	mg/kg dry	1	6/25/23 9:54
Potassium	1450		43.7	147	mg/kg dry	1	6/25/23 9:54
Silver	0.985		0.0625	0.220	mg/kg dry	1	6/25/23 9:54
Sodium	3340		7.00	73.5	mg/kg dry	1	6/25/23 9:54
Vanadium	26.4		0.0845	0.735	mg/kg dry	1	6/25/23 9:54
Zinc	720	D	1.12	11.0	mg/kg dry	10	6/26/23 9:37

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0521	J	0.0464	0.291	mg/kg dry	1	6/16/23 15:01
Acenaphthene	0.0933	J	0.0110	0.193	mg/kg dry	1	6/16/23 15:01
Acenaphthylene	0.163	J	0.00674	0.193	mg/kg dry	1	6/16/23 15:01
Anthracene	0.143	J	0.0281	0.193	mg/kg dry	1	6/16/23 15:01
Benzo(a)anthracene	3.35		0.0195	0.193	mg/kg dry	1	6/16/23 15:01
Benzo(a)pyrene	2.86		0.0337	0.193	mg/kg dry	1	6/16/23 15:01
Benzo(b)fluoranthene	3.55		0.0272	0.193	mg/kg dry	1	6/16/23 15:01
Benzo(g,h,i)perylene	1.41		0.0157	0.193	mg/kg dry	1	6/16/23 15:01
Benzo(k)fluoranthene	1.37		0.0223	0.193	mg/kg dry	1	6/16/23 15:01
Chrysene	3.30		0.0133	0.193	mg/kg dry	1	6/16/23 15:01
Dibenzo(a,h)anthracene	0.160	J	0.0192	0.193	mg/kg dry	1	6/16/23 15:01
Dibenzofuran	0.0533	J	0.0115	0.193	mg/kg dry	1	6/16/23 15:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluoranthene	3.99		0.0182	0.193	mg/kg dry	1	6/16/23 15:01
Fluorene	0.0534	J	0.0161	0.193	mg/kg dry	1	6/16/23 15:01
Indeno(1,2,3-cd)pyrene	1.29		0.0208	0.193	mg/kg dry	1	6/16/23 15:01
Naphthalene	0.183	J	0.0143	0.193	mg/kg dry	1	6/16/23 15:01
Phenanthrene	0.206		0.0255	0.193	mg/kg dry	1	6/16/23 15:01
Pyrene	3.29		0.0142	0.193	mg/kg dry	1	6/16/23 15:01
TIC_2-Pentanone, 4-hydroxy-4-methyl-	26.2	J			mg/kg dry	1	6/16/23 15:01
TIC_2-Pentene, 4-methyl-, (E)-	1.01	J			mg/kg dry	1	6/16/23 15:01
TIC_Benzo[b]naphtho[2,1-d]thiophene	0.567	J			mg/kg dry	1	6/16/23 15:01
TIC_Eicosane	0.561	J			mg/kg dry	1	6/16/23 15:01
TIC_Ethanol, 2-butoxy-	0.692	J			mg/kg dry	1	6/16/23 15:01
TIC_Hexadecanoic acid, butyl ester	19.9	J			mg/kg dry	1	6/16/23 15:01
TIC_Octadecane	0.433	J			mg/kg dry	1	6/16/23 15:01
TIC_Octadecanoic acid, butyl ester	10.1	J, B			mg/kg dry	1	6/16/23 15:01
TIC_unknown (01)	1.24	J			mg/kg dry	1	6/16/23 15:01
TIC_unknown (02)	0.452	J			mg/kg dry	1	6/16/23 15:01
TIC_unknown (03)	1.11	J			mg/kg dry	1	6/16/23 15:01
TIC_unknown (04)	0.779	J			mg/kg dry	1	6/16/23 15:01
TIC_unknown (05)	0.403	J			mg/kg dry	1	6/16/23 15:01
TIC_unknown (06)	0.528	J			mg/kg dry	1	6/16/23 15:01
TIC_unknown (07)	1.99	J			mg/kg dry	1	6/16/23 15:01

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.30				pH Units	1	6/21/23 16:00

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Sulfide	0.524		0.145	0.145	mg/kg dry	1	6/19/23 16:00

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7030		0.172	2.89	mg/kg dry	1	6/25/23 9:56
Barium	23.6		0.0438	0.579	mg/kg dry	1	6/25/23 9:56

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.274		0.00335	0.0289	mg/kg dry	1	6/25/23 9:56
Calcium	339		3.26	28.9	mg/kg dry	1	6/25/23 9:56
Chromium	10.3		0.0327	0.289	mg/kg dry	1	6/25/23 9:56
Cobalt	2.00		0.0296	0.232	mg/kg dry	1	6/25/23 9:56
Copper	5.33		0.0810	0.289	mg/kg dry	1	6/25/23 9:56
Iron	5960		0.820	5.79	mg/kg dry	1	6/25/23 9:56
Lead	3.64		0.121	1.45	mg/kg dry	1	6/25/23 9:56
Magnesium	1660		10.2	57.9	mg/kg dry	1	6/25/23 9:56
Manganese	52.3		0.0360	0.289	mg/kg dry	1	6/25/23 9:56
Nickel	6.60		0.0254	0.145	mg/kg dry	1	6/25/23 9:56
Potassium	1460		34.4	116	mg/kg dry	1	6/25/23 9:56
Silver	0.221		0.0492	0.174	mg/kg dry	1	6/25/23 9:56
Sodium	661		5.52	57.9	mg/kg dry	1	6/25/23 9:56
Vanadium	12.7		0.0666	0.579	mg/kg dry	1	6/25/23 9:56
Zinc	18.7		0.0884	0.868	mg/kg dry	1	6/25/23 9:56

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane	0.0688		0.000689	0.00155	mg/kg dry	1	6/19/23 23:39

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	877	D	19.0	119	mg/kg dry	500	6/22/23 19:08
Acenaphthene	74.4	D	0.0905	1.59	mg/kg dry	10	6/20/23 16:51
Acenaphthylene	383	D	2.76	79.3	mg/kg dry	500	6/22/23 19:08
Anthracene	259	D	11.5	79.3	mg/kg dry	500	6/22/23 19:08
Benzo(a)anthracene	75.7	D	0.160	1.59	mg/kg dry	10	6/20/23 16:51
Benzo(a)pyrene	62.4	D	0.277	1.59	mg/kg dry	10	6/20/23 16:51
Benzo(b)fluoranthene	41.9	D	0.223	1.59	mg/kg dry	10	6/20/23 16:51
Benzo(g,h,i)perylene	25.1	D	0.129	1.59	mg/kg dry	10	6/20/23 16:51
Benzo(k)fluoranthene	17.2	D	0.182	1.59	mg/kg dry	10	6/20/23 16:51
Biphenyl	57.1	D	0.140	1.59	mg/kg dry	10	6/20/23 16:51
Carbazole	4.10	D	0.305	3.97	mg/kg dry	10	6/20/23 16:51
Chrysene	75.7	D	0.109	1.59	mg/kg dry	10	6/20/23 16:51
Dibenzo(a,h)anthracene	2.92	D	0.157	1.59	mg/kg dry	10	6/20/23 16:51
Dibenzofuran	32.7	D	0.0946	1.59	mg/kg dry	10	6/20/23 16:51
Fluoranthene	229	D	7.45	79.3	mg/kg dry	500	6/22/23 19:08
Fluorene	281	D	6.62	79.3	mg/kg dry	500	6/22/23 19:08
Indeno(1,2,3-cd)pyrene	18.9	D	0.171	1.59	mg/kg dry	10	6/20/23 16:51

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Naphthalene	1030	D	5.88	79.3	mg/kg dry	500	6/22/23 19:08
Phenanthrene	852	D	10.4	79.3	mg/kg dry	500	6/22/23 19:08
Pyrene	377	D	5.84	79.3	mg/kg dry	500	6/22/23 19:08
TIC_Dibenzothiophene	57.3	D, J			mg/kg dry	10	6/20/23 16:51
TIC_Indene	81.0	D, J			mg/kg dry	10	6/20/23 16:51
TIC_Naphthalene, 1,7-dimethyl-	141	D, J			mg/kg dry	10	6/20/23 16:51
TIC_Naphthalene, 2,3-dimethyl-	67.0	J, D			mg/kg dry	10	6/20/23 16:51
TIC_Naphthalene, 2,6-dimethyl-	124	J, D			mg/kg dry	10	6/20/23 16:51
TIC_Naphthalene, 2-ethyl-	62.8	J, D			mg/kg dry	10	6/20/23 16:51
TIC_Tridecane	57.7	J, D			mg/kg dry	10	6/20/23 16:51
TIC_unknown (01)	65.8	J, D			mg/kg dry	10	6/20/23 16:51
TIC_unknown (02)	76.7	D, J			mg/kg dry	10	6/20/23 16:51
TIC_unknown (03)	139	D, J			mg/kg dry	10	6/20/23 16:51
TIC_unknown (04)	146	D, J			mg/kg dry	10	6/20/23 16:51
TIC_unknown (05)	83.5	J, D			mg/kg dry	10	6/20/23 16:51
TIC_unknown (06)	181	J, D			mg/kg dry	10	6/20/23 16:51
TIC_unknown (07)	94.3	J, D			mg/kg dry	10	6/20/23 16:51
TIC_unknown (08)	97.0	J, D			mg/kg dry	10	6/20/23 16:51

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	3.16	D	0.00994	0.0721	mg/kg dry	174	6/23/23 15:00
Benzene	0.163	D	0.000641	0.00704	mg/kg dry	17	6/23/23 14:29
Cyclohexane	0.0107		0.000259	0.00117	mg/kg dry	1	6/22/23 19:15
EthylBenzene	3.43	D	0.00976	0.0721	mg/kg dry	174	6/23/23 15:00
Isopropylbenzene	0.371	D	0.00111	0.00704	mg/kg dry	17	6/23/23 14:29
m+p-Xylenes	2.62	D	0.00178	0.0141	mg/kg dry	17	6/23/23 14:29
Methylcyclohexane	0.0439		0.000188	0.00117	mg/kg dry	1	6/22/23 19:15
o-Xylene	1.31	D	0.000905	0.00704	mg/kg dry	17	6/23/23 14:29
Toluene	1.21	D	0.000567	0.00704	mg/kg dry	17	6/23/23 14:29
Total Xylenes	3.93	D	0.000905	0.00704	mg/kg dry	17	6/23/23 14:29
TIC_1H-Indene, 1-methylene-	0.0272	J			mg/kg dry	1	6/22/23 19:15
TIC_1H-Indene, 2,3-dihydro-	0.0308	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, 1,2,3-trimethyl-	0.132	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, 1-ethyl-2-methyl-	0.0959	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, 1-ethyl-3-methyl- (01)	0.0951	J			mg/kg dry	1	6/22/23 19:15

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1-ethyl-3-methyl- (02)	0.0292	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, 1-ethyl-4-methyl-	0.0271	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, 1-propynyl-	0.128	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, ethenylmethyl-	0.0725	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, methyl(1-methylethyl)-	0.0324	J			mg/kg dry	1	6/22/23 19:15
TIC_Benzene, propyl-	0.0227	J			mg/kg dry	1	6/22/23 19:15
TIC_Cyclohexanone, 2,3-dimethyl-	0.0313	J			mg/kg dry	1	6/22/23 19:15
TIC_Octane	0.0309	J			mg/kg dry	1	6/22/23 19:15
TIC_Octane, 2-methyl-	0.0317	J			mg/kg dry	1	6/22/23 19:15
TIC_Octane, 3-methyl-	0.0292	J			mg/kg dry	1	6/22/23 19:15

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0876		0.00835	0.0701	mg/kg dry	1	6/14/23 16:06

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.63				pH Units	1	6/21/23 16:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0537
Project:	Owls Head Phase 2	**Date to Lab:**	6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00644	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1221	ND	U	0.0127	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1232	ND	U	0.0161	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1242	ND	U	0.00943	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1248	ND	U	0.00987	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1254	ND	U	0.00775	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1260	ND	U	0.00601	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1262	ND	U	0.0129	0.0480	mg/kg	1	6/20/23 18:21
Aroclor-1268	ND	U	0.00581	0.0480	mg/kg	1	6/20/23 18:21
Total PCBs	ND	U	0.00448	0.0480	mg/kg	1	6/20/23 18:21

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0143	0.145	mg/kg	1	6/27/23 12:40	UJ, RC:3L
2,4-D	ND	U	0.0241	0.145	mg/kg	1	6/27/23 12:40	UJ, RC:3L,Q

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.44**		**0.00727**	**0.0291**	**mg/kg**	**1**	**6/22/23 14:49**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8200**		**0.218**	**3.67**	**mg/kg**	**1**	**6/25/23 9:54**
Antimony	**2.09**		**0.200**	**1.84**	**mg/kg**	**1**	**6/25/23 9:54**
Arsenic	**25.6**		**0.131**	**1.84**	**mg/kg**	**1**	**6/25/23 9:54**
Barium	**71.6**		**0.0555**	**0.735**	**mg/kg**	**1**	**6/25/23 9:54**
Beryllium	**0.543**		**0.00425**	**0.0367**	**mg/kg**	**1**	**6/25/23 9:54**
Cadmium	**0.404**		**0.0716**	**0.367**	**mg/kg**	**1**	**6/25/23 9:54**
Calcium	**31100**		**4.13**	**36.7**	**mg/kg**	**1**	**6/25/23 9:54**
Chromium	**20.8**		**0.0415**	**0.367**	**mg/kg**	**1**	**6/25/23 9:54**
Cobalt	**8.93**		**0.0375**	**0.294**	**mg/kg**	**1**	**6/25/23 9:54**
Copper	**168**		**0.103**	**0.367**	**mg/kg**	**1**	**6/25/23 9:54**
Iron	**20200**		**1.04**	**7.35**	**mg/kg**	**1**	**6/25/23 9:54**
Lead	**316**		**0.153**	**1.84**	**mg/kg**	**1**	**6/25/23 9:54**
Magnesium	**2860**		**13.0**	**73.5**	**mg/kg**	**1**	**6/25/23 9:54**
Manganese	**106**		**0.0457**	**0.367**	**mg/kg**	**1**	**6/25/23 9:54**
Nickel	**35.0**		**0.0323**	**0.184**	**mg/kg**	**1**	**6/25/23 9:54**
Potassium	**1450**		**43.7**	**147**	**mg/kg**	**1**	**6/25/23 9:54**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0537
Project:	Owls Head Phase 2	**Date to Lab:**	6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.353	1.84	mg/kg	1	6/25/23 9:54
Silver	**0.985**		**0.0625**	**0.220**	**mg/kg**	**1**	**6/25/23 9:54**
Sodium	**3340**		**7.00**	**73.5**	**mg/kg**	**1**	**6/25/23 9:54**
Thallium	ND	U	0.124	1.84	mg/kg	1	6/25/23 9:54
Vanadium	**26.4**		**0.0845**	**0.735**	**mg/kg**	**1**	**6/25/23 9:54**
Zinc	**720**	D	**1.12**	**11.0**	**mg/kg**	**10**	**6/26/23 9:37**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000866	0.00189	mg/kg	1	6/19/23 23:21	
4,4'-DDE	ND	U	0.00103	0.00189	mg/kg	1	6/19/23 23:21	
4,4'-DDT	ND	U	0.00134	0.00189	mg/kg	1	6/19/23 23:21	
Aldrin	ND	U	0.000896	0.00189	mg/kg	1	6/19/23 23:21	
alpha-BHC	ND	U	0.000563	0.00189	mg/kg	1	6/19/23 23:21	
beta-BHC	ND	U	0.000903	0.00189	mg/kg	1	6/19/23 23:21	
Chlordane	ND	U	0.000841	0.00189	mg/kg	1	6/19/23 23:21	
delta-BHC	ND	U	0.000879	0.00189	mg/kg	1	6/19/23 23:21	
Dieldrin	ND	U	0.000989	0.00189	mg/kg	1	6/19/23 23:21	
Endosulfan I	ND	U	0.000893	0.00189	mg/kg	1	6/19/23 23:21	
Endosulfan II	ND	U	0.000860	0.00189	mg/kg	1	6/19/23 23:21	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000711	0.00189	mg/kg	1	6/19/23 23:21	
Endosulfans, Total (alpha and beta)	ND	U	0.000860	0.00189	mg/kg	1	6/19/23 23:21	
Endrin	ND	U	0.000653	0.00189	mg/kg	1	6/19/23 23:21	
Endrin aldehyde	ND	U	0.000754	0.00189	mg/kg	1	6/19/23 23:21	
Endrin ketone	ND	U	0.000666	0.00189	mg/kg	1	6/19/23 23:21	
gamma-BHC (Lindane)	ND	U	0.000599	0.00189	mg/kg	1	6/19/23 23:21	
Heptachlor	ND	U	0.000506	0.00189	mg/kg	1	6/19/23 23:21	
Heptachlor Epoxide	ND	U	0.000954	0.00189	mg/kg	1	6/19/23 23:21	
Methoxychlor	ND	U	0.000554	0.00189	mg/kg	1	6/19/23 23:21	
Toxaphene	ND	U	0.0911	0.0960	mg/kg	1	6/19/23 23:21	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00547	0.0484	mg/kg	1	6/16/23 15:01
2,3,4,6-Tetrachlorophenol	ND	U	0.0298	0.193	mg/kg	1	6/16/23 15:01
2,4,5-Trichlorophenol	ND	U	0.0263	0.193	mg/kg	1	6/16/23 15:01
2,4,6-Trichlorophenol	ND	U	0.0121	0.193	mg/kg	1	6/16/23 15:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0195	0.193	mg/kg	1	6/16/23 15:01	
2,4-Dimethylphenol	ND	U	0.0191	0.193	mg/kg	1	6/16/23 15:01	
2,4-Dinitrophenol	ND	U	0.0279	0.970	mg/kg	1	6/16/23 15:01	
2,4-Dinitrotoluene	ND	U	0.0207	0.193	mg/kg	1	6/16/23 15:01	
2,6-Dinitrotoluene	ND	U	0.0463	0.193	mg/kg	1	6/16/23 15:01	
2-Chloronaphthalene	ND	U	0.0223	0.193	mg/kg	1	6/16/23 15:01	
2-Chlorophenol	ND	U	0.0256	0.193	mg/kg	1	6/16/23 15:01	
2-Methylnaphthalene	**0.0521**	J	**0.0464**	**0.291**	**mg/kg**	**1**	**6/16/23 15:01**	
2-Methylphenol	ND	U	0.0383	0.193	mg/kg	1	6/16/23 15:01	
2-Nitroaniline	ND	U	0.0156	0.193	mg/kg	1	6/16/23 15:01	
2-Nitrophenol	ND	U	0.0215	0.193	mg/kg	1	6/16/23 15:01	
3,3'-Dichlorobenzidine	ND	U	0.0204	0.193	mg/kg	1	6/16/23 15:01	
3+4-Methylphenol	ND	U	0.0355	0.193	mg/kg	1	6/16/23 15:01	
3-Nitroaniline	ND	U	0.0359	0.193	mg/kg	1	6/16/23 15:01	
4,6-Dinitro-2-methylphenol	ND	U	0.0365	0.484	mg/kg	1	6/16/23 15:01	
4-Bromophenyl-phenyl ether	ND	U	0.0276	0.193	mg/kg	1	6/16/23 15:01	
4-Chloro-3-methylphenol	ND	U	0.0305	0.193	mg/kg	1	6/16/23 15:01	
4-Chloroaniline	ND	U	0.00678	0.193	mg/kg	1	6/16/23 15:01	
4-Chlorophenyl phenyl ether	ND	U	0.0105	0.193	mg/kg	1	6/16/23 15:01	
4-Nitroaniline	ND	U	0.0969	0.193	mg/kg	1	6/16/23 15:01	
4-Nitrophenol	ND	U	0.0124	0.193	mg/kg	1	6/16/23 15:01	
Acenaphthene	**0.0933**	J	**0.0110**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Acenaphthylene	**0.163**	J	**0.00674**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Acetophenone	ND	U	0.0192	0.193	mg/kg	1	6/16/23 15:01	
Anthracene	**0.143**	J	**0.0281**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Atrazine	ND	U	0.0182	0.193	mg/kg	1	6/16/23 15:01	
Benzaldehyde	~~ND~~	~~U~~	~~0.0595~~	~~0.193~~	mg/kg	1	6/16/23 15:01	R, RC:6L
Benzo(a)anthracene	**3.35**		**0.0195**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Benzo(a)pyrene	**2.86**		**0.0337**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Benzo(b)fluoranthene	**3.55**		**0.0272**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Benzo(g,h,i)perylene	**1.41**		**0.0157**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	J, RC:3H
Benzo(k)fluoranthene	**1.37**		**0.0223**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Biphenyl	ND	U	0.0170	0.193	mg/kg	1	6/16/23 15:01	
bis(2-chloroethoxy)methane	ND	U	0.0268	0.193	mg/kg	1	6/16/23 15:01	
bis(2-chloroethyl)ether	ND	U	0.0212	0.193	mg/kg	1	6/16/23 15:01	
bis(2-chloroisopropyl)ether	ND	U	0.0697	0.193	mg/kg	1	6/16/23 15:01	
bis(2-ethylhexyl)phthalate	ND	U	0.0387	0.193	mg/kg	1	6/16/23 15:01	
Butylbenzylphthalate	ND	U	0.0176	0.193	mg/kg	1	6/16/23 15:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0250	0.193	mg/kg	1	6/16/23 15:01	
Carbazole	ND	U	0.0372	0.484	mg/kg	1	6/16/23 15:01	
Chrysene	**3.30**		**0.0133**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Dibenzo(a,h)anthracene	**0.160**	J	**0.0192**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	J, RC:3H
Dibenzofuran	**0.0533**	J	**0.0115**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Diethylphthalate	ND	U	0.0375	0.193	mg/kg	1	6/16/23 15:01	
Dimethylphthalate	ND	U	0.0120	0.193	mg/kg	1	6/16/23 15:01	
Di-n-butylphthalate	ND	U	0.0791	0.193	mg/kg	1	6/16/23 15:01	
Di-n-octylphthalate	ND	U	0.0397	0.193	mg/kg	1	6/16/23 15:01	
Fluoranthene	**3.99**		**0.0182**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Fluorene	**0.0534**	J	**0.0161**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Hexachlorobenzene	ND	U	0.0253	0.193	mg/kg	1	6/16/23 15:01	
Hexachlorobutadiene	ND	U	0.0930	0.193	mg/kg	1	6/16/23 15:01	
Hexachlorocyclopentadiene	~~ND~~	~~U~~	~~0.0807~~	~~0.484~~	mg/kg	1	6/16/23 15:01	R, RC:6L
Hexachloroethane	ND	U	0.0212	0.193	mg/kg	1	6/16/23 15:01	
Indeno(1,2,3-cd)pyrene	**1.29**		**0.0208**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	J, RC:3H
Isophorone	ND	U	0.0127	0.193	mg/kg	1	6/16/23 15:01	
Naphthalene	**0.183**	J	**0.0143**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Nitrobenzene	ND	U	0.0329	0.193	mg/kg	1	6/16/23 15:01	
n-Nitroso-di-n-propylamine	ND	U	0.0104	0.193	mg/kg	1	6/16/23 15:01	
n-Nitrosodiphenylamine	ND	U	0.0413	0.193	mg/kg	1	6/16/23 15:01	
Pentachlorophenol	ND	U	0.0266	0.484	mg/kg	1	6/16/23 15:01	
Phenanthrene	**0.206**		**0.0255**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	
Phenol	ND	U	0.0157	0.193	mg/kg	1	6/16/23 15:01	
Pyrene	**3.29**		**0.0142**	**0.193**	**mg/kg**	**1**	**6/16/23 15:01**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	26.2	5.21	J	mg/kg	1	6/16/23 15:01	
2-Pentene, 4-methyl-, (E)-	1.01	5.01	J	mg/kg	1	6/16/23 15:01	
Benzo[b]naphtho[2,1-d]thiophene	0.567	14.16	J	mg/kg	1	6/16/23 15:01	
Eicosane	0.561	12.08	J	mg/kg	1	6/16/23 15:01	
Ethanol, 2-butoxy-	0.692	5.86	J	mg/kg	1	6/16/23 15:01	
Hexadecanoic acid, butyl ester	19.9	12.83	J	mg/kg	1	6/16/23 15:01	
Octadecane	0.433	11.25	J	mg/kg	1	6/16/23 15:01	
Octadecanoic acid, butyl ester	~~10.1~~	13.64	J, B	mg/kg	1	6/16/23 15:01	R, RC:2
unknown (01)	1.24	4.65	J	mg/kg	1	6/16/23 15:01	
unknown (02)	0.452	13.26	J	mg/kg	1	6/16/23 15:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (03)	1.11	13.39	J	mg/kg	1	6/16/23 15:01
unknown (04)	0.779	13.47	J	mg/kg	1	6/16/23 15:01
unknown (05)	0.403	14.23	J	mg/kg	1	6/16/23 15:01
unknown (06)	0.528	14.65	J	mg/kg	1	6/16/23 15:01
unknown (07)	1.99	16.72	J	mg/kg	1	6/16/23 15:01
TIC Total	~~66.0~~ 55.9					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000483	0.00331	mg/kg	1	6/16/23 18:37
1,1,2,2-Tetrachloroethane	ND	U	0.000456	0.00331	mg/kg	1	6/16/23 18:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00142	0.00331	mg/kg	1	6/16/23 18:37
1,1,2-Trichloroethane	ND	U	0.000557	0.00331	mg/kg	1	6/16/23 18:37
1,1-Dichloroethane	ND	U	0.000483	0.00331	mg/kg	1	6/16/23 18:37
1,1-Dichloroethene	ND	U	0.000612	0.00331	mg/kg	1	6/16/23 18:37
1,2,3-Trichlorobenzene	ND	U	0.000714	0.00331	mg/kg	1	6/16/23 18:37
1,2,4-Trichlorobenzene	ND	U	0.000881	0.00331	mg/kg	1	6/16/23 18:37
1,2,4-Trimethylbenzene	ND	U	0.000456	0.00331	mg/kg	1	6/16/23 18:37
1,2-Dibromo-3-chloropropane	ND	U	0.000807	0.00331	mg/kg	1	6/16/23 18:37
1,2-Dibromoethane	ND	U	0.000417	0.00331	mg/kg	1	6/16/23 18:37
1,2-Dichlorobenzene	ND	U	0.000584	0.00331	mg/kg	1	6/16/23 18:37
1,2-Dichloroethane	ND	U	0.000466	0.00331	mg/kg	1	6/16/23 18:37
1,2-Dichloropropane	ND	U	0.000542	0.00331	mg/kg	1	6/16/23 18:37
1,3-Dichlorobenzene	ND	U	0.000243	0.00331	mg/kg	1	6/16/23 18:37
1,4-Dichlorobenzene	ND	U	0.000476	0.00331	mg/kg	1	6/16/23 18:37
2-Butanone	ND	U	0.000539	0.00827	mg/kg	1	6/16/23 18:37
2-Hexanone	ND	U	0.000309	0.00331	mg/kg	1	6/16/23 18:37
4-Methyl-2-pentanone	ND	U	0.000413	0.00331	mg/kg	1	6/16/23 18:37
Acetone	ND	U	0.00100	0.00827	mg/kg	1	6/16/23 18:37
Benzene	ND	U	0.000301	0.00331	mg/kg	1	6/16/23 18:37
Bromochloromethane	ND	U	0.000610	0.00331	mg/kg	1	6/16/23 18:37
Bromodichloromethane	ND	U	0.000415	0.00331	mg/kg	1	6/16/23 18:37
Bromoform	ND	U	0.000580	0.00331	mg/kg	1	6/16/23 18:37
Bromomethane	ND	U	0.000954	0.00331	mg/kg	1	6/16/23 18:37
Carbon disulfide	ND	U	0.000474	0.00331	mg/kg	1	6/16/23 18:37
Carbon Tetrachloride	ND	U	0.000498	0.00331	mg/kg	1	6/16/23 18:37
Chlorobenzene	ND	U	0.000479	0.00331	mg/kg	1	6/16/23 18:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorodibromomethane	ND	U	0.000407	0.00331	mg/kg	1	6/16/23 18:37
Chloroethane	ND	U	0.000564	0.00331	mg/kg	1	6/16/23 18:37
Chloroform	ND	U	0.000555	0.00331	mg/kg	1	6/16/23 18:37
Chloromethane	ND	U	0.00127	0.00331	mg/kg	1	6/16/23 18:37
cis-1,2-Dichloroethene	ND	U	0.000160	0.00331	mg/kg	1	6/16/23 18:37
cis-1,3-Dichloropropene	ND	U	0.000418	0.00331	mg/kg	1	6/16/23 18:37
Cyclohexane	ND	U	0.000732	0.00331	mg/kg	1	6/16/23 18:37
Dichlorodifluoromethane	ND	U	0.00112	0.00331	mg/kg	1	6/16/23 18:37
EthylBenzene	ND	U	0.000448	0.00331	mg/kg	1	6/16/23 18:37
Isopropylbenzene	ND	U	0.000519	0.00331	mg/kg	1	6/16/23 18:37
m+p-Xylenes	ND	U	0.000835	0.00661	mg/kg	1	6/16/23 18:37
Methyl Acetate	ND	U	0.000438	0.00331	mg/kg	1	6/16/23 18:37
Methyl tert-Butyl Ether	ND	U	0.000559	0.00331	mg/kg	1	6/16/23 18:37
Methylcyclohexane	ND	U	0.000532	0.00331	mg/kg	1	6/16/23 18:37
Methylene Chloride	ND	U	0.000993	0.00331	mg/kg	1	6/16/23 18:37
o-Xylene	ND	U	0.000425	0.00331	mg/kg	1	6/16/23 18:37
Styrene	ND	U	0.000473	0.00331	mg/kg	1	6/16/23 18:37
tert-Butyl alcohol	ND	U	0.00694	0.0331	mg/kg	1	6/16/23 18:37
Tetrachloroethene	ND	U	0.000327	0.00331	mg/kg	1	6/16/23 18:37
Toluene	ND	U	0.000266	0.00331	mg/kg	1	6/16/23 18:37
Total Xylenes	ND	U	0.000425	0.00331	mg/kg	1	6/16/23 18:37
trans-1,2-Dichloroethene	ND	U	0.000448	0.00331	mg/kg	1	6/16/23 18:37
trans-1,3-Dichloropropene	ND	U	0.000631	0.00331	mg/kg	1	6/16/23 18:37
Trichloroethene	ND	U	0.000486	0.00331	mg/kg	1	6/16/23 18:37
Trichlorofluoromethane	ND	U	0.000380	0.00331	mg/kg	1	6/16/23 18:37
Vinyl chloride	ND	U	0.000628	0.00331	mg/kg	1	6/16/23 18:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**68.7**				**%**	**1**	**6/13/23 11:18**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0537
Project:	Owls Head Phase 2	**Date to Lab:**	6/12/2023 4:05:00PM

23F0537-01 (Soil) Sample Name: **MR-301-6.0-8.0-20230612** Collected: **6/12/2023 10:55:00AM**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	6/26/23 15:49

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0104	0.0873	mg/kg	1	6/14/23 16:06

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.30**				**pH Units**	**1**	**6/21/23 16:00**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	6/14/23 18:00

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	0.524	0.00		mg/kg	1	6/19/23 16:00

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612** Collected: **6/12/2023 1:01:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00528	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1221	ND	U	0.0104	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1232	ND	U	0.0132	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1242	ND	U	0.00773	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1248	ND	U	0.00809	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1254	ND	U	0.00635	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1260	ND	U	0.00493	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1262	ND	U	0.0106	0.0394	mg/kg	1	6/20/23 18:43
Aroclor-1268	ND	U	0.00476	0.0394	mg/kg	1	6/20/23 18:43
Total PCBs	ND	U	0.00367	0.0394	mg/kg	1	6/20/23 18:43

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0537
Project:	Owls Head Phase 2	**Date to Lab:**	6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612** Collected: **6/12/2023 1:01:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0117	0.119	mg/kg	1	6/27/23 12:50 UJ, RC:3L
2,4-D	ND	U	0.0198	0.119	mg/kg	1	6/27/23 12:50 UJ, RC:3L,Q

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00596	0.0239	mg/kg	1	6/22/23 14:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7030**		**0.172**	**2.89**	**mg/kg**	**1**	**6/25/23 9:56**
Antimony	ND	U	0.158	1.45	mg/kg	1	6/25/23 9:56
Arsenic	ND	U	0.103	1.45	mg/kg	1	6/25/23 9:56
Barium	**23.6**		**0.0438**	**0.579**	**mg/kg**	**1**	**6/25/23 9:56**
Beryllium	**0.274**		**0.00335**	**0.0289**	**mg/kg**	**1**	**6/25/23 9:56**
Cadmium	ND	U	0.0564	0.289	mg/kg	1	6/25/23 9:56
Calcium	**339**		**3.26**	**28.9**	**mg/kg**	**1**	**6/25/23 9:56**
Chromium	**10.3**		**0.0327**	**0.289**	**mg/kg**	**1**	**6/25/23 9:56**
Cobalt	**2.00**		**0.0296**	**0.232**	**mg/kg**	**1**	**6/25/23 9:56**
Copper	**5.33**		**0.0810**	**0.289**	**mg/kg**	**1**	**6/25/23 9:56**
Iron	**5960**		**0.820**	**5.79**	**mg/kg**	**1**	**6/25/23 9:56**
Lead	**3.64**		**0.121**	**1.45**	**mg/kg**	**1**	**6/25/23 9:56**
Magnesium	**1660**		**10.2**	**57.9**	**mg/kg**	**1**	**6/25/23 9:56**
Manganese	**52.3**		**0.0360**	**0.289**	**mg/kg**	**1**	**6/25/23 9:56**
Nickel	**6.60**		**0.0254**	**0.145**	**mg/kg**	**1**	**6/25/23 9:56**
Potassium	**1460**		**34.4**	**116**	**mg/kg**	**1**	**6/25/23 9:56**
Selenium	ND	U	0.278	1.45	mg/kg	1	6/25/23 9:56
Silver	**0.221**		**0.0492**	**0.174**	**mg/kg**	**1**	**6/25/23 9:56**
Sodium	**661**		**5.52**	**57.9**	**mg/kg**	**1**	**6/25/23 9:56**
Thallium	ND	U	0.0974	1.45	mg/kg	1	6/25/23 9:56
Vanadium	**12.7**		**0.0666**	**0.579**	**mg/kg**	**1**	**6/25/23 9:56**
Zinc	**18.7**		**0.0884**	**0.868**	**mg/kg**	**1**	**6/25/23 9:56**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000710	0.00155	mg/kg	1	6/19/23 23:39
4,4'-DDE	ND	U	0.000848	0.00155	mg/kg	1	6/19/23 23:39
4,4'-DDT	ND	U	0.00109	0.00155	mg/kg	1	6/19/23 23:39
Aldrin	ND	U	0.000735	0.00155	mg/kg	1	6/19/23 23:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-202 30612** Collected: **6/12/2023 1:01:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000462	0.00155	mg/kg	1	6/19/23 23:39	
beta-BHC	ND	U	0.000741	0.00155	mg/kg	1	6/19/23 23:39	
Chlordane	**0.0688**		**0.000689**	**0.00155**	**mg/kg**	**1**	**6/19/23 23:39**	J, RC:3H
delta-BHC	ND	U	0.000720	0.00155	mg/kg	1	6/19/23 23:39	
Dieldrin	ND	U	0.000811	0.00155	mg/kg	1	6/19/23 23:39	
Endosulfan I	ND	U	0.000732	0.00155	mg/kg	1	6/19/23 23:39	
Endosulfan II	ND	U	0.000705	0.00155	mg/kg	1	6/19/23 23:39	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000583	0.00155	mg/kg	1	6/19/23 23:39	
Endosulfans, Total (alpha and beta)	ND	U	0.000705	0.00155	mg/kg	1	6/19/23 23:39	
Endrin	ND	U	0.000536	0.00155	mg/kg	1	6/19/23 23:39	
Endrin aldehyde	ND	U	0.000618	0.00155	mg/kg	1	6/19/23 23:39	
Endrin ketone	ND	U	0.000546	0.00155	mg/kg	1	6/19/23 23:39	
gamma-BHC (Lindane)	ND	U	0.000491	0.00155	mg/kg	1	6/19/23 23:39	
Heptachlor	ND	U	0.000415	0.00155	mg/kg	1	6/19/23 23:39	
Heptachlor Epoxide	ND	U	0.000782	0.00155	mg/kg	1	6/19/23 23:39	
Methoxychlor	ND	U	0.000454	0.00155	mg/kg	1	6/19/23 23:39	
Toxaphene	ND	U	0.0747	0.0787	mg/kg	1	6/19/23 23:39	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0448	0.397	mg/kg	10	6/20/23 16:51
2,3,4,6-Tetrachlorophenol	ND	U	0.245	1.59	mg/kg	10	6/20/23 16:51
2,4,5-Trichlorophenol	ND	U	0.216	1.59	mg/kg	10	6/20/23 16:51
2,4,6-Trichlorophenol	ND	U	0.0994	1.59	mg/kg	10	6/20/23 16:51
2,4-Dichlorophenol	ND	U	0.160	1.59	mg/kg	10	6/20/23 16:51
2,4-Dimethylphenol	ND	U	0.156	1.59	mg/kg	10	6/20/23 16:51
2,4-Dinitrophenol	ND	U	0.229	7.96	mg/kg	10	6/20/23 16:51
2,4-Dinitrotoluene	ND	U	0.169	1.59	mg/kg	10	6/20/23 16:51
2,6-Dinitrotoluene	ND	U	0.379	1.59	mg/kg	10	6/20/23 16:51
2-Chloronaphthalene	ND	U	0.182	1.59	mg/kg	10	6/20/23 16:51
2-Chlorophenol	ND	U	0.210	1.59	mg/kg	10	6/20/23 16:51
2-Methylnaphthalene	**877**	D	**19.0**	**119**	**mg/kg**	**500**	**6/22/23 19:08**
2-Methylphenol	ND	U	0.314	1.59	mg/kg	10	6/20/23 16:51
2-Nitroaniline	ND	U	0.128	1.59	mg/kg	10	6/20/23 16:51
2-Nitrophenol	ND	U	0.177	1.59	mg/kg	10	6/20/23 16:51
3,3'-Dichlorobenzidine	ND	U	0.167	1.59	mg/kg	10	6/20/23 16:51
3+4-Methylphenol	ND	U	0.291	1.59	mg/kg	10	6/20/23 16:51

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-202 30612** Collected: **6/12/2023 1:01:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.295	1.59	mg/kg	10	6/20/23 16:51	
4,6-Dinitro-2-methylphenol	ND	U	0.299	3.97	mg/kg	10	6/20/23 16:51	
4-Bromophenyl-phenyl ether	ND	U	0.227	1.59	mg/kg	10	6/20/23 16:51	
4-Chloro-3-methylphenol	ND	U	0.250	1.59	mg/kg	10	6/20/23 16:51	
4-Chloroaniline	ND	U	0.0556	1.59	mg/kg	10	6/20/23 16:51	
4-Chlorophenyl phenyl ether	ND	U	0.0858	1.59	mg/kg	10	6/20/23 16:51	
4-Nitroaniline	ND	U	0.794	1.59	mg/kg	10	6/20/23 16:51	
4-Nitrophenol	ND	U	0.102	1.59	mg/kg	10	6/20/23 16:51	
Acenaphthene	**74.4**	D	**0.0905**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Acenaphthylene	**383**	D	**2.76**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	
Acetophenone	ND	U	0.157	1.59	mg/kg	10	6/20/23 16:51	
Anthracene	**259**	D	**11.5**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	
Atrazine	ND	U	0.149	1.59	mg/kg	10	6/20/23 16:51	
Benzaldehyde	~~ND~~	~~U~~	~~0.488~~	~~1.59~~	mg/kg	10	6/20/23 16:51	R, RC:6L
Benzo(a)anthracene	**75.7**	D	**0.160**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Benzo(a)pyrene	**62.4**	D	**0.277**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Benzo(b)fluoranthene	**41.9**	D	**0.223**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Benzo(g,h,i)perylene	**25.1**	D	**0.129**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	J, RC:3H
Benzo(k)fluoranthene	**17.2**	D	**0.182**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Biphenyl	**57.1**	D	**0.140**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
bis(2-chloroethoxy)methane	ND	U	0.219	1.59	mg/kg	10	6/20/23 16:51	
bis(2-chloroethyl)ether	ND	U	0.174	1.59	mg/kg	10	6/20/23 16:51	
bis(2-chloroisopropyl)ether	ND	U	0.571	1.59	mg/kg	10	6/20/23 16:51	
bis(2-ethylhexyl)phthalate	ND	U	0.317	1.59	mg/kg	10	6/20/23 16:51	
Butylbenzylphthalate	ND	U	0.144	1.59	mg/kg	10	6/20/23 16:51	
Caprolactam	ND	U	0.205	1.59	mg/kg	10	6/20/23 16:51	
Carbazole	**4.10**	D	**0.305**	**3.97**	**mg/kg**	**10**	**6/20/23 16:51**	
Chrysene	**75.7**	D	**0.109**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Dibenzo(a,h)anthracene	**2.92**	D	**0.157**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	J, RC:3H
Dibenzofuran	**32.7**	D	**0.0946**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	
Diethylphthalate	ND	U	0.308	1.59	mg/kg	10	6/20/23 16:51	
Dimethylphthalate	ND	U	0.0985	1.59	mg/kg	10	6/20/23 16:51	
Di-n-butylphthalate	ND	U	0.649	1.59	mg/kg	10	6/20/23 16:51	
Di-n-octylphthalate	ND	U	0.326	1.59	mg/kg	10	6/20/23 16:51	
Fluoranthene	**229**	D	**7.45**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	
Fluorene	**281**	D	**6.62**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	
Hexachlorobenzene	ND	U	0.208	1.59	mg/kg	10	6/20/23 16:51	
Hexachlorobutadiene	ND	U	0.762	1.59	mg/kg	10	6/20/23 16:51	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612** Collected: **6/12/2023 1:01:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorocyclopentadiene	~~ND~~	~~U~~	~~0.662~~	~~3.97~~	mg/kg	10	6/20/23 16:51	R, RC:6L
Hexachloroethane	ND	U	0.174	1.59	mg/kg	10	6/20/23 16:51	
Indeno(1,2,3-cd)pyrene	**18.9**	D	**0.171**	**1.59**	**mg/kg**	**10**	**6/20/23 16:51**	J, RC:3H
Isophorone	ND	U	0.104	1.59	mg/kg	10	6/20/23 16:51	
Naphthalene	**1030**	D	**5.88**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	
Nitrobenzene	ND	U	0.270	1.59	mg/kg	10	6/20/23 16:51	
n-Nitroso-di-n-propylamine	ND	U	0.0850	1.59	mg/kg	10	6/20/23 16:51	
n-Nitrosodiphenylamine	ND	U	0.339	1.59	mg/kg	10	6/20/23 16:51	
Pentachlorophenol	ND	U	0.218	3.97	mg/kg	10	6/20/23 16:51	
Phenanthrene	**852**	D	**10.4**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	
Phenol	ND	U	0.129	1.59	mg/kg	10	6/20/23 16:51	
Pyrene	**377**	D	**5.84**	**79.3**	**mg/kg**	**500**	**6/22/23 19:08**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Dibenzothiophene	57.3	11.40	D, J	mg/kg	10	6/20/23 16:51
Indene	81.0	7.18	D, J	mg/kg	10	6/20/23 16:51
Naphthalene, 1,7-dimethyl-	141	9.64	D, J	mg/kg	10	6/20/23 16:51
Naphthalene, 2,3-dimethyl-	67.0	9.75	J, D	mg/kg	10	6/20/23 16:51
Naphthalene, 2,6-dimethyl-	124	9.56	J, D	mg/kg	10	6/20/23 16:51
Naphthalene, 2-ethyl-	62.8	9.48	J, D	mg/kg	10	6/20/23 16:51
Tridecane	57.7	10.33	J, D	mg/kg	10	6/20/23 16:51
unknown (01)	65.8	9.66	J, D	mg/kg	10	6/20/23 16:51
unknown (02)	76.7	11.09	D, J	mg/kg	10	6/20/23 16:51
unknown (03)	139	12.00	D, J	mg/kg	10	6/20/23 16:51
unknown (04)	146	12.03	D, J	mg/kg	10	6/20/23 16:51
unknown (05)	83.5	12.08	J, D	mg/kg	10	6/20/23 16:51
unknown (06)	181	12.14	J, D	mg/kg	10	6/20/23 16:51
unknown (07)	94.3	12.57	J, D	mg/kg	10	6/20/23 16:51
unknown (08)	97.0	12.87	J, D	mg/kg	10	6/20/23 16:51
TIC Total	**1,470**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000171	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000161	0.00117	mg/kg	1	6/22/23 19:15	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000500	0.00117	mg/kg	1	6/22/23 19:15	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612** Collected: **6/12/2023 1:01:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,2-Trichloroethane	ND	U	0.000197	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
1,1-Dichloroethane	ND	U	0.000171	0.00117	mg/kg	1	6/22/23 19:15	
1,1-Dichloroethene	ND	U	0.000216	0.00117	mg/kg	1	6/22/23 19:15	
1,2,3-Trichlorobenzene	ND	U	0.000253	0.00117	mg/kg	1	6/22/23 19:15	
1,2,4-Trichlorobenzene	ND	U	0.000312	0.00117	mg/kg	1	6/22/23 19:15	
1,2,4-Trimethylbenzene	**3.16**	D	**0.00994**	**0.0721**	**mg/kg**	**174**	**6/23/23 15:00**	
1,2-Dibromo-3-chloropropane	ND	U	0.000285	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
1,2-Dibromoethane	ND	U	0.000147	0.00117	mg/kg	1	6/22/23 19:15	
1,2-Dichlorobenzene	ND	U	0.000206	0.00117	mg/kg	1	6/22/23 19:15	
1,2-Dichloroethane	ND	U	0.000165	0.00117	mg/kg	1	6/22/23 19:15	
1,2-Dichloropropane	ND	U	0.000192	0.00117	mg/kg	1	6/22/23 19:15	
1,3-Dichlorobenzene	ND	U	0.0000859	0.00117	mg/kg	1	6/22/23 19:15	
1,4-Dichlorobenzene	ND	U	0.000168	0.00117	mg/kg	1	6/22/23 19:15	
2-Butanone	ND	U	0.000191	0.00292	mg/kg	1	6/22/23 19:15	
2-Hexanone	ND	U	0.000109	0.00117	mg/kg	1	6/22/23 19:15	
4-Methyl-2-pentanone	ND	U	0.000146	0.00117	mg/kg	1	6/22/23 19:15	
Acetone	ND	U	0.000354	0.00292	mg/kg	1	6/22/23 19:15	
Benzene	**0.163**	D	**0.000641**	**0.00704**	**mg/kg**	**17**	**6/23/23 14:29**	
Bromochloromethane	ND	U	0.000216	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
Bromodichloromethane	ND	U	0.000147	0.00117	mg/kg	1	6/22/23 19:15	
Bromoform	ND	U	0.000205	0.00117	mg/kg	1	6/22/23 19:15	
Bromomethane	ND	U	0.000337	0.00117	mg/kg	1	6/22/23 19:15	
Carbon disulfide	ND	U	0.000168	0.00117	mg/kg	1	6/22/23 19:15	
Carbon Tetrachloride	ND	U	0.000176	0.00117	mg/kg	1	6/22/23 19:15	
Chlorobenzene	ND	U	0.000170	0.00117	mg/kg	1	6/22/23 19:15	
Chlorodibromomethane	ND	U	0.000144	0.00117	mg/kg	1	6/22/23 19:15	
Chloroethane	ND	U	0.000199	0.00117	mg/kg	1	6/22/23 19:15	
Chloroform	ND	U	0.000196	0.00117	mg/kg	1	6/22/23 19:15	
Chloromethane	ND	U	0.000450	0.00117	mg/kg	1	6/22/23 19:15	
cis-1,2-Dichloroethene	ND	U	0.0000565	0.00117	mg/kg	1	6/22/23 19:15	
cis-1,3-Dichloropropene	ND	U	0.000148	0.00117	mg/kg	1	6/22/23 19:15	
Cyclohexane	**0.0107**		**0.000259**	**0.00117**	**mg/kg**	**1**	**6/22/23 19:15**	J, RC:3L
Dichlorodifluoromethane	ND	U	0.000395	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
EthylBenzene	**3.43**	D	**0.00976**	**0.0721**	**mg/kg**	**174**	**6/23/23 15:00**	
Isopropylbenzene	**0.371**	D	**0.00111**	**0.00704**	**mg/kg**	**17**	**6/23/23 14:29**	
m+p-Xylenes	**2.62**	D	**0.00178**	**0.0141**	**mg/kg**	**17**	**6/23/23 14:29**	
Methyl Acetate	ND	U	0.000155	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000198	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-202 30612** Collected: **6/12/2023 1:01:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Methylcyclohexane	**0.0439**		**0.000188**	**0.00117**	**mg/kg**	**1**	**6/22/23 19:15**	J, RC:3L
Methylene Chloride	ND	U	0.000351	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
o-Xylene	**1.31**	D	**0.000905**	**0.00704**	**mg/kg**	**17**	**6/23/23 14:29**	
Styrene	ND	U	0.000167	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
tert-Butyl alcohol	ND	U	0.00246	0.0117	mg/kg	1	6/22/23 19:15	
Tetrachloroethene	ND	U	0.000116	0.00117	mg/kg	1	6/22/23 19:15	
Toluene	**1.21**	D	**0.000567**	**0.00704**	**mg/kg**	**17**	**6/23/23 14:29**	
Total Xylenes	**3.93**	D	**0.000905**	**0.00704**	**mg/kg**	**17**	**6/23/23 14:29**	
trans-1,2-Dichloroethene	ND	U	0.000158	0.00117	mg/kg	1	6/22/23 19:15	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000223	0.00117	mg/kg	1	6/22/23 19:15	
Trichloroethene	ND	U	0.000172	0.00117	mg/kg	1	6/22/23 19:15	
Trichlorofluoromethane	ND	U	0.000134	0.00117	mg/kg	1	6/22/23 19:15	
Vinyl chloride	ND	U	0.000222	0.00117	mg/kg	1	6/22/23 19:15	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methylene-	0.0272	23.19	J	mg/kg	1	6/22/23 19:15
1H-Indene, 2,3-dihydro-	0.0308	19.94	J	mg/kg	1	6/22/23 19:15
Benzene, 1,2,3-trimethyl-	0.132	18.90	J	mg/kg	1	6/22/23 19:15
Benzene, 1-ethyl-2-methyl-	0.0959	18.09	J	mg/kg	1	6/22/23 19:15
Benzene, 1-ethyl-3-methyl- (01)	0.0951	18.17	J	mg/kg	1	6/22/23 19:15
Benzene, 1-ethyl-3-methyl- (02)	0.0292	19.59	J	mg/kg	1	6/22/23 19:15
Benzene, 1-ethyl-4-methyl-	0.0271	18.58	J	mg/kg	1	6/22/23 19:15
Benzene, 1-propynyl-	0.128	20.32	J	mg/kg	1	6/22/23 19:15
Benzene, ethenylmethyl-	0.0725	19.00	J	mg/kg	1	6/22/23 19:15
Benzene, methyl(1-methylethyl)-	0.0324	19.31	J	mg/kg	1	6/22/23 19:15
Benzene, propyl-	0.0227	17.94	J	mg/kg	1	6/22/23 19:15
Cyclohexanone, 2,3-dimethyl-	0.0313	17.07	J	mg/kg	1	6/22/23 19:15
Octane	0.0309	13.34	J	mg/kg	1	6/22/23 19:15
Octane, 2-methyl-	0.0317	15.12	J	mg/kg	1	6/22/23 19:15
Octane, 3-methyl-	0.0292	15.33	J	mg/kg	1	6/22/23 19:15
TIC Total	**0.816**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0537
Date to Lab: 6/12/2023 4:05:00PM

23F0537-02 (Soil) Sample Name: **MR-301-25.0-27.0-20230612** Collected: **6/12/2023 1:01:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**83.8**				**%**	**1**	**6/13/23 11:18**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	6/26/23 15:49

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.0876**		**0.00835**	**0.0701**	**mg/kg**	**1**	**6/14/23 16:06**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.63**				**pH Units**	**1**	**6/21/23 16:00**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	6/14/23 18:00

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	6/19/23 16:00

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23F0619
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 3, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-301-65.0-67.0-20230613	23F0619-01	6/13/2024	Soil

Data validation was performed on the analytical data for one (1) sample collected June 13, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7470A/245.1
Reactive Cyanide	USEPA SW846 9010B
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9040C

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, surrogates, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When

parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-301-65.0-67.0-20230613	1,2-Dibromo-3-chloropropane Bromomethane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Octadecanoic acid, butyl ester and "unknown." Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-301-65.0-67.0-20230613	2,3,4,6-Tetrachlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Fluoranthene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8151A	MR-301-65.0-67.0-20230613	DCAA	10% < %R < CL	J (detects) UJ (non-detects)	3L
8081B	MR-301-65.0-67.0-20230613	TCMX (Column 1) DCB (Column 1)	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-301-65.0-67.0-20230613	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met except for 2,4-D was outside the control limits for 8151A soil samples. Results are qualified as estimated, J, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits. except for analytes presented in the following table.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 6010D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Total Cyanide by SW-846 9010c+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis was not performed on a sample location within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 3, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23F0619

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: May 20, 2024

1275 Bloomfield Ave., Bldg. 6, Fairfield, New Jersey 07004
(t) 973.227.0422 (f) 973.227.2813 (w) www.pacelabs.com

NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23F0619

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-301-65.0-67.0-20230613	23F0619-01	Soil	06/13/2023 08:53	06/13/2023 17:15

PN: 23F0619

APL
AQUA PRO-TECH LABORATORIES
APL 23F0619
www.aquaprotechlabs.com

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd Fl	ADDRESS:
Elmwood Park, NJ	
PHONE: 201-767-9621	PHONE: as
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS: left.
PROJECT or PO #: 156854	SAMPLED BY: AM

TURN-AROUND TIME
- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

[x] NY Category B

CONTAMINATION LEVEL
[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0619 -01	MR-301-65.0-67.0-20230613	6/13/23	0853	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL Metals, TCN, RCRA characteristics

RELINQUISHED BY (Print) Acpell Marun	DATE 6/13/23	RECEIVED BY (Print) Alfonso Rivera AAL	6/13/23
Signature	Time 1252	Signature	1252
RELINQUISHED BY (Print) Alfonso Rivera (AAL)	DATE 6/13/23	RECEIVED BY (Print) Rose Wap	
Signature	Time 1715	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.5 C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Pace Analytical Services, LLC-Fairfield
Data Reporting Abbreviations and Qualifiers

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:

"Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifers:

B	Compound was also detected in the blank
D	The concentration is from a dilution
E	Concentration exceeds calibration range
IG_>60	> 60
J	Estimated
U	Compound not detected

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 1010A / 9045D / 9010C+9014 / 9030B]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high). The blank spike met all QC criteria.

Method 9010C+9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (high). The blank spike met all QC criteria.

Methods 7473 / 1010A / 9045D / 9030B:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23F0619-01 has surrogates outside of the QC limits (low), due to matrix interference.

ANALYSIS: PCBs [8082A]

Sample 23F0619-01 met all QC criteria.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).
The percent recovery for 4,4'-DDT was outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Sample 23F0619-01 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAF0367-CCV1) was outside of the QC limits for some compounds (low).

Reviewed By: _____ (SK) 5/20/2024
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6310		0.176	2.96	mg/kg dry	1	6/25/23 10:09
Arsenic	1.94		0.106	1.48	mg/kg dry	1	6/25/23 10:09
Barium	58.4		0.0447	0.592	mg/kg dry	1	6/25/23 10:09
Beryllium	0.255		0.00343	0.0296	mg/kg dry	1	6/25/23 10:09
Calcium	7430		3.33	29.6	mg/kg dry	1	6/25/23 10:09
Chromium	11.5		0.0334	0.296	mg/kg dry	1	6/25/23 10:09
Cobalt	4.02		0.0302	0.237	mg/kg dry	1	6/25/23 10:09
Copper	12.3		0.0828	0.296	mg/kg dry	1	6/25/23 10:09
Iron	11500		0.838	5.92	mg/kg dry	1	6/25/23 10:09
Lead	4.59		0.123	1.48	mg/kg dry	1	6/25/23 10:09
Magnesium	4370		10.5	59.2	mg/kg dry	1	6/25/23 10:09
Manganese	223		0.0368	0.296	mg/kg dry	1	6/25/23 10:09
Nickel	15.4		0.0260	0.148	mg/kg dry	1	6/25/23 10:09
Potassium	1150		35.2	118	mg/kg dry	1	6/25/23 10:09
Sodium	654		5.64	59.2	mg/kg dry	1	6/25/23 10:09
Vanadium	18.2		0.0680	0.592	mg/kg dry	1	6/25/23 10:09
Zinc	22.5		0.0904	0.888	mg/kg dry	1	6/25/23 10:09

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.00389		0.000687	0.00155	mg/kg dry	1	6/19/23 21:59

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	3.17		0.0379	0.238	mg/kg dry	1	6/22/23 23:11
Acenaphthene	0.697		0.00903	0.158	mg/kg dry	1	6/22/23 23:11
Acenaphthylene	1.20		0.00551	0.158	mg/kg dry	1	6/22/23 23:11
Anthracene	1.11		0.0230	0.158	mg/kg dry	1	6/22/23 23:11
Benzo(a)anthracene	0.599		0.0159	0.158	mg/kg dry	1	6/22/23 23:11
Benzo(a)pyrene	0.476		0.0276	0.158	mg/kg dry	1	6/22/23 23:11
Benzo(b)fluoranthene	0.318		0.0222	0.158	mg/kg dry	1	6/22/23 23:11
Benzo(g,h,i)perylene	0.189		0.0128	0.158	mg/kg dry	1	6/22/23 23:11
Benzo(k)fluoranthene	0.123	J	0.0182	0.158	mg/kg dry	1	6/22/23 23:11
Biphenyl	0.369		0.0139	0.158	mg/kg dry	1	6/22/23 23:11
Carbazole	0.0368	J	0.0304	0.396	mg/kg dry	1	6/22/23 23:11
Chrysene	0.597		0.0108	0.158	mg/kg dry	1	6/22/23 23:11
Dibenzo(a,h)anthracene	0.0614	J	0.0157	0.158	mg/kg dry	1	6/22/23 23:11
Dibenzofuran	0.283		0.00943	0.158	mg/kg dry	1	6/22/23 23:11
Fluoranthene	1.19		0.0149	0.158	mg/kg dry	1	6/22/23 23:11

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	1.25		0.0132	0.158	mg/kg dry	1	6/22/23 23:11
Indeno(1,2,3-cd)pyrene	0.140	J	0.0170	0.158	mg/kg dry	1	6/22/23 23:11
Naphthalene	2.69		0.0117	0.158	mg/kg dry	1	6/22/23 23:11
Phenanthrene	3.53		0.0208	0.158	mg/kg dry	1	6/22/23 23:11
Pyrene	1.53		0.0116	0.158	mg/kg dry	1	6/22/23 23:11
TIC_1H-Cyclopropa[l]phenanthrene,1a,9b-dihyd	0.641	J			mg/kg dry	1	6/22/23 23:11
TIC_2-Pentanone, 4-hydroxy-4-methyl-	18.9	J			mg/kg dry	1	6/22/23 23:11
TIC_Anthracene, 2-methyl-	0.817	J			mg/kg dry	1	6/22/23 23:11
TIC_Benzaldehyde, 3,5-dichloro-2-hydroxy-	1.97	J			mg/kg dry	1	6/22/23 23:11
TIC_Hexadecanoic acid, butyl ester	10.4	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 1,3-dimethyl-	0.561	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 1,4,6-trimethyl-	0.672	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 1-ethyl-	0.594	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 1-methyl-	2.02	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 2,3-dimethyl-	1.46	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 2,6-dimethyl-	1.18	J			mg/kg dry	1	6/22/23 23:11
TIC_Naphthalene, 2,7-dimethyl-	0.686	J			mg/kg dry	1	6/22/23 23:11
TIC_Octadecanoic acid, butyl ester	5.12	J, B			mg/kg dry	1	6/22/23 23:11
TIC_Phenanthrene, 2-methyl-	0.923	J			mg/kg dry	1	6/22/23 23:11
TIC_unknown	0.621	J, B			mg/kg dry	1	6/22/23 23:11

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.101		0.000191	0.00138	mg/kg dry	1	6/16/23 18:54
Benzene	0.00816		0.000126	0.00138	mg/kg dry	1	6/16/23 18:54
Carbon disulfide	0.00119	J	0.000198	0.00138	mg/kg dry	1	6/16/23 18:54
EthylBenzene	0.0839		0.000187	0.00138	mg/kg dry	1	6/16/23 18:54
Isopropylbenzene	0.0132		0.000217	0.00138	mg/kg dry	1	6/16/23 18:54
m+p-Xylenes	0.0946		0.000349	0.00277	mg/kg dry	1	6/16/23 18:54
o-Xylene	0.0509		0.000178	0.00138	mg/kg dry	1	6/16/23 18:54
Toluene	0.0272		0.000111	0.00138	mg/kg dry	1	6/16/23 18:54
Total Xylenes	0.145		0.000178	0.00138	mg/kg dry	1	6/16/23 18:54
TIC_1H-Indene, 1-methyl-	0.0657	J			mg/kg dry	1	6/16/23 18:54

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, (1-methyl-1-propenyl)-, (E)-	0.0267	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0746	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 1,2,3-trimethyl-	0.0266	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 1,2,4,5-tetramethyl-	0.0227	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 1,3,5-trimethyl-	0.0194	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 1-ethenyl-3-methyl-	0.0334	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 1-ethyl-2-methyl-	0.0381	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 1-ethyl-3-methyl-	0.0201	J			mg/kg dry	1	6/16/23 18:54
TIC_Benzene, 4-ethyl-1,2-dimethyl-	0.0150	J			mg/kg dry	1	6/16/23 18:54
TIC_Bicyclo[4.2.0]octa-1,3,5-triene, 2,4-dim	0.0169	J			mg/kg dry	1	6/16/23 18:54
TIC_Indane	0.0626	J			mg/kg dry	1	6/16/23 18:54
TIC_Indene	0.148	J			mg/kg dry	1	6/16/23 18:54
TIC_Naphthalene, 1-methyl-	0.0232	J			mg/kg dry	1	6/16/23 18:54
TIC_TIC:Naphthalene	0.441	J			mg/kg dry	1	6/16/23 18:54

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.17				pH Units	1	6/21/23 16:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0619
Date to Lab: 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00526	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1221	ND	U	0.0104	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1232	ND	U	0.0132	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1242	ND	U	0.00771	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1248	ND	U	0.00807	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1254	ND	U	0.00633	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1260	ND	U	0.00491	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1262	ND	U	0.0106	0.0392	mg/kg	1	6/22/23 20:21
Aroclor-1268	ND	U	0.00475	0.0392	mg/kg	1	6/22/23 20:21
Total PCBs	ND	U	0.00366	0.0392	mg/kg	1	6/22/23 20:21

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0117	0.119	mg/kg	1	6/27/23 13:37 UJ, RC:3L
2,4-D	ND	U	0.0197	0.119	mg/kg	1	6/27/23 13:37 UJ, RC:3L,Q

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00595	0.0238	mg/kg	1	6/22/23 14:43

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6310**		**0.176**	**2.96**	**mg/kg**	**1**	**6/25/23 10:09**
Antimony	ND	U	0.161	1.48	mg/kg	1	6/25/23 10:09
Arsenic	**1.94**		**0.106**	**1.48**	**mg/kg**	**1**	**6/25/23 10:09**
Barium	**58.4**		**0.0447**	**0.592**	**mg/kg**	**1**	**6/25/23 10:09**
Beryllium	**0.255**		**0.00343**	**0.0296**	**mg/kg**	**1**	**6/25/23 10:09**
Cadmium	ND	U	0.0577	0.296	mg/kg	1	6/25/23 10:09
Calcium	**7430**		**3.33**	**29.6**	**mg/kg**	**1**	**6/25/23 10:09**
Chromium	**11.5**		**0.0334**	**0.296**	**mg/kg**	**1**	**6/25/23 10:09**
Cobalt	**4.02**		**0.0302**	**0.237**	**mg/kg**	**1**	**6/25/23 10:09**
Copper	**12.3**		**0.0828**	**0.296**	**mg/kg**	**1**	**6/25/23 10:09**
Iron	**11500**		**0.838**	**5.92**	**mg/kg**	**1**	**6/25/23 10:09**
Lead	**4.59**		**0.123**	**1.48**	**mg/kg**	**1**	**6/25/23 10:09**
Magnesium	**4370**		**10.5**	**59.2**	**mg/kg**	**1**	**6/25/23 10:09**
Manganese	**223**		**0.0368**	**0.296**	**mg/kg**	**1**	**6/25/23 10:09**
Nickel	**15.4**		**0.0260**	**0.148**	**mg/kg**	**1**	**6/25/23 10:09**
Potassium	**1150**		**35.2**	**118**	**mg/kg**	**1**	**6/25/23 10:09**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0619
Date to Lab: 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.284	1.48	mg/kg	1	6/25/23 10:09
Silver	ND	U	0.0503	0.178	mg/kg	1	6/25/23 10:09
Sodium	**654**		**5.64**	**59.2**	**mg/kg**	**1**	**6/25/23 10:09**
Thallium	ND	U	0.0995	1.48	mg/kg	1	6/25/23 10:09
Vanadium	**18.2**		**0.0680**	**0.592**	**mg/kg**	**1**	**6/25/23 10:09**
Zinc	**22.5**		**0.0904**	**0.888**	**mg/kg**	**1**	**6/25/23 10:09**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000708	0.00155	mg/kg	1	6/19/23 21:59
4,4'-DDE	ND	U	0.000846	0.00155	mg/kg	1	6/19/23 21:59
4,4'-DDT	ND	U	0.00109	0.00155	mg/kg	1	6/19/23 21:59
Aldrin	ND	U	0.000733	0.00155	mg/kg	1	6/19/23 21:59
alpha-BHC	ND	U	0.000460	0.00155	mg/kg	1	6/19/23 21:59
beta-BHC	ND	U	0.000739	0.00155	mg/kg	1	6/19/23 21:59
Chlordane [2C]	**0.00389**		**0.000687**	**0.00155**	**mg/kg**	**1**	**6/19/23 21:59**
delta-BHC	ND	U	0.000718	0.00155	mg/kg	1	6/19/23 21:59
Dieldrin	ND	U	0.000809	0.00155	mg/kg	1	6/19/23 21:59
Endosulfan I	ND	U	0.000730	0.00155	mg/kg	1	6/19/23 21:59
Endosulfan II	ND	U	0.000703	0.00155	mg/kg	1	6/19/23 21:59
Endosulfan sulfate	ND	U	0.000582	0.00155	mg/kg	1	6/19/23 21:59
Endosulfans, Total (alpha and beta)	ND	U	0.000703	0.00155	mg/kg	1	6/19/23 21:59
Endrin	ND	U	0.000534	0.00155	mg/kg	1	6/19/23 21:59
Endrin aldehyde	ND	U	0.000616	0.00155	mg/kg	1	6/19/23 21:59
Endrin ketone	ND	U	0.000545	0.00155	mg/kg	1	6/19/23 21:59
gamma-BHC (Lindane)	ND	U	0.000490	0.00155	mg/kg	1	6/19/23 21:59
Heptachlor	ND	U	0.000414	0.00155	mg/kg	1	6/19/23 21:59
Heptachlor Epoxide	ND	U	0.000780	0.00155	mg/kg	1	6/19/23 21:59
Methoxychlor	ND	U	0.000453	0.00155	mg/kg	1	6/19/23 21:59
Toxaphene	ND	U	0.0745	0.0785	mg/kg	1	6/19/23 21:59

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00447	0.0396	mg/kg	1	6/22/23 23:11
2,3,4,6-Tetrachlorophenol	ND	U	0.0244	0.158	mg/kg	1	6/22/23 23:11
2,4,5-Trichlorophenol	ND	U	0.0215	0.158	mg/kg	1	6/22/23 23:11
2,4,6-Trichlorophenol	ND	U	0.00991	0.158	mg/kg	1	6/22/23 23:11

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0619
Date to Lab: 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0159	0.158	mg/kg	1	6/22/23 23:11	
2,4-Dimethylphenol	ND	U	0.0156	0.158	mg/kg	1	6/22/23 23:11	
2,4-Dinitrophenol	ND	U	0.0228	0.793	mg/kg	1	6/22/23 23:11	
2,4-Dinitrotoluene	ND	U	0.0169	0.158	mg/kg	1	6/22/23 23:11	
2,6-Dinitrotoluene	ND	U	0.0378	0.158	mg/kg	1	6/22/23 23:11	
2-Chloronaphthalene	ND	U	0.0182	0.158	mg/kg	1	6/22/23 23:11	
2-Chlorophenol	ND	U	0.0209	0.158	mg/kg	1	6/22/23 23:11	
2-Methylnaphthalene	**3.17**		**0.0379**	**0.238**	**mg/kg**	**1**	**6/22/23 23:11**	
2-Methylphenol	ND	U	0.0313	0.158	mg/kg	1	6/22/23 23:11	
2-Nitroaniline	ND	U	0.0127	0.158	mg/kg	1	6/22/23 23:11	
2-Nitrophenol	ND	U	0.0176	0.158	mg/kg	1	6/22/23 23:11	
3,3'-Dichlorobenzidine	ND	U	0.0166	0.158	mg/kg	1	6/22/23 23:11	
3+4-Methylphenol	ND	U	0.0290	0.158	mg/kg	1	6/22/23 23:11	
3-Nitroaniline	ND	U	0.0294	0.158	mg/kg	1	6/22/23 23:11	
4,6-Dinitro-2-methylphenol	ND	U	0.0299	0.396	mg/kg	1	6/22/23 23:11	
4-Bromophenyl-phenyl ether	ND	U	0.0226	0.158	mg/kg	1	6/22/23 23:11	
4-Chloro-3-methylphenol	ND	U	0.0250	0.158	mg/kg	1	6/22/23 23:11	
4-Chloroaniline	ND	U	0.00554	0.158	mg/kg	1	6/22/23 23:11	
4-Chlorophenyl phenyl ether	ND	U	0.00855	0.158	mg/kg	1	6/22/23 23:11	
4-Nitroaniline	ND	U	0.0792	0.158	mg/kg	1	6/22/23 23:11	
4-Nitrophenol	ND	U	0.0101	0.158	mg/kg	1	6/22/23 23:11	
Acenaphthene	**0.697**		**0.00903**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Acenaphthylene	**1.20**		**0.00551**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Acetophenone	ND	U	0.0157	0.158	mg/kg	1	6/22/23 23:11	
Anthracene	**1.11**		**0.0230**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Atrazine	ND	U	0.0149	0.158	mg/kg	1	6/22/23 23:11	
Benzaldehyde	ND	U	0.0486	0.158	mg/kg	1	6/22/23 23:11	UJ, RC:SL
Benzo(a)anthracene	**0.599**		**0.0159**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Benzo(a)pyrene	**0.476**		**0.0276**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Benzo(b)fluoranthene	**0.318**		**0.0222**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Benzo(g,h,i)perylene	**0.189**		**0.0128**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	J, RC:SH
Benzo(k)fluoranthene	**0.123**	J	**0.0182**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Biphenyl	**0.369**		**0.0139**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
bis(2-chloroethoxy)methane	ND	U	0.0219	0.158	mg/kg	1	6/22/23 23:11	
bis(2-chloroethyl)ether	ND	U	0.0174	0.158	mg/kg	1	6/22/23 23:11	
bis(2-chloroisopropyl)ether	ND	U	0.0570	0.158	mg/kg	1	6/22/23 23:11	
bis(2-ethylhexyl)phthalate	ND	U	0.0316	0.158	mg/kg	1	6/22/23 23:11	
Butylbenzylphthalate	ND	U	0.0144	0.158	mg/kg	1	6/22/23 23:11	

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0619
Date to Lab: 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0205	0.158	mg/kg	1	6/22/23 23:11	
Carbazole	**0.0368**	J	**0.0304**	**0.396**	**mg/kg**	**1**	**6/22/23 23:11**	
Chrysene	**0.597**		**0.0108**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Dibenzo(a,h)anthracene	**0.0614**	J	**0.0157**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	J, RC:SH
Dibenzofuran	**0.283**		**0.00943**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Diethylphthalate	ND	U	0.0307	0.158	mg/kg	1	6/22/23 23:11	
Dimethylphthalate	ND	U	0.00982	0.158	mg/kg	1	6/22/23 23:11	
Di-n-butylphthalate	ND	U	0.0647	0.158	mg/kg	1	6/22/23 23:11	
Di-n-octylphthalate	ND	U	0.0325	0.158	mg/kg	1	6/22/23 23:11	
Fluoranthene	**1.19**		**0.0149**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	J, RC:SH
Fluorene	**1.25**		**0.0132**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Hexachlorobenzene	ND	U	0.0207	0.158	mg/kg	1	6/22/23 23:11	
Hexachlorobutadiene	ND	U	0.0760	0.158	mg/kg	1	6/22/23 23:11	
Hexachlorocyclopentadiene	ND	U	0.0660	0.396	mg/kg	1	6/22/23 23:11	
Hexachloroethane	ND	U	0.0174	0.158	mg/kg	1	6/22/23 23:11	
Indeno(1,2,3-cd)pyrene	**0.140**	J	**0.0170**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	J, RC:SH
Isophorone	ND	U	0.0104	0.158	mg/kg	1	6/22/23 23:11	
Naphthalene	**2.69**		**0.0117**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Nitrobenzene	ND	U	0.0269	0.158	mg/kg	1	6/22/23 23:11	
n-Nitroso-di-n-propylamine	ND	U	0.00848	0.158	mg/kg	1	6/22/23 23:11	
n-Nitrosodiphenylamine	ND	U	0.0338	0.158	mg/kg	1	6/22/23 23:11	
Pentachlorophenol	ND	U	0.0218	0.396	mg/kg	1	6/22/23 23:11	
Phenanthrene	**3.53**		**0.0208**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	
Phenol	ND	U	0.0128	0.158	mg/kg	1	6/22/23 23:11	
Pyrene	**1.53**		**0.0116**	**0.158**	**mg/kg**	**1**	**6/22/23 23:11**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Cyclopropa[l]phenanthrene,1a,9 b-dihyd	0.641	12.11	J	mg/kg	1	6/22/23 23:11
2-Pentanone, 4-hydroxy-4-methyl-	18.9	5.25	J	mg/kg	1	6/22/23 23:11
Anthracene, 2-methyl-	0.817	12.03	J	mg/kg	1	6/22/23 23:11
Benzaldehyde, 3,5-dichloro-2-hydroxy-	1.97	12.17	J	mg/kg	1	6/22/23 23:11
Hexadecanoic acid, butyl ester	10.4	12.86	J	mg/kg	1	6/22/23 23:11
Naphthalene, 1,3-dimethyl-	0.561	9.78	J	mg/kg	1	6/22/23 23:11
Naphthalene, 1,4,6-trimethyl-	0.672	10.35	J	mg/kg	1	6/22/23 23:11
Naphthalene, 1-ethyl-	0.594	9.51	J	mg/kg	1	6/22/23 23:11

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0619
Date to Lab: 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Naphthalene, 1-methyl-	2.02	9.06	J	mg/kg	1	6/22/23 23:11	
Naphthalene, 2,3-dimethyl-	1.46	9.66	J	mg/kg	1	6/22/23 23:11	
Naphthalene, 2,6-dimethyl-	1.18	9.58	J	mg/kg	1	6/22/23 23:11	
Naphthalene, 2,7-dimethyl-	0.686	9.69	J	mg/kg	1	6/22/23 23:11	
Octadecanoic acid, butyl ester	5.12	13.67	J, B	mg/kg	1	6/22/23 23:11	
Phenanthrene, 2-methyl-	0.923	12.06	J	mg/kg	1	6/22/23 23:11	
unknown	~~0.621~~	12.91	J, B	mg/kg	1	6/22/23 23:11	R, RC:2
TIC Total	~~46.6~~ 46.0						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000202	0.00138	mg/kg	1	6/16/23 18:54	
1,1,2,2-Tetrachloroethane	ND	U	0.000191	0.00138	mg/kg	1	6/16/23 18:54	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000592	0.00138	mg/kg	1	6/16/23 18:54	
1,1,2-Trichloroethane	ND	U	0.000233	0.00138	mg/kg	1	6/16/23 18:54	
1,1-Dichloroethane	ND	U	0.000202	0.00138	mg/kg	1	6/16/23 18:54	
1,1-Dichloroethene	ND	U	0.000256	0.00138	mg/kg	1	6/16/23 18:54	
1,2,3-Trichlorobenzene	ND	U	0.000299	0.00138	mg/kg	1	6/16/23 18:54	
1,2,4-Trichlorobenzene	ND	U	0.000369	0.00138	mg/kg	1	6/16/23 18:54	
1,2,4-Trimethylbenzene	**0.101**		**0.000191**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
1,2-Dibromo-3-chloropropane	ND	U	0.000337	0.00346	mg/kg	1	6/16/23 18:54	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000174	0.00138	mg/kg	1	6/16/23 18:54	
1,2-Dichlorobenzene	ND	U	0.000244	0.00138	mg/kg	1	6/16/23 18:54	
1,2-Dichloroethane	ND	U	0.000195	0.00138	mg/kg	1	6/16/23 18:54	
1,2-Dichloropropane	ND	U	0.000227	0.00138	mg/kg	1	6/16/23 18:54	
1,3-Dichlorobenzene	ND	U	0.000102	0.00138	mg/kg	1	6/16/23 18:54	
1,4-Dichlorobenzene	ND	U	0.000199	0.00138	mg/kg	1	6/16/23 18:54	
2-Butanone	ND	U	0.000225	0.00691	mg/kg	1	6/16/23 18:54	
2-Hexanone	ND	U	0.000129	0.00138	mg/kg	1	6/16/23 18:54	
4-Methyl-2-pentanone	ND	U	0.000173	0.00138	mg/kg	1	6/16/23 18:54	
Acetone	ND	U	0.000419	0.0346	mg/kg	1	6/16/23 18:54	
Benzene	**0.00816**		**0.000126**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
Bromochloromethane	ND	U	0.000255	0.00138	mg/kg	1	6/16/23 18:54	
Bromodichloromethane	ND	U	0.000174	0.00138	mg/kg	1	6/16/23 18:54	
Bromoform	ND	U	0.000243	0.00138	mg/kg	1	6/16/23 18:54	
Bromomethane	ND	U	0.000399	0.00138	mg/kg	1	6/16/23 18:54	UJ, RC:SL
Carbon disulfide	**0.00119**	J	**0.000198**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23F0619

Project: Owls Head Phase 2 **Date to Lab:** 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Carbon Tetrachloride	ND	U	0.000208	0.00138	mg/kg	1	6/16/23 18:54	
Chlorobenzene	ND	U	0.000201	0.00138	mg/kg	1	6/16/23 18:54	
Chlorodibromomethane	ND	U	0.000170	0.00138	mg/kg	1	6/16/23 18:54	
Chloroethane	ND	U	0.000236	0.00138	mg/kg	1	6/16/23 18:54	
Chloroform	ND	U	0.000232	0.00138	mg/kg	1	6/16/23 18:54	
Chloromethane	ND	U	0.000532	0.00138	mg/kg	1	6/16/23 18:54	
cis-1,2-Dichloroethene	ND	U	0.0000669	0.00138	mg/kg	1	6/16/23 18:54	
cis-1,3-Dichloropropene	ND	U	0.000175	0.00138	mg/kg	1	6/16/23 18:54	
Cyclohexane	ND	U	0.000306	0.00138	mg/kg	1	6/16/23 18:54	
Dichlorodifluoromethane	ND	U	0.000467	0.00138	mg/kg	1	6/16/23 18:54	UJ, RC:SL
EthylBenzene	**0.0839**		**0.000187**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
Isopropylbenzene	**0.0132**		**0.000217**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
m+p-Xylenes	**0.0946**		**0.000349**	**0.00277**	**mg/kg**	**1**	**6/16/23 18:54**	
Methyl Acetate	ND	U	0.000183	0.00138	mg/kg	1	6/16/23 18:54	
Methyl tert-Butyl Ether	ND	U	0.000234	0.00138	mg/kg	1	6/16/23 18:54	
Methylcyclohexane	ND	U	0.000223	0.00138	mg/kg	1	6/16/23 18:54	
Methylene Chloride	ND	U	0.000416	0.00346	mg/kg	1	6/16/23 18:54	
o-Xylene	**0.0509**		**0.000178**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
Styrene	ND	U	0.000198	0.00138	mg/kg	1	6/16/23 18:54	
tert-Butyl alcohol	ND	U	0.00290	0.0138	mg/kg	1	6/16/23 18:54	
Tetrachloroethene	ND	U	0.000137	0.00138	mg/kg	1	6/16/23 18:54	
Toluene	**0.0272**		**0.000111**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
Total Xylenes	**0.145**		**0.000178**	**0.00138**	**mg/kg**	**1**	**6/16/23 18:54**	
trans-1,2-Dichloroethene	ND	U	0.000187	0.00138	mg/kg	1	6/16/23 18:54	
trans-1,3-Dichloropropene	ND	U	0.000264	0.00138	mg/kg	1	6/16/23 18:54	
Trichloroethene	ND	U	0.000203	0.00138	mg/kg	1	6/16/23 18:54	
Trichlorofluoromethane	ND	U	0.000159	0.00138	mg/kg	1	6/16/23 18:54	
Vinyl chloride	ND	U	0.000263	0.00138	mg/kg	1	6/16/23 18:54	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	0.0657	20.64	J	mg/kg	1	6/16/23 18:54
Benzene, (1-methyl-1-propenyl)-, (E)-	0.0267	20.51	J	mg/kg	1	6/16/23 18:54
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0746	20.81	J	mg/kg	1	6/16/23 18:54
Benzene, 1,2,3-trimethyl-	0.0266	17.95	J	mg/kg	1	6/16/23 18:54
Benzene, 1,2,4,5-tetramethyl-	0.0227	19.82	J	mg/kg	1	6/16/23 18:54
Benzene, 1,3,5-trimethyl-	0.0194	16.65	J	mg/kg	1	6/16/23 18:54

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0619
Date to Lab: 6/13/2023 5:15:00PM

23F0619-01 (Soil) Sample Name: **MR-301-65.0-67.0-20230613** Collected: **6/13/2023 8:53:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethenyl-3-methyl-	0.0334	17.38	J	mg/kg	1	6/16/23 18:54
Benzene, 1-ethyl-2-methyl-	0.0381	16.47	J	mg/kg	1	6/16/23 18:54
Benzene, 1-ethyl-3-methyl-	0.0201	16.55	J	mg/kg	1	6/16/23 18:54
Benzene, 4-ethyl-1,2-dimethyl-	0.0150	19.08	J	mg/kg	1	6/16/23 18:54
Bicyclo[4.2.0]octa-1,3,5-triene, 2,4-dim	0.0169	19.38	J	mg/kg	1	6/16/23 18:54
Indane	0.0626	18.27	J	mg/kg	1	6/16/23 18:54
Indene	0.148	18.65	J	mg/kg	1	6/16/23 18:54
Naphthalene, 1-methyl-	0.0232	23.28	J	mg/kg	1	6/16/23 18:54
TIC:Naphthalene	0.441	21.59	J	mg/kg	1	6/16/23 18:54
TIC Total	**1.03**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.1**				**%**	**1**	**6/14/23 10:53**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	6/26/23 15:49

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00800	0.0672	mg/kg	1	6/16/23 17:35

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.17**				**pH Units**	**1**	**6/21/23 16:00**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	6/16/23 18:00

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	6/19/23 16:00

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23F0838
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 3, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-101-6.0-8.0-20230616	23F0838-01	6/16/2024	Soil

Data validation was performed on the analytical data for one (1) sample collected June 16, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7470A/245.1
Reactive Cyanide	USEPA SW846 9010B
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9040C

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When

parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits.

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Octadecanoic acid, butyl ester. Associated sample detections were greater than five times the method blank detection and no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-101-6.0-8.0-20230616	2,3,4,6-Tetrachlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Fluoranthene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	MR-101-6.0-8.0-20230616	DCB (Column 1) DCB (Column 2)	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8082A	MR-101-6.0-8.0-20230616	Aroclor 1016	10% < %R < CL	J (detects) UJ (non-detects)	6L
8081B	MR-101-6.0-8.0-20230616	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met except for 2,4-D was outside the control limits for 8151A soil samples. Results are qualified as estimated, J, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-101-6.0-8.0-20230616	2,4-D 2,4,5-TP (Silvex)	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 6010D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Total Cyanide by SW-846 9010c+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis was not performed on a sample location within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 3, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23F0838

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: May 29, 2024

1275 Bloomfield Ave., Bldg. 6, Fairfield, New Jersey 07004
(t) 973.227.0422 (f) 973.227.2813 (w) www.pacelabs.com

NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23F0838

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-101-6.0-8.0-20230616	23F0838-01	Soil	06/16/2023 12:01	06/16/2023 16:11

PN: 23F0838

APL 23F0838

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive 3rd Floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 1568541	SAMPLED BY: AM

PAGE____ OF____

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

PWSID#_____

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#_____

- [x] NYS Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0838 -01	MR-101-6.0-8.0-20230616	6/16/23	1201	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL metals, TCN, RCRA characteristics

RELINQUISHED BY (Print)	Acyell Marmol	DATE 6/16/23	RECEIVED BY (Print) DANIEL NESHANIAN
Signature		Time	Signature 1345
RELINQUISHED BY (Print)		DATE 6/16/23	RECEIVED BY (Print)
Signature		Time 1611	Signature
RELINQUISHED BY (Print)		DATE	RECEIVED BY (Print)
Signature		Time	Signature
COMMENTS/SPECIAL INSTRUCTIONS			Cooler Temp. upon receipt at lab 3.1°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Pace Analytical Services, LLC-Fairfield
Data Reporting Abbreviations and Qualifiers

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:

"Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifers:

B	Compound was also detected in the blank
D	The concentration is from a dilution
E	Concentration exceeds calibration range
IG_>60	> 60
J	Estimated
U	Compound not detected

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 1010A / 9045D / 9010C+9014 / 9030B]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Methods 7473 / 1010A / 9045D / 9010C+9014 / 9030B:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23F0838-01 met all QC criteria.

ANALYSIS: PCBs [8082A]

The percent recovery for Aroclor-1016 was outside of the QC limits for the blank spike (low).

Sample 23F0838-01 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (slightly high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).

Sample 23F0838-01 has two surrogates (Decachlorobiphenyl, Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]

Sample 23F0838-01 met all QC criteria.



Reviewed By: _____ (SK) 5/31/2024
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.297		0.00703	0.0281	mg/kg dry	1	6/27/23 15:56

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	11800		0.206	3.46	mg/kg dry	1	6/27/23 14:59
Arsenic	3.63		0.123	1.73	mg/kg dry	1	6/27/23 14:59
Barium	109		0.0523	0.692	mg/kg dry	1	6/27/23 14:59
Beryllium	0.126		0.00401	0.0346	mg/kg dry	1	6/27/23 14:59
Calcium	3810		3.89	34.6	mg/kg dry	1	6/27/23 14:59
Chromium	27.4		0.0391	0.346	mg/kg dry	1	6/27/23 14:59
Cobalt	3.91		0.0354	0.277	mg/kg dry	1	6/27/23 14:59
Copper	14.5		0.0968	0.346	mg/kg dry	1	6/27/23 14:59
Iron	20600		0.980	6.92	mg/kg dry	1	6/27/23 14:59
Lead	120		0.144	1.73	mg/kg dry	1	6/27/23 14:59
Magnesium	4010		12.2	69.2	mg/kg dry	1	6/27/23 14:59
Manganese	152		0.0431	0.346	mg/kg dry	1	6/27/23 14:59
Nickel	11.8		0.0304	0.173	mg/kg dry	1	6/27/23 14:59
Potassium	2900		41.2	138	mg/kg dry	1	6/27/23 14:59
Sodium	1750		6.60	69.2	mg/kg dry	1	6/27/23 14:59
Vanadium	33.1		0.0796	0.692	mg/kg dry	1	6/27/23 14:59
Zinc	35.6		0.106	1.04	mg/kg dry	1	6/27/23 14:59

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.140	J	0.0448	0.281	mg/kg dry	1	6/22/23 23:42
Acenaphthene	0.125	J	0.0107	0.187	mg/kg dry	1	6/22/23 23:42
Acenaphthylene	0.0710	J	0.00651	0.187	mg/kg dry	1	6/22/23 23:42
Anthracene	0.274		0.0271	0.187	mg/kg dry	1	6/22/23 23:42
Benzo(a)anthracene	1.07		0.0188	0.187	mg/kg dry	1	6/22/23 23:42
Benzo(a)pyrene	1.80		0.0326	0.187	mg/kg dry	1	6/22/23 23:42
Benzo(b)fluoranthene	1.76		0.0263	0.187	mg/kg dry	1	6/22/23 23:42
Benzo(g,h,i)perylene	1.41		0.0152	0.187	mg/kg dry	1	6/22/23 23:42
Benzo(k)fluoranthene	0.524		0.0215	0.187	mg/kg dry	1	6/22/23 23:42
Carbazole	0.105	J	0.0360	0.468	mg/kg dry	1	6/22/23 23:42
Chrysene	1.05		0.0128	0.187	mg/kg dry	1	6/22/23 23:42
Dibenzo(a,h)anthracene	0.349		0.0185	0.187	mg/kg dry	1	6/22/23 23:42
Dibenzofuran	0.0808	J	0.0111	0.187	mg/kg dry	1	6/22/23 23:42
Fluoranthene	1.46		0.0176	0.187	mg/kg dry	1	6/22/23 23:42
Fluorene	0.116	J	0.0156	0.187	mg/kg dry	1	6/22/23 23:42

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	1.13		0.0201	0.187	mg/kg dry	1	6/22/23 23:42
Naphthalene	0.188		0.0139	0.187	mg/kg dry	1	6/22/23 23:42
Phenanthrene	0.797		0.0246	0.187	mg/kg dry	1	6/22/23 23:42
Pyrene	1.32		0.0138	0.187	mg/kg dry	1	6/22/23 23:42
TIC_2-Pentanone, 4-hydroxy-4-methyl-	21.3	J			mg/kg dry	1	6/22/23 23:42
TIC_Cyclodocosane, ethyl-	0.511	J			mg/kg dry	1	6/22/23 23:42
TIC_Ethanol, 2-butoxy-	0.388	J			mg/kg dry	1	6/22/23 23:42
TIC_Hexadecanoic acid, butyl ester	9.36	J			mg/kg dry	1	6/22/23 23:42
TIC_Octadecanoic acid, butyl ester	4.64	J, B			mg/kg dry	1	6/22/23 23:42

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.00298		0.000367	0.00255	mg/kg dry	1	6/29/23 18:43
Methylcyclohexane	0.00309		0.000411	0.00255	mg/kg dry	1	6/29/23 18:43
TIC_Lab Contamination	0.0111	J			mg/kg dry	1	6/29/23 18:43

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.466		0.0103	0.0861	mg/kg dry	1	6/19/23 18:59

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.59				pH Units	1	6/21/23 16:00

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Cyanide	1.4		0.17	0.17	mg/kg dry	1	6/26/23 16:25

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Sulfide	27.8	D	1.41	1.41	mg/kg dry	10	6/23/23 18:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0838
Project:	Owls Head Phase 2	**Date to Lab:**	6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00622	0.0464	mg/kg	1	6/26/23 13:19	UJ, RC:6L
Aroclor-1221	ND	U	0.0122	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1232	ND	U	0.0156	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1242	ND	U	0.00911	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1248	ND	U	0.00953	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1254	ND	U	0.00748	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1260	ND	U	0.00581	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1262	ND	U	0.0125	0.0464	mg/kg	1	6/26/23 13:19	
Aroclor-1268	ND	U	0.00561	0.0464	mg/kg	1	6/26/23 13:19	
Total PCBs	ND	U	0.00433	0.0464	mg/kg	1	6/26/23 13:19	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0138	0.141	mg/kg	1	7/1/23 13:11	
2,4-D	ND	U	0.0233	0.141	mg/kg	1	7/1/23 13:11	UJ, RC:Q

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.297**		**0.00703**	**0.0281**	**mg/kg**	**1**	**6/27/23 15:56**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**11800**		**0.206**	**3.46**	**mg/kg**	**1**	**6/27/23 14:59**
Antimony	ND	U	0.189	1.73	mg/kg	1	6/27/23 14:59
Arsenic	**3.63**		**0.123**	**1.73**	**mg/kg**	**1**	**6/27/23 14:59**
Barium	**109**		**0.0523**	**0.692**	**mg/kg**	**1**	**6/27/23 14:59**
Beryllium	**0.126**		**0.00401**	**0.0346**	**mg/kg**	**1**	**6/27/23 14:59**
Cadmium	ND	U	0.0675	0.346	mg/kg	1	6/27/23 14:59
Calcium	**3810**		**3.89**	**34.6**	**mg/kg**	**1**	**6/27/23 14:59**
Chromium	**27.4**		**0.0391**	**0.346**	**mg/kg**	**1**	**6/27/23 14:59**
Cobalt	**3.91**		**0.0354**	**0.277**	**mg/kg**	**1**	**6/27/23 14:59**
Copper	**14.5**		**0.0968**	**0.346**	**mg/kg**	**1**	**6/27/23 14:59**
Iron	**20600**		**0.980**	**6.92**	**mg/kg**	**1**	**6/27/23 14:59**
Lead	**120**		**0.144**	**1.73**	**mg/kg**	**1**	**6/27/23 14:59**
Magnesium	**4010**		**12.2**	**69.2**	**mg/kg**	**1**	**6/27/23 14:59**
Manganese	**152**		**0.0431**	**0.346**	**mg/kg**	**1**	**6/27/23 14:59**
Nickel	**11.8**		**0.0304**	**0.173**	**mg/kg**	**1**	**6/27/23 14:59**
Potassium	**2900**		**41.2**	**138**	**mg/kg**	**1**	**6/27/23 14:59**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0838
Date to Lab: 6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.332	1.73	mg/kg	1	6/27/23 14:59
Silver	ND	U	0.0589	0.208	mg/kg	1	6/27/23 14:59
Sodium	**1750**		**6.60**	**69.2**	**mg/kg**	**1**	**6/27/23 14:59**
Thallium	ND	U	0.116	1.73	mg/kg	1	6/27/23 14:59
Vanadium	**33.1**		**0.0796**	**0.692**	**mg/kg**	**1**	**6/27/23 14:59**
Zinc	**35.6**		**0.106**	**1.04**	**mg/kg**	**1**	**6/27/23 14:59**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000836	0.00183	mg/kg	1	6/21/23 23:47
4,4'-DDE	ND	U	0.000999	0.00183	mg/kg	1	6/21/23 23:47
4,4'-DDT	ND	U	0.00129	0.00183	mg/kg	1	6/21/23 23:47
Aldrin	ND	U	0.000866	0.00183	mg/kg	1	6/21/23 23:47
alpha-BHC	ND	U	0.000544	0.00183	mg/kg	1	6/21/23 23:47
beta-BHC	ND	U	0.000873	0.00183	mg/kg	1	6/21/23 23:47
Chlordane	ND	U	0.000812	0.00183	mg/kg	1	6/21/23 23:47
delta-BHC	ND	U	0.000849	0.00183	mg/kg	1	6/21/23 23:47
Dieldrin	ND	U	0.000955	0.00183	mg/kg	1	6/21/23 23:47
Endosulfan I	ND	U	0.000863	0.00183	mg/kg	1	6/21/23 23:47
Endosulfan II	ND	U	0.000830	0.00183	mg/kg	1	6/21/23 23:47 UJ, RC:6L
Endosulfan sulfate	ND	U	0.000687	0.00183	mg/kg	1	6/21/23 23:47
Endosulfans, Total (alpha and beta)	ND	U	0.000830	0.00183	mg/kg	1	6/21/23 23:47
Endrin	ND	U	0.000631	0.00183	mg/kg	1	6/21/23 23:47
Endrin aldehyde	ND	U	0.000728	0.00183	mg/kg	1	6/21/23 23:47
Endrin ketone	ND	U	0.000644	0.00183	mg/kg	1	6/21/23 23:47
gamma-BHC (Lindane)	ND	U	0.000579	0.00183	mg/kg	1	6/21/23 23:47
Heptachlor	ND	U	0.000489	0.00183	mg/kg	1	6/21/23 23:47
Heptachlor Epoxide	ND	U	0.000922	0.00183	mg/kg	1	6/21/23 23:47
Methoxychlor	ND	U	0.000535	0.00183	mg/kg	1	6/21/23 23:47
Toxaphene	ND	U	0.0880	0.0927	mg/kg	1	6/21/23 23:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00528	0.0468	mg/kg	1	6/22/23 23:42
2,3,4,6-Tetrachlorophenol	ND	U	0.0288	0.187	mg/kg	1	6/22/23 23:42
2,4,5-Trichlorophenol	ND	U	0.0254	0.187	mg/kg	1	6/22/23 23:42
2,4,6-Trichlorophenol	ND	U	0.0117	0.187	mg/kg	1	6/22/23 23:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0838
Date to Lab: 6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0188	0.187	mg/kg	1	6/22/23 23:42	
2,4-Dimethylphenol	ND	U	0.0184	0.187	mg/kg	1	6/22/23 23:42	
2,4-Dinitrophenol	ND	U	0.0270	0.937	mg/kg	1	6/22/23 23:42	
2,4-Dinitrotoluene	ND	U	0.0200	0.187	mg/kg	1	6/22/23 23:42	
2,6-Dinitrotoluene	ND	U	0.0447	0.187	mg/kg	1	6/22/23 23:42	
2-Chloronaphthalene	ND	U	0.0215	0.187	mg/kg	1	6/22/23 23:42	
2-Chlorophenol	ND	U	0.0247	0.187	mg/kg	1	6/22/23 23:42	
2-Methylnaphthalene	**0.140**	J	**0.0448**	**0.281**	**mg/kg**	**1**	**6/22/23 23:42**	
2-Methylphenol	ND	U	0.0370	0.187	mg/kg	1	6/22/23 23:42	
2-Nitroaniline	ND	U	0.0150	0.187	mg/kg	1	6/22/23 23:42	
2-Nitrophenol	ND	U	0.0208	0.187	mg/kg	1	6/22/23 23:42	
3,3'-Dichlorobenzidine	ND	U	0.0197	0.187	mg/kg	1	6/22/23 23:42	
3+4-Methylphenol	ND	U	0.0343	0.187	mg/kg	1	6/22/23 23:42	
3-Nitroaniline	ND	U	0.0347	0.187	mg/kg	1	6/22/23 23:42	
4,6-Dinitro-2-methylphenol	ND	U	0.0353	0.468	mg/kg	1	6/22/23 23:42	
4-Bromophenyl-phenyl ether	ND	U	0.0267	0.187	mg/kg	1	6/22/23 23:42	
4-Chloro-3-methylphenol	ND	U	0.0295	0.187	mg/kg	1	6/22/23 23:42	
4-Chloroaniline	ND	U	0.00655	0.187	mg/kg	1	6/22/23 23:42	
4-Chlorophenyl phenyl ether	ND	U	0.0101	0.187	mg/kg	1	6/22/23 23:42	
4-Nitroaniline	ND	U	0.0936	0.187	mg/kg	1	6/22/23 23:42	
4-Nitrophenol	ND	U	0.0120	0.187	mg/kg	1	6/22/23 23:42	
Acenaphthene	**0.125**	J	**0.0107**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Acenaphthylene	**0.0710**	J	**0.00651**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Acetophenone	ND	U	0.0185	0.187	mg/kg	1	6/22/23 23:42	
Anthracene	**0.274**		**0.0271**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Atrazine	ND	U	0.0176	0.187	mg/kg	1	6/22/23 23:42	
Benzaldehyde	ND	U	0.0575	0.187	mg/kg	1	6/22/23 23:42	UJ, RC:SL
Benzo(a)anthracene	**1.07**		**0.0188**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Benzo(a)pyrene	**1.80**		**0.0326**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Benzo(b)fluoranthene	**1.76**		**0.0263**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Benzo(g,h,i)perylene	**1.41**		**0.0152**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	J, RC:SH
Benzo(k)fluoranthene	**0.524**		**0.0215**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Biphenyl	ND	U	0.0164	0.187	mg/kg	1	6/22/23 23:42	
bis(2-chloroethoxy)methane	ND	U	0.0259	0.187	mg/kg	1	6/22/23 23:42	
bis(2-chloroethyl)ether	ND	U	0.0205	0.187	mg/kg	1	6/22/23 23:42	
bis(2-chloroisopropyl)ether	ND	U	0.0673	0.187	mg/kg	1	6/22/23 23:42	
bis(2-ethylhexyl)phthalate	ND	U	0.0374	0.187	mg/kg	1	6/22/23 23:42	
Butylbenzylphthalate	ND	U	0.0170	0.187	mg/kg	1	6/22/23 23:42	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0838
Date to Lab: 6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0242	0.187	mg/kg	1	6/22/23 23:42	
Carbazole	**0.105**	J	**0.0360**	**0.468**	**mg/kg**	**1**	**6/22/23 23:42**	
Chrysene	**1.05**		**0.0128**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Dibenzo(a,h)anthracene	**0.349**		**0.0185**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	J, RC:SH
Dibenzofuran	**0.0808**	J	**0.0111**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Diethylphthalate	ND	U	0.0363	0.187	mg/kg	1	6/22/23 23:42	
Dimethylphthalate	ND	U	0.0116	0.187	mg/kg	1	6/22/23 23:42	
Di-n-butylphthalate	ND	U	0.0764	0.187	mg/kg	1	6/22/23 23:42	
Di-n-octylphthalate	ND	U	0.0384	0.187	mg/kg	1	6/22/23 23:42	
Fluoranthene	**1.46**		**0.0176**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	J, RC:SH
Fluorene	**0.116**	J	**0.0156**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Hexachlorobenzene	ND	U	0.0244	0.187	mg/kg	1	6/22/23 23:42	
Hexachlorobutadiene	ND	U	0.0898	0.187	mg/kg	1	6/22/23 23:42	
Hexachlorocyclopentadiene	ND	U	0.0780	0.468	mg/kg	1	6/22/23 23:42	
Hexachloroethane	ND	U	0.0205	0.187	mg/kg	1	6/22/23 23:42	
Indeno(1,2,3-cd)pyrene	**1.13**		**0.0201**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	J, RC:SH
Isophorone	ND	U	0.0123	0.187	mg/kg	1	6/22/23 23:42	
Naphthalene	**0.188**		**0.0139**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Nitrobenzene	ND	U	0.0318	0.187	mg/kg	1	6/22/23 23:42	
n-Nitroso-di-n-propylamine	ND	U	0.0100	0.187	mg/kg	1	6/22/23 23:42	
n-Nitrosodiphenylamine	ND	U	0.0399	0.187	mg/kg	1	6/22/23 23:42	
Pentachlorophenol	ND	U	0.0257	0.468	mg/kg	1	6/22/23 23:42	
Phenanthrene	**0.797**		**0.0246**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	
Phenol	ND	U	0.0152	0.187	mg/kg	1	6/22/23 23:42	
Pyrene	**1.32**		**0.0138**	**0.187**	**mg/kg**	**1**	**6/22/23 23:42**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	21.3	5.24	J	mg/kg	1	6/22/23 23:42
Cyclodocosane, ethyl-	0.511	14.14	J	mg/kg	1	6/22/23 23:42
Ethanol, 2-butoxy-	0.388	5.90	J	mg/kg	1	6/22/23 23:42
Hexadecanoic acid, butyl ester	9.36	12.86	J	mg/kg	1	6/22/23 23:42
Octadecanoic acid, butyl ester	4.64	13.67	J, B	mg/kg	1	6/22/23 23:42
TIC Total	**36.2**					

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0838
Date to Lab: 6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000373	0.00255	mg/kg	1	6/29/23 18:43
1,1,2,2-Tetrachloroethane	ND	U	0.000353	0.00255	mg/kg	1	6/29/23 18:43
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00109	0.00255	mg/kg	1	6/29/23 18:43
1,1,2-Trichloroethane	ND	U	0.000430	0.00255	mg/kg	1	6/29/23 18:43
1,1-Dichloroethane	ND	U	0.000373	0.00255	mg/kg	1	6/29/23 18:43
1,1-Dichloroethene	ND	U	0.000473	0.00255	mg/kg	1	6/29/23 18:43
1,2,3-Trichlorobenzene	ND	U	0.000552	0.00255	mg/kg	1	6/29/23 18:43
1,2,4-Trichlorobenzene	ND	U	0.000681	0.00255	mg/kg	1	6/29/23 18:43
1,2,4-Trimethylbenzene	ND	U	0.000353	0.00255	mg/kg	1	6/29/23 18:43
1,2-Dibromo-3-chloropropane	ND	U	0.000623	0.00639	mg/kg	1	6/29/23 18:43
1,2-Dibromoethane	ND	U	0.000322	0.00255	mg/kg	1	6/29/23 18:43
1,2-Dichlorobenzene	ND	U	0.000451	0.00255	mg/kg	1	6/29/23 18:43
1,2-Dichloroethane	ND	U	0.000360	0.00255	mg/kg	1	6/29/23 18:43
1,2-Dichloropropane	ND	U	0.000419	0.00255	mg/kg	1	6/29/23 18:43
1,3-Dichlorobenzene	ND	U	0.000188	0.00255	mg/kg	1	6/29/23 18:43
1,4-Dichlorobenzene	ND	U	0.000368	0.00255	mg/kg	1	6/29/23 18:43
2-Butanone	ND	U	0.000416	0.0128	mg/kg	1	6/29/23 18:43
2-Hexanone	ND	U	0.000239	0.00255	mg/kg	1	6/29/23 18:43
4-Methyl-2-pentanone	ND	U	0.000319	0.00255	mg/kg	1	6/29/23 18:43
Acetone	ND	U	0.000774	0.0639	mg/kg	1	6/29/23 18:43
Benzene	ND	U	0.000232	0.00255	mg/kg	1	6/29/23 18:43
Bromochloromethane	ND	U	0.000471	0.00255	mg/kg	1	6/29/23 18:43
Bromodichloromethane	ND	U	0.000321	0.00255	mg/kg	1	6/29/23 18:43
Bromoform	ND	U	0.000448	0.00255	mg/kg	1	6/29/23 18:43
Bromomethane	ND	U	0.000737	0.00255	mg/kg	1	6/29/23 18:43
Carbon disulfide	**0.00298**		**0.000367**	**0.00255**	**mg/kg**	**1**	**6/29/23 18:43**
Carbon Tetrachloride	ND	U	0.000384	0.00255	mg/kg	1	6/29/23 18:43
Chlorobenzene	ND	U	0.000370	0.00255	mg/kg	1	6/29/23 18:43
Chlorodibromomethane	ND	U	0.000314	0.00255	mg/kg	1	6/29/23 18:43
Chloroethane	ND	U	0.000436	0.00255	mg/kg	1	6/29/23 18:43
Chloroform	ND	U	0.000429	0.00255	mg/kg	1	6/29/23 18:43
Chloromethane	ND	U	0.000984	0.00255	mg/kg	1	6/29/23 18:43
cis-1,2-Dichloroethene	ND	U	0.000124	0.00255	mg/kg	1	6/29/23 18:43
cis-1,3-Dichloropropene	ND	U	0.000323	0.00255	mg/kg	1	6/29/23 18:43
Cyclohexane	ND	U	0.000566	0.00255	mg/kg	1	6/29/23 18:43
Dichlorodifluoromethane	ND	U	0.000862	0.00255	mg/kg	1	6/29/23 18:43
EthylBenzene	ND	U	0.000346	0.00255	mg/kg	1	6/29/23 18:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0838
Date to Lab: 6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000401	0.00255	mg/kg	1	6/29/23 18:43
m+p-Xylenes	ND	U	0.000645	0.00511	mg/kg	1	6/29/23 18:43
Methyl Acetate	ND	U	0.000339	0.00255	mg/kg	1	6/29/23 18:43
Methyl tert-Butyl Ether	ND	U	0.000432	0.00255	mg/kg	1	6/29/23 18:43
Methylcyclohexane	**0.00309**		**0.000411**	**0.00255**	**mg/kg**	**1**	**6/29/23 18:43**
Methylene Chloride	ND	U	0.000768	0.00639	mg/kg	1	6/29/23 18:43
o-Xylene	ND	U	0.000328	0.00255	mg/kg	1	6/29/23 18:43
Styrene	ND	U	0.000365	0.00255	mg/kg	1	6/29/23 18:43
tert-Butyl alcohol	ND	U	0.00537	0.0255	mg/kg	1	6/29/23 18:43
Tetrachloroethene	ND	U	0.000253	0.00255	mg/kg	1	6/29/23 18:43
Toluene	ND	U	0.000206	0.00255	mg/kg	1	6/29/23 18:43
Total Xylenes	ND	U	0.000328	0.00255	mg/kg	1	6/29/23 18:43
trans-1,2-Dichloroethene	ND	U	0.000346	0.00255	mg/kg	1	6/29/23 18:43
trans-1,3-Dichloropropene	ND	U	0.000488	0.00255	mg/kg	1	6/29/23 18:43
Trichloroethene	ND	U	0.000376	0.00255	mg/kg	1	6/29/23 18:43
Trichlorofluoromethane	ND	U	0.000294	0.00255	mg/kg	1	6/29/23 18:43
Vinyl chloride	ND	U	0.000485	0.00255	mg/kg	1	6/29/23 18:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0111	3.91	J	mg/kg	1	6/29/23 18:43
TIC Total	**0.011**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**71.2**				**%**	**1**	**6/19/23 11:22**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	6/29/23 15:47

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.466**		**0.0103**	**0.0861**	**mg/kg**	**1**	**6/19/23 18:59**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0838
Project:	Owls Head Phase 2	**Date to Lab:**	6/16/2023 4:11:00PM

23F0838-01 (Soil) Sample Name: **MR-101-6.0-8.0-20230616** Collected: **6/16/2023 12:01:00PM**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.59**				**pH Units**	**1**	**6/21/23 16:00**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	1.4	0.00		mg/kg	1	6/26/23 16:25

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	27.8	0.00	D	mg/kg	10	6/23/23 18:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23F0946
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 3, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-101-20.0-22.0-20230619	23F0946-01	6/19/2024	Soil
MR-101-65.0-67.0-20230619	23F0946-02	6/19/2024	Soil

Data validation was performed on the analytical data for two (2) samples collected June 19, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Due to major holding time deviations associated with TCLP leachate extractions TCLP results for VOCs, SVOCs, Pesticides, Herbicides and Mercury were qualified as follows: all non-detect results were qualified as rejected, and detections were qualified as estimated. SVOC Benzaldehyde was qualified as rejected due to major deviations associated with laboratory control samples. Additionally, Pesticide Methoxychlor was qualified as rejected due to major deviations associated with matrix spike samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibrations, holding times, laboratory duplicates, surrogates, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP VOCs by 1311/8260D	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-101-65.0-67.0-20230619	Bromoform Carbon tetrachloride	> CL	J (detects) No Action	6H

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
				(non-detects)	

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	Acetone	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
8260D-TCLP	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	Chloroform	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples extracted/analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For extractions/analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP SVOCs by 1311/8270E	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections Octadecanoic acid, butyl ester. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	Benzaldehyde	10% > %R < CL	J (detects) R (non-detects)	6L
8270E-TCLP	MR-101-65.0-67.0-20230619	Hexachlorobenzene	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS and/or MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	MR-101-65.0-67.0-20230619	Hexachlorobenzene	10% < %R < CL	J (detects) UJ (non-detects)	4L

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde associated with MR-101-65.0-67.0-20230619 which exhibited a correlation coefficient below the control limit. Non-detections were qualified as estimated, UJ, reason code Q.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-101-65.0-67.0-20230619	2,4-Dimethylphenol 4-Nitrophenol Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		bis(2-ethylhexyl)phthalate Butylbenzylphthalate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MR-101-20.0-22.0-20230619	2,3,4,6-Tetrachlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Fluoranthene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP	MR-101-20.0-22.0-20230619	2,4-Dinitrotoluene Hexachloroethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Pentachlorophenol Hexachlorobenzene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-101-65.0-67.0-20230619	2,4-Dinitrotoluene Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples extracted/analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For extractions/analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP Herbicides by 1311/8151A,	MR-101-20.0-22.0-20230619	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1
TCLP Pesticides by 1311/8081B	MR-101-20.0-22.0-20230619	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8151A	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	DCAA	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-101-20.0-22.0-20230619	4,4'-DDD Aldrin alpha-BHC beta-BHC Endosulfan II gamma-BHC gamma-Chlordane	> CL	J (detects) No Action (non-detects)	6H
		Endosulfan sulfate Heptachlor epoxide	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	MR-101-20.0-22.0-20230619	beta-BHC	> CL	J (detects) No Action (non-detects)	4H
		Endosulfan II gamma-BHC	10% < %R < CL	J (detects) UJ (non-detects)	4L
		Methoxychlor	10% > %R < CL	J (detects) R (non-detects)	4L

- Additionally, RPDs were outside control limit for Endrin ketone and Methoxychlor. Results were qualified as estimated, J, reason code 5.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met except for 2,4-D was outside the control limits for 8151A soil samples. Results are qualified as estimated, J, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B-TCLP	MR-101-20.0-22.0-20230619	Endosulfan sulfate Endrin ketone	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7470A	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP Mercury by 1311/7473	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-101-20.0-22.0-20230619 MR-101-65.0-67.0-20230619	Arsenic Barium Cadmium	> CL	J (detects) No Action (non-	6H

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Chromium Lead Selenium Silver		detects)	

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MR-101-65.0-67.0-20230619	Aluminum Antimony Arsenic Beryllium Cadmium Chromium Cobalt Copper Iron Lead Magnesium Nickel Potassium Selenium Silver Sodium Thallium Zinc	30% < %R < CL	J (detects) UJ (non-detects)	4L
6010D-TCLP	MR-101-20.0-22.0-20230619	Silver	30% < %R < CL	J (detects) No Action (non-detects)	4L

- RPDs were outside control limit for Antimony, Copper, Nickel and Thallium associated with 6010D analysis.
- Multiple analytes associated with the 6010D-TCLP analysis exhibited recoveries above control limits; however, sample results were greater than four times the spike value and no qualification was required.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis performed on sample MR-101-65.0-67.0-20230619 exhibited RPDs outside control limits for Beryllium, Copper, Lead and Zinc. Results are qualified as estimated, J, reason code D.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis performed on sample MR-101-65.0-67.0-20230619 exhibited acceptable %Ds.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-101-20.0-22.0-20230619	Silver	CCV %D > 10% (increase in response)	No Action (NDs) J (Detects)	SH

Reporting Limits and Analyte Quantitation

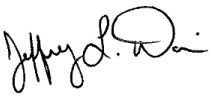
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 3, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23F0946

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: May 29, 2024

1275 Bloomfield Ave., Bldg. 6, Fairfield, New Jersey 07004
(t) 973.227.0422 (f) 973.227.2813 (w) www.pacelabs.com

NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23F0946

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-101-20.0-22.0-20230619	23F0946-01	Soil	06/19/2023 08:09	06/20/2023 17:35
MR-101-65.0-67.0-20230619	23F0946-02	Soil	06/19/2023 09:50	06/20/2023 17:35

PN: 23F0946

APL
APL 23F0946

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Fl	ADDRESS:
Elmwood Park, NJ 07047	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 1568541	SAMPLED BY: AM

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

[x] NYS Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0946-01	MR-101-20.0-22.0-20230619	06/19/23	0809	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL Metals, TCN, RCRA characteristics
-02	MR-101-65.0-67.0-20230619	06/19/23	0950	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL Metals, TCN, RCRA characteristics

RELINQUISHED BY (Print)	Axell Marmol	DATE 6/20/23	RECEIVED BY (Print)
Signature		Time 1336	Signature
RELINQUISHED BY (Print)	VITO DE ROSA	DATE 6/20	RECEIVED BY (Print)
Signature		Time 1733	Signature
RELINQUISHED BY (Print)		DATE	RECEIVED BY (Print)
Signature		Time	Signature

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.8 C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Pace Analytical Services, LLC-Fairfield
Data Reporting Abbreviations and Qualifiers

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:

"Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifers:

B	Compound was also detected in the blank
D	The concentration is from a dilution
E	Concentration exceeds calibration range
IG_>60	> 60
J	Estimated
U	Compound not detected

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 1010A / 9045D / 9010C+9014 / 9030B]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Methods 7473 / 1010A / 9045D / 9010C+9014 / 9030B:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Samples 23F0946-01 and 23F0946-02 have surrogates outside of the QC limits (low), due to matrix interferences.

ANALYSIS: PCBs [8082A]

All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Benzaldehyde was outside of the QC limits for the blank spike (low).
The percent recoveries for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

All samples met the QC criteria.

*Note:
The TCLP Herbicides and TCLP Pesticides analysis were not performed on sample 23F0946-02, due to insufficient sample volume.

The TCLP BNA, TCLP Herbicides, TCLP Pesticides and TCLP VO analysis for sample 23F0946-01 were logged in after the 14 day leaching holding time expired.
The TCLP BNA and TCLP VO analysis for sample 23F0946-02 were logged in after the 14 day leaching holding time expired.

The TCLP Mercury analysis for samples 23F0946-01 and 23F0946-02 were logged in after the 28 day leaching holding time expired.

Reviewed By: _____ (SK) 5/31/2024
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

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Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	23000		0.237	4.00	mg/kg dry	1	6/27/23 15:10
Arsenic	9.18		0.143	2.00	mg/kg dry	1	6/27/23 15:10
Barium	59.8		0.0605	0.800	mg/kg dry	1	6/27/23 15:10
Beryllium	0.660		0.00463	0.0400	mg/kg dry	1	6/27/23 15:10
Calcium	2750		4.50	40.0	mg/kg dry	1	6/27/23 15:10
Chromium	35.7		0.0451	0.400	mg/kg dry	1	6/27/23 15:10
Cobalt	10.2		0.0409	0.320	mg/kg dry	1	6/27/23 15:10
Copper	17.8		0.112	0.400	mg/kg dry	1	6/27/23 15:10
Iron	16600	D	11.3	80.0	mg/kg dry	10	6/27/23 15:21
Lead	17.7		0.167	2.00	mg/kg dry	1	6/27/23 15:10
Magnesium	7560		14.1	80.0	mg/kg dry	1	6/27/23 15:10
Manganese	382		0.0497	0.400	mg/kg dry	1	6/27/23 15:10
Nickel	29.5		0.0351	0.200	mg/kg dry	1	6/27/23 15:10
Potassium	5310		47.5	160	mg/kg dry	1	6/27/23 15:10
Sodium	2650		7.62	80.0	mg/kg dry	1	6/27/23 15:10
Vanadium	45.2		0.0920	0.800	mg/kg dry	1	6/27/23 15:10
Zinc	75.2		0.122	1.20	mg/kg dry	1	6/27/23 15:10

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.186		0.00279	0.100	mg/L	1	8/17/23 14:46

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0908	J	0.0536	0.336	mg/kg dry	1	6/22/23 22:40
3+4-Methylphenol	0.0691	J	0.0410	0.223	mg/kg dry	1	6/22/23 22:40
Acenaphthene	0.145	J	0.0127	0.223	mg/kg dry	1	6/22/23 22:40
Acenaphthylene	0.0431	J	0.00778	0.223	mg/kg dry	1	6/22/23 22:40
Anthracene	0.162	J	0.0324	0.223	mg/kg dry	1	6/22/23 22:40
Benzo(a)anthracene	0.155	J	0.0225	0.223	mg/kg dry	1	6/22/23 22:40
Benzo(a)pyrene	0.137	J	0.0390	0.223	mg/kg dry	1	6/22/23 22:40
Benzo(b)fluoranthene	0.138	J	0.0314	0.223	mg/kg dry	1	6/22/23 22:40
Benzo(g,h,i)perylene	0.0996	J	0.0181	0.223	mg/kg dry	1	6/22/23 22:40
Benzo(k)fluoranthene	0.0716	J	0.0257	0.223	mg/kg dry	1	6/22/23 22:40
Carbazole	0.0450	J	0.0430	0.559	mg/kg dry	1	6/22/23 22:40
Chrysene	0.131	J	0.0153	0.223	mg/kg dry	1	6/22/23 22:40
Dibenzofuran	0.0583	J	0.0133	0.223	mg/kg dry	1	6/22/23 22:40
Fluoranthene	0.359		0.0210	0.223	mg/kg dry	1	6/22/23 22:40
Fluorene	0.141	J	0.0186	0.223	mg/kg dry	1	6/22/23 22:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	0.0716	J	0.0240	0.223	mg/kg dry	1	6/22/23 22:40
Naphthalene	0.221	J	0.0166	0.223	mg/kg dry	1	6/22/23 22:40
Phenanthrene	0.480		0.0294	0.223	mg/kg dry	1	6/22/23 22:40
Pyrene	0.333		0.0164	0.223	mg/kg dry	1	6/22/23 22:40
TIC_2-Pentanone, 4-hydroxy-4-methyl-	30.0	J			mg/kg dry	1	6/22/23 22:40
TIC_2-Propanone, 1-cyclopropyl-	0.464	J			mg/kg dry	1	6/22/23 22:40
TIC_Cyclooctacosane	0.670	J			mg/kg dry	1	6/22/23 22:40
TIC_Ethanol, 2-butoxy-	0.735	J			mg/kg dry	1	6/22/23 22:40
TIC_Heptadecane	0.569	J			mg/kg dry	1	6/22/23 22:40
TIC_Hexadecane	0.451	J			mg/kg dry	1	6/22/23 22:40
TIC_Hexadecanoic acid, butyl ester	15.4	J			mg/kg dry	1	6/22/23 22:40
TIC_Octadecanoic acid, butyl ester	9.71	J, B			mg/kg dry	1	6/22/23 22:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.146		0.000513	0.00357	mg/kg dry	1	7/2/23 22:59
TIC_Lab Contamination	0.0404	J			mg/kg dry	1	7/2/23 22:59

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.00432	J, D	0.00365	0.0100	mg/L	10	8/24/23 19:17

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	6.69				pH Units	1	6/21/23 16:00

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6060		0.162	2.73	mg/kg dry	1	6/26/23 15:30
Barium	60.0		0.0413	0.546	mg/kg dry	1	6/26/23 15:30
Beryllium	0.298		0.00316	0.0273	mg/kg dry	1	6/26/23 15:30
Calcium	9570		3.07	27.3	mg/kg dry	1	6/26/23 15:30
Chromium	11.9		0.0308	0.273	mg/kg dry	1	6/26/23 15:30
Cobalt	3.96		0.0279	0.218	mg/kg dry	1	6/26/23 15:30
Copper	11.3		0.0763	0.273	mg/kg dry	1	6/26/23 15:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Iron	10300		0.773	5.46	mg/kg dry	1	6/26/23 15:30
Lead	6.71		0.114	1.36	mg/kg dry	1	6/26/23 15:30
Magnesium	4720		9.64	54.6	mg/kg dry	1	6/26/23 15:30
Manganese	254		0.0339	0.273	mg/kg dry	1	6/26/23 15:30
Nickel	15.7		0.0240	0.136	mg/kg dry	1	6/26/23 15:30
Potassium	1580		32.5	109	mg/kg dry	1	6/26/23 15:30
Sodium	485		5.20	54.6	mg/kg dry	1	6/26/23 15:30
Vanadium	17.9		0.0628	0.546	mg/kg dry	1	6/26/23 15:30
Zinc	21.4		0.0834	0.819	mg/kg dry	1	6/26/23 15:30

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.12		0.00279	0.100	mg/L	1	8/17/23 15:33

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexadecane	1.98	J			mg/kg dry	1	6/21/23 21:38
TIC_Hexadecanoic acid, butyl ester	6.54	J			mg/kg dry	1	6/21/23 21:38
TIC_Octadecanoic acid, butyl ester	3.48	B, J			mg/kg dry	1	6/21/23 21:38

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetone	0.272		0.000655	0.0541	mg/kg dry	1	7/2/23 23:28
tert-Butyl alcohol	0.817		0.00454	0.0216	mg/kg dry	1	7/2/23 23:28
TIC_Acetic acid, methyl ester	0.0504	J			mg/kg dry	1	7/2/23 23:28
TIC_Hexane	0.00973	J			mg/kg dry	1	7/2/23 23:28
TIC_Lab Contamination	0.175	J			mg/kg dry	1	7/2/23 23:28

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.38				pH Units	1	6/21/23 16:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00743	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1221	ND	U	0.0146	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1232	ND	U	0.0186	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1242	ND	U	0.0109	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1248	ND	U	0.0114	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1254	ND	U	0.00894	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1260	ND	U	0.00694	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1262	ND	U	0.0149	0.0554	mg/kg	1	6/27/23 18:48
Aroclor-1268	ND	U	0.00670	0.0554	mg/kg	1	6/27/23 18:48
Total PCBs	ND	U	0.00517	0.0554	mg/kg	1	6/27/23 18:48

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	~~ND~~	~~U~~	~~0.0165~~	~~0.168~~	mg/kg	1	7/1/23 13:20 R, RC:1
2,4-D	~~ND~~	~~U~~	~~0.0279~~	~~0.168~~	mg/kg	1	7/1/23 13:20 R, RC:1

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/21/23 11:14 UJ, RC:3L
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/21/23 11:14 UJ, RC:3L,Q

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00840	0.0336	mg/kg	1	6/28/23 15:07

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	~~ND~~	~~U~~	~~0.000290~~	~~0.00100~~	mg/L	1	8/11/23 12:24 R, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**23000**		**0.237**	**4.00**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L
Antimony	ND	U	0.218	2.00	mg/kg	1	6/27/23 15:10 UJ, RC:4L,5
Arsenic	**9.18**		**0.143**	**2.00**	**mg/kg**	**1**	**6/27/23 15:10**
Barium	**59.8**		**0.0605**	**0.800**	**mg/kg**	**1**	**6/27/23 15:10**
Beryllium	**0.660**		**0.00463**	**0.0400**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L,D
Cadmium	ND	U	0.0780	0.400	mg/kg	1	6/27/23 15:10 UJ, RC:4L
Calcium	**2750**		**4.50**	**40.0**	**mg/kg**	**1**	**6/27/23 15:10**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-202 30619** Collected: **6/19/2023 8:09:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**35.7**		**0.0451**	**0.400**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L
Cobalt	**10.2**		**0.0409**	**0.320**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L
Copper	**17.8**		**0.112**	**0.400**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L,5,D
Iron	**16600**	D	**11.3**	**80.0**	**mg/kg**	**10**	**6/27/23 15:21** J, RC:4L
Lead	**17.7**		**0.167**	**2.00**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L
Magnesium	**7560**		**14.1**	**80.0**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L,D
Manganese	**382**		**0.0497**	**0.400**	**mg/kg**	**1**	**6/27/23 15:10**
Nickel	**29.5**		**0.0351**	**0.200**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L,5
Potassium	**5310**		**47.5**	**160**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L
Selenium	ND	U	0.384	2.00	mg/kg	1	6/27/23 15:10 UJ, RC:4L
Silver	ND	U	0.0680	0.240	mg/kg	1	6/27/23 15:10 UJ, RC:4L,SL
Sodium	**2650**		**7.62**	**80.0**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L
Thallium	ND	U	0.135	2.00	mg/kg	1	6/27/23 15:10 UJ, RC:4L,5
Vanadium	**45.2**		**0.0920**	**0.800**	**mg/kg**	**1**	**6/27/23 15:10**
Zinc	**75.2**		**0.122**	**1.20**	**mg/kg**	**1**	**6/27/23 15:10** J, RC:4L,D

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 14:46
Barium	**0.186**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 14:46** J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 14:46
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 14:46
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 14:46
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 14:46
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 14:46

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000999	0.00218	mg/kg	1	6/23/23 21:27
4,4'-DDE	ND	U	0.00119	0.00218	mg/kg	1	6/23/23 21:27
4,4'-DDT	ND	U	0.00154	0.00218	mg/kg	1	6/23/23 21:27
Aldrin	ND	U	0.00103	0.00218	mg/kg	1	6/23/23 21:27
alpha-BHC [2C]	ND	U	0.000650	0.00218	mg/kg	1	6/23/23 21:27
beta-BHC	ND	U	0.00104	0.00218	mg/kg	1	6/23/23 21:27
Chlordane	ND	U	0.000971	0.00218	mg/kg	1	6/23/23 21:27
delta-BHC	ND	U	0.00101	0.00218	mg/kg	1	6/23/23 21:27
Dieldrin	ND	U	0.00114	0.00218	mg/kg	1	6/23/23 21:27
Endosulfan I	ND	U	0.00103	0.00218	mg/kg	1	6/23/23 21:27

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000992	0.00218	mg/kg	1	6/23/23 21:27	UJ, RC:6L,4L
Endosulfan sulfate	ND	U	0.000821	0.00218	mg/kg	1	6/23/23 21:27	
Endosulfans, Total (alpha and beta)	ND	U	0.000992	0.00218	mg/kg	1	6/23/23 21:27	
Endrin	ND	U	0.000754	0.00218	mg/kg	1	6/23/23 21:27	
Endrin aldehyde	ND	U	0.000870	0.00218	mg/kg	1	6/23/23 21:27	
Endrin ketone	ND	U	0.000769	0.00218	mg/kg	1	6/23/23 21:27	UJ, RC:5
gamma-BHC (Lindane)	ND	U	0.000692	0.00218	mg/kg	1	6/23/23 21:27	UJ, RC:4L
Heptachlor	ND	U	0.000584	0.00218	mg/kg	1	6/23/23 21:27	
Heptachlor Epoxide	ND	U	0.00110	0.00218	mg/kg	1	6/23/23 21:27	
Methoxychlor	ND	U	0.000640	0.00218	mg/kg	1	6/23/23 21:27	R, RC:4L,5
Toxaphene	ND	U	0.105	0.111	mg/kg	1	6/23/23 21:27	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/16/23 21:48	R, RC:1
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/16/23 21:48	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/16/23 21:48	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/16/23 21:48	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/16/23 21:48	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/16/23 21:48	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/16/23 21:48	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/16/23 21:48	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/16/23 21:48	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/16/23 21:48	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/16/23 21:48	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/16/23 21:48	RC:6L,SL
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/16/23 21:48	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/16/23 21:48	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/16/23 21:48	RC:SL
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/16/23 21:48	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/16/23 21:48	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/16/23 21:48	RC:6L
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/16/23 21:48	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/16/23 21:48	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00631	0.0559	mg/kg	1	6/22/23 22:40	
2,3,4,6-Tetrachlorophenol	ND	U	0.0344	0.223	mg/kg	1	6/22/23 22:40	
2,4,5-Trichlorophenol	ND	U	0.0304	0.223	mg/kg	1	6/22/23 22:40	
2,4,6-Trichlorophenol	ND	U	0.0140	0.223	mg/kg	1	6/22/23 22:40	
2,4-Dichlorophenol	ND	U	0.0225	0.223	mg/kg	1	6/22/23 22:40	
2,4-Dimethylphenol	ND	U	0.0220	0.223	mg/kg	1	6/22/23 22:40	
2,4-Dinitrophenol	ND	U	0.0322	1.12	mg/kg	1	6/22/23 22:40	
2,4-Dinitrotoluene	ND	U	0.0238	0.223	mg/kg	1	6/22/23 22:40	
2,6-Dinitrotoluene	ND	U	0.0534	0.223	mg/kg	1	6/22/23 22:40	
2-Chloronaphthalene	ND	U	0.0257	0.223	mg/kg	1	6/22/23 22:40	
2-Chlorophenol	ND	U	0.0296	0.223	mg/kg	1	6/22/23 22:40	
2-Methylnaphthalene	**0.0908**	J	**0.0536**	**0.336**	**mg/kg**	**1**	**6/22/23 22:40**	
2-Methylphenol	ND	U	0.0442	0.223	mg/kg	1	6/22/23 22:40	
2-Nitroaniline	ND	U	0.0180	0.223	mg/kg	1	6/22/23 22:40	
2-Nitrophenol	ND	U	0.0249	0.223	mg/kg	1	6/22/23 22:40	
3,3'-Dichlorobenzidine	ND	U	0.0235	0.223	mg/kg	1	6/22/23 22:40	
3+4-Methylphenol	**0.0691**	J	**0.0410**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
3-Nitroaniline	ND	U	0.0415	0.223	mg/kg	1	6/22/23 22:40	
4,6-Dinitro-2-methylphenol	ND	U	0.0422	0.559	mg/kg	1	6/22/23 22:40	
4-Bromophenyl-phenyl ether	ND	U	0.0319	0.223	mg/kg	1	6/22/23 22:40	
4-Chloro-3-methylphenol	ND	U	0.0353	0.223	mg/kg	1	6/22/23 22:40	
4-Chloroaniline	ND	U	0.00783	0.223	mg/kg	1	6/22/23 22:40	
4-Chlorophenyl phenyl ether	ND	U	0.0121	0.223	mg/kg	1	6/22/23 22:40	
4-Nitroaniline	ND	U	0.112	0.223	mg/kg	1	6/22/23 22:40	
4-Nitrophenol	ND	U	0.0143	0.223	mg/kg	1	6/22/23 22:40	
Acenaphthene	**0.145**	J	**0.0127**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Acenaphthylene	**0.0431**	J	**0.00778**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Acetophenone	ND	U	0.0222	0.223	mg/kg	1	6/22/23 22:40	
Anthracene	**0.162**	J	**0.0324**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Atrazine	ND	U	0.0210	0.223	mg/kg	1	6/22/23 22:40	
Benzaldehyde	ND	U	0.0687	0.223	mg/kg	1	6/22/23 22:40	R, RC:1,SL
Benzo(a)anthracene	**0.155**	J	**0.0225**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Benzo(a)pyrene	**0.137**	J	**0.0390**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Benzo(b)fluoranthene	**0.138**	J	**0.0314**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Benzo(g,h,i)perylene	**0.0996**	J	**0.0181**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	J, RC:SH
Benzo(k)fluoranthene	**0.0716**	J	**0.0257**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Biphenyl	ND	U	0.0196	0.223	mg/kg	1	6/22/23 22:40	
bis(2-chloroethoxy)methane	ND	U	0.0309	0.223	mg/kg	1	6/22/23 22:40	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-202 30619** Collected: **6/19/2023 8:09:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0245	0.223	mg/kg	1	6/22/23 22:40	
bis(2-chloroisopropyl)ether	ND	U	0.0804	0.223	mg/kg	1	6/22/23 22:40	
bis(2-ethylhexyl)phthalate	ND	U	0.0447	0.223	mg/kg	1	6/22/23 22:40	
Butylbenzylphthalate	ND	U	0.0203	0.223	mg/kg	1	6/22/23 22:40	
Caprolactam	ND	U	0.0289	0.223	mg/kg	1	6/22/23 22:40	
Carbazole	**0.0450**	J	**0.0430**	**0.559**	**mg/kg**	**1**	**6/22/23 22:40**	
Chrysene	**0.131**	J	**0.0153**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Dibenzo(a,h)anthracene	ND	U	0.0222	0.223	mg/kg	1	6/22/23 22:40	
Dibenzofuran	**0.0583**	J	**0.0133**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Diethylphthalate	ND	U	0.0433	0.223	mg/kg	1	6/22/23 22:40	
Dimethylphthalate	ND	U	0.0139	0.223	mg/kg	1	6/22/23 22:40	
Di-n-butylphthalate	ND	U	0.0914	0.223	mg/kg	1	6/22/23 22:40	
Di-n-octylphthalate	ND	U	0.0458	0.223	mg/kg	1	6/22/23 22:40	
Fluoranthene	**0.359**		**0.0210**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	J, RC:SH
Fluorene	**0.141**	J	**0.0186**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Hexachlorobenzene	ND	U	0.0292	0.223	mg/kg	1	6/22/23 22:40	
Hexachlorobutadiene	ND	U	0.107	0.223	mg/kg	1	6/22/23 22:40	
Hexachlorocyclopentadiene	ND	U	0.0932	0.559	mg/kg	1	6/22/23 22:40	
Hexachloroethane	ND	U	0.0245	0.223	mg/kg	1	6/22/23 22:40	
Indeno(1,2,3-cd)pyrene	**0.0716**	J	**0.0240**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	J, RC:SH
Isophorone	ND	U	0.0146	0.223	mg/kg	1	6/22/23 22:40	
Naphthalene	**0.221**	J	**0.0166**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Nitrobenzene	ND	U	0.0380	0.223	mg/kg	1	6/22/23 22:40	
n-Nitroso-di-n-propylamine	ND	U	0.0120	0.223	mg/kg	1	6/22/23 22:40	
n-Nitrosodiphenylamine	ND	U	0.0477	0.223	mg/kg	1	6/22/23 22:40	
Pentachlorophenol	ND	U	0.0307	0.559	mg/kg	1	6/22/23 22:40	
Phenanthrene	**0.480**		**0.0294**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	
Phenol	ND	U	0.0181	0.223	mg/kg	1	6/22/23 22:40	
Pyrene	**0.333**		**0.0164**	**0.223**	**mg/kg**	**1**	**6/22/23 22:40**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	30.0	5.25	J	mg/kg	1	6/22/23 22:40
2-Propanone, 1-cyclopropyl-	0.464	6.01	J	mg/kg	1	6/22/23 22:40
Cyclooctacosane	0.670	14.14	J	mg/kg	1	6/22/23 22:40
Ethanol, 2-butoxy-	0.735	5.90	J	mg/kg	1	6/22/23 22:40
Heptadecane	0.569	10.36	J	mg/kg	1	6/22/23 22:40
Hexadecane	0.451	9.65	J	mg/kg	1	6/22/23 22:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	15.4	12.86	J	mg/kg	1	6/22/23 22:40
Octadecanoic acid, butyl ester	9.71	13.68	J, B	mg/kg	1	6/22/23 22:40
TIC Total	**58.0**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/16/23 23:47	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/16/23 23:47	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/16/23 23:47	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/16/23 23:47	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/16/23 23:47	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/16/23 23:47	RC:6L,SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/16/23 23:47	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/16/23 23:47	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/16/23 23:47	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/16/23 23:47	RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/16/23 23:47	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000522	0.00357	mg/kg	1	7/2/23 22:59
1,1,2,2-Tetrachloroethane	ND	U	0.000493	0.00357	mg/kg	1	7/2/23 22:59
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00153	0.00357	mg/kg	1	7/2/23 22:59
1,1,2-Trichloroethane	ND	U	0.000602	0.00357	mg/kg	1	7/2/23 22:59
1,1-Dichloroethane	ND	U	0.000522	0.00357	mg/kg	1	7/2/23 22:59
1,1-Dichloroethene	ND	U	0.000661	0.00357	mg/kg	1	7/2/23 22:59
1,2,3-Trichlorobenzene	ND	U	0.000772	0.00357	mg/kg	1	7/2/23 22:59
1,2,4-Trichlorobenzene	ND	U	0.000952	0.00357	mg/kg	1	7/2/23 22:59
1,2,4-Trimethylbenzene	ND	U	0.000493	0.00357	mg/kg	1	7/2/23 22:59
1,2-Dibromo-3-chloropropane	ND	U	0.000872	0.00893	mg/kg	1	7/2/23 22:59
1,2-Dibromoethane	ND	U	0.000450	0.00357	mg/kg	1	7/2/23 22:59
1,2-Dichlorobenzene	ND	U	0.000631	0.00357	mg/kg	1	7/2/23 22:59
1,2-Dichloroethane	ND	U	0.000504	0.00357	mg/kg	1	7/2/23 22:59
1,2-Dichloropropane	ND	U	0.000586	0.00357	mg/kg	1	7/2/23 22:59
1,3-Dichlorobenzene	ND	U	0.000263	0.00357	mg/kg	1	7/2/23 22:59
1,4-Dichlorobenzene	ND	U	0.000515	0.00357	mg/kg	1	7/2/23 22:59
2-Butanone	ND	U	0.000582	0.0179	mg/kg	1	7/2/23 22:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Hexanone	ND	U	0.000334	0.00357	mg/kg	1	7/2/23 22:59
4-Methyl-2-pentanone	ND	U	0.000447	0.00357	mg/kg	1	7/2/23 22:59
Acetone	ND	U	0.00108	0.0893	mg/kg	1	7/2/23 22:59
Benzene	ND	U	0.000325	0.00357	mg/kg	1	7/2/23 22:59
Bromochloromethane	ND	U	0.000659	0.00357	mg/kg	1	7/2/23 22:59
Bromodichloromethane	ND	U	0.000448	0.00357	mg/kg	1	7/2/23 22:59
Bromoform	ND	U	0.000627	0.00357	mg/kg	1	7/2/23 22:59
Bromomethane	ND	U	0.00103	0.00357	mg/kg	1	7/2/23 22:59
Carbon disulfide	**0.146**		**0.000513**	**0.00357**	**mg/kg**	**1**	**7/2/23 22:59**
Carbon Tetrachloride	ND	U	0.000538	0.00357	mg/kg	1	7/2/23 22:59
Chlorobenzene	ND	U	0.000518	0.00357	mg/kg	1	7/2/23 22:59
Chlorodibromomethane	ND	U	0.000439	0.00357	mg/kg	1	7/2/23 22:59
Chloroethane	ND	U	0.000609	0.00357	mg/kg	1	7/2/23 22:59
Chloroform	ND	U	0.000600	0.00357	mg/kg	1	7/2/23 22:59
Chloromethane	ND	U	0.00138	0.00357	mg/kg	1	7/2/23 22:59
cis-1,2-Dichloroethene	ND	U	0.000173	0.00357	mg/kg	1	7/2/23 22:59
cis-1,3-Dichloropropene	ND	U	0.000452	0.00357	mg/kg	1	7/2/23 22:59
Cyclohexane	ND	U	0.000791	0.00357	mg/kg	1	7/2/23 22:59
Dichlorodifluoromethane	ND	U	0.00121	0.00357	mg/kg	1	7/2/23 22:59
EthylBenzene	ND	U	0.000484	0.00357	mg/kg	1	7/2/23 22:59
Isopropylbenzene	ND	U	0.000561	0.00357	mg/kg	1	7/2/23 22:59
m+p-Xylenes	ND	U	0.000902	0.00715	mg/kg	1	7/2/23 22:59
Methyl Acetate	ND	U	0.000473	0.00357	mg/kg	1	7/2/23 22:59
Methyl tert-Butyl Ether	ND	U	0.000604	0.00357	mg/kg	1	7/2/23 22:59
Methylcyclohexane	ND	U	0.000575	0.00357	mg/kg	1	7/2/23 22:59
Methylene Chloride	ND	U	0.00107	0.00893	mg/kg	1	7/2/23 22:59
o-Xylene	ND	U	0.000459	0.00357	mg/kg	1	7/2/23 22:59
Styrene	ND	U	0.000511	0.00357	mg/kg	1	7/2/23 22:59
tert-Butyl alcohol	ND	U	0.00750	0.0357	mg/kg	1	7/2/23 22:59
Tetrachloroethene	ND	U	0.000354	0.00357	mg/kg	1	7/2/23 22:59
Toluene	ND	U	0.000288	0.00357	mg/kg	1	7/2/23 22:59
Total Xylenes	ND	U	0.000459	0.00357	mg/kg	1	7/2/23 22:59
trans-1,2-Dichloroethene	ND	U	0.000484	0.00357	mg/kg	1	7/2/23 22:59
trans-1,3-Dichloropropene	ND	U	0.000682	0.00357	mg/kg	1	7/2/23 22:59
Trichloroethene	ND	U	0.000525	0.00357	mg/kg	1	7/2/23 22:59
Trichlorofluoromethane	ND	U	0.000411	0.00357	mg/kg	1	7/2/23 22:59
Vinyl chloride	ND	U	0.000679	0.00357	mg/kg	1	7/2/23 22:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0404	3.93	J	mg/kg	1	7/2/23 22:59
TIC Total	**0.040**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/24/23 19:17	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/24/23 19:17	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/24/23 19:17	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/24/23 19:17	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/24/23 19:17	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/24/23 19:17	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/24/23 19:17	
Chloroform	**0.00432**	J, D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/24/23 19:17**	J, RC:1,SH
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/24/23 19:17	R, RC:1
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/24/23 19:17	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/24/23 19:17	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**59.5**				**%**	**1**	**6/21/23 10:50**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	6/29/23 15:47

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0115	0.0967	mg/kg	1	6/27/23 18:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**6.69**				**pH Units**	**1**	**6/21/23 16:00**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0946
Project:	Owls Head Phase 2	**Date to Lab:**	6/20/2023 5:35:00PM

23F0946-01 (Soil) Sample Name: **MR-101-20.0-22.0-20230619** Collected: **6/19/2023 8:09:00AM**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	6/27/23 16:00

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	6/23/23 18:01

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00507	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1221	ND	U	0.00998	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1232	ND	U	0.0127	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1242	ND	U	0.00743	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1248	ND	U	0.00777	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1254	ND	U	0.00610	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1260	ND	U	0.00474	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1262	ND	U	0.0102	0.0378	mg/kg	1	6/27/23 19:11
Aroclor-1268	ND	U	0.00458	0.0378	mg/kg	1	6/27/23 19:11
Total PCBs	ND	U	0.00353	0.0378	mg/kg	1	6/27/23 19:11

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0112	0.115	mg/kg	1	7/1/23 13:29	UJ, RC:3L
2,4-D	ND	U	0.0190	0.115	mg/kg	1	7/1/23 13:29	UJ, RC:3L,Q

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00573	0.0229	mg/kg	1	6/28/23 15:07

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/11/23 12:37	R, RC:1

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**6060**		**0.162**	**2.73**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Antimony	ND	U	0.149	1.36	mg/kg	1	6/26/23 15:30	UJ, RC:4L,5
Arsenic	ND	U	0.0974	1.36	mg/kg	1	6/26/23 15:30	UJ, RC:4L
Barium	**60.0**		**0.0413**	**0.546**	**mg/kg**	**1**	**6/26/23 15:30**	
Beryllium	**0.298**		**0.00316**	**0.0273**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L,D
Cadmium	ND	U	0.0532	0.273	mg/kg	1	6/26/23 15:30	UJ, RC:4L
Calcium	**9570**		**3.07**	**27.3**	**mg/kg**	**1**	**6/26/23 15:30**	
Chromium	**11.9**		**0.0308**	**0.273**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Cobalt	**3.96**		**0.0279**	**0.218**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Copper	**11.3**		**0.0763**	**0.273**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L,5,D
Iron	**10300**		**0.773**	**5.46**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Lead	**6.71**		**0.114**	**1.36**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L,D
Magnesium	**4720**		**9.64**	**54.6**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Manganese	**254**		**0.0339**	**0.273**	**mg/kg**	**1**	**6/26/23 15:30**	
Nickel	**15.7**		**0.0240**	**0.136**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L,5
Potassium	**1580**		**32.5**	**109**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Selenium	ND	U	0.262	1.36	mg/kg	1	6/26/23 15:30	UJ, RC:4L
Silver	ND	U	0.0464	0.164	mg/kg	1	6/26/23 15:30	UJ, RC:4L
Sodium	**485**		**5.20**	**54.6**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L
Thallium	ND	U	0.0918	1.36	mg/kg	1	6/26/23 15:30	UJ, RC:4L,5
Vanadium	**17.9**		**0.0628**	**0.546**	**mg/kg**	**1**	**6/26/23 15:30**	
Zinc	**21.4**		**0.0834**	**0.819**	**mg/kg**	**1**	**6/26/23 15:30**	J, RC:4L,D

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 15:33	
Barium	**1.12**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 15:33**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 15:33	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 15:33	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 15:33	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 15:33	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 15:33	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000682	0.00149	mg/kg	1	6/23/23 21:49
4,4'-DDE	ND	U	0.000815	0.00149	mg/kg	1	6/23/23 21:49
4,4'-DDT	ND	U	0.00105	0.00149	mg/kg	1	6/23/23 21:49

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U	0.000706	0.00149	mg/kg	1	6/23/23 21:49	
alpha-BHC	ND	U	0.000444	0.00149	mg/kg	1	6/23/23 21:49	
beta-BHC	ND	U	0.000712	0.00149	mg/kg	1	6/23/23 21:49	
Chlordane	ND	U	0.000663	0.00149	mg/kg	1	6/23/23 21:49	
delta-BHC	ND	U	0.000692	0.00149	mg/kg	1	6/23/23 21:49	
Dieldrin	ND	U	0.000779	0.00149	mg/kg	1	6/23/23 21:49	
Endosulfan I	ND	U	0.000704	0.00149	mg/kg	1	6/23/23 21:49	
Endosulfan II	ND	U	0.000677	0.00149	mg/kg	1	6/23/23 21:49	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000560	0.00149	mg/kg	1	6/23/23 21:49	
Endosulfans, Total (alpha and beta)	ND	U	0.000677	0.00149	mg/kg	1	6/23/23 21:49	
Endrin	ND	U	0.000515	0.00149	mg/kg	1	6/23/23 21:49	
Endrin aldehyde	ND	U	0.000594	0.00149	mg/kg	1	6/23/23 21:49	
Endrin ketone	ND	U	0.000525	0.00149	mg/kg	1	6/23/23 21:49	
gamma-BHC (Lindane)	ND	U	0.000472	0.00149	mg/kg	1	6/23/23 21:49	
Heptachlor	ND	U	0.000399	0.00149	mg/kg	1	6/23/23 21:49	
Heptachlor Epoxide	ND	U	0.000752	0.00149	mg/kg	1	6/23/23 21:49	
Methoxychlor	ND	U	0.000437	0.00149	mg/kg	1	6/23/23 21:49	
Toxaphene	ND	U	0.0718	0.0756	mg/kg	1	6/23/23 21:49	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00431	0.0382	mg/kg	1	6/21/23 21:38	
2,3,4,6-Tetrachlorophenol	ND	U	0.0235	0.152	mg/kg	1	6/21/23 21:38	
2,4,5-Trichlorophenol	ND	U	0.0207	0.152	mg/kg	1	6/21/23 21:38	
2,4,6-Trichlorophenol	ND	U	0.00955	0.152	mg/kg	1	6/21/23 21:38	
2,4-Dichlorophenol	ND	U	0.0154	0.152	mg/kg	1	6/21/23 21:38	
2,4-Dimethylphenol	ND	U	0.0150	0.152	mg/kg	1	6/21/23 21:38	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.0220	0.765	mg/kg	1	6/21/23 21:38	
2,4-Dinitrotoluene	ND	U	0.0163	0.152	mg/kg	1	6/21/23 21:38	
2,6-Dinitrotoluene	ND	U	0.0364	0.152	mg/kg	1	6/21/23 21:38	
2-Chloronaphthalene	ND	U	0.0175	0.152	mg/kg	1	6/21/23 21:38	
2-Chlorophenol	ND	U	0.0202	0.152	mg/kg	1	6/21/23 21:38	
2-Methylnaphthalene	ND	U	0.0366	0.229	mg/kg	1	6/21/23 21:38	
2-Methylphenol	ND	U	0.0301	0.152	mg/kg	1	6/21/23 21:38	
2-Nitroaniline	ND	U	0.0123	0.152	mg/kg	1	6/21/23 21:38	
2-Nitrophenol	ND	U	0.0170	0.152	mg/kg	1	6/21/23 21:38	
3,3'-Dichlorobenzidine	ND	U	0.0160	0.152	mg/kg	1	6/21/23 21:38	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3+4-Methylphenol	ND	U	0.0280	0.152	mg/kg	1	6/21/23 21:38	
3-Nitroaniline	ND	U	0.0283	0.152	mg/kg	1	6/21/23 21:38	
4,6-Dinitro-2-methylphenol	ND	U	0.0288	0.382	mg/kg	1	6/21/23 21:38	
4-Bromophenyl-phenyl ether	ND	U	0.0218	0.152	mg/kg	1	6/21/23 21:38	
4-Chloro-3-methylphenol	ND	U	0.0241	0.152	mg/kg	1	6/21/23 21:38	
4-Chloroaniline	ND	U	0.00534	0.152	mg/kg	1	6/21/23 21:38	
4-Chlorophenyl phenyl ether	ND	U	0.00824	0.152	mg/kg	1	6/21/23 21:38	
4-Nitroaniline	ND	U	0.0763	0.152	mg/kg	1	6/21/23 21:38	
4-Nitrophenol	ND	U	0.00977	0.152	mg/kg	1	6/21/23 21:38	UJ, RC:SL
Acenaphthene	ND	U	0.00870	0.152	mg/kg	1	6/21/23 21:38	
Acenaphthylene	ND	U	0.00531	0.152	mg/kg	1	6/21/23 21:38	
Acetophenone	ND	U	0.0151	0.152	mg/kg	1	6/21/23 21:38	
Anthracene	ND	U	0.0221	0.152	mg/kg	1	6/21/23 21:38	
Atrazine	ND	U	0.0143	0.152	mg/kg	1	6/21/23 21:38	
Benzaldehyde	ND	U	0.0469	0.152	mg/kg	1	6/21/23 21:38	R, RC:1,Q,SL
Benzo(a)anthracene	ND	U	0.0154	0.152	mg/kg	1	6/21/23 21:38	
Benzo(a)pyrene	ND	U	0.0266	0.152	mg/kg	1	6/21/23 21:38	
Benzo(b)fluoranthene	ND	U	0.0214	0.152	mg/kg	1	6/21/23 21:38	
Benzo(g,h,i)perylene	ND	U	0.0124	0.152	mg/kg	1	6/21/23 21:38	
Benzo(k)fluoranthene	ND	U	0.0175	0.152	mg/kg	1	6/21/23 21:38	
Biphenyl	ND	U	0.0134	0.152	mg/kg	1	6/21/23 21:38	
bis(2-chloroethoxy)methane	ND	U	0.0211	0.152	mg/kg	1	6/21/23 21:38	
bis(2-chloroethyl)ether	ND	U	0.0167	0.152	mg/kg	1	6/21/23 21:38	
bis(2-chloroisopropyl)ether	ND	U	0.0549	0.152	mg/kg	1	6/21/23 21:38	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0305	0.152	mg/kg	1	6/21/23 21:38	
Butylbenzylphthalate	ND	U	0.0139	0.152	mg/kg	1	6/21/23 21:38	
Caprolactam	ND	U	0.0197	0.152	mg/kg	1	6/21/23 21:38	
Carbazole	ND	U	0.0293	0.382	mg/kg	1	6/21/23 21:38	
Chrysene	ND	U	0.0105	0.152	mg/kg	1	6/21/23 21:38	
Dibenzo(a,h)anthracene	ND	U	0.0151	0.152	mg/kg	1	6/21/23 21:38	
Dibenzofuran	ND	U	0.00909	0.152	mg/kg	1	6/21/23 21:38	
Diethylphthalate	ND	U	0.0296	0.152	mg/kg	1	6/21/23 21:38	
Dimethylphthalate	ND	U	0.00947	0.152	mg/kg	1	6/21/23 21:38	
Di-n-butylphthalate	ND	U	0.0624	0.152	mg/kg	1	6/21/23 21:38	
Di-n-octylphthalate	ND	U	0.0313	0.152	mg/kg	1	6/21/23 21:38	
Fluoranthene	ND	U	0.0143	0.152	mg/kg	1	6/21/23 21:38	
Fluorene	ND	U	0.0127	0.152	mg/kg	1	6/21/23 21:38	
Hexachlorobenzene	ND	U	0.0199	0.152	mg/kg	1	6/21/23 21:38	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorobutadiene	ND	U	0.0732	0.152	mg/kg	1	6/21/23 21:38	
Hexachlorocyclopentadiene	ND	U	0.0636	0.382	mg/kg	1	6/21/23 21:38	UJ, RC:SL
Hexachloroethane	ND	U	0.0167	0.152	mg/kg	1	6/21/23 21:38	
Indeno(1,2,3-cd)pyrene	ND	U	0.0164	0.152	mg/kg	1	6/21/23 21:38	
Isophorone	ND	U	0.00999	0.152	mg/kg	1	6/21/23 21:38	
Naphthalene	ND	U	0.0113	0.152	mg/kg	1	6/21/23 21:38	
Nitrobenzene	ND	U	0.0259	0.152	mg/kg	1	6/21/23 21:38	
n-Nitroso-di-n-propylamine	ND	U	0.00817	0.152	mg/kg	1	6/21/23 21:38	
n-Nitrosodiphenylamine	ND	U	0.0326	0.152	mg/kg	1	6/21/23 21:38	
Pentachlorophenol	ND	U	0.0210	0.382	mg/kg	1	6/21/23 21:38	UJ, RC:SL
Phenanthrene	ND	U	0.0201	0.152	mg/kg	1	6/21/23 21:38	
Phenol	ND	U	0.0124	0.152	mg/kg	1	6/21/23 21:38	
Pyrene	ND	U	0.0112	0.152	mg/kg	1	6/21/23 21:38	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Cyclohexadecane	1.98	10.59	J	mg/kg	1	6/21/23 21:38	
Hexadecanoic acid, butyl ester	6.54	11.78	J	mg/kg	1	6/21/23 21:38	
Octadecanoic acid, butyl ester	~~3.48~~	12.55	B, J	mg/kg	1	6/21/23 21:38	R, RC:2
TIC Total	~~12.0~~ 8.52						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/17/23 23:41	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 23:41	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 23:41	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 23:41	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 23:41	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 23:41	RC:6L,4L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 23:41	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 23:41	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 23:41	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 23:41	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/17/23 23:41	

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23F0946
Project:	Owls Head Phase 2	**Date to Lab:**	6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000316	0.00216	mg/kg	1	7/2/23 23:28
1,1,2,2-Tetrachloroethane	ND	U	0.000298	0.00216	mg/kg	1	7/2/23 23:28
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000926	0.00216	mg/kg	1	7/2/23 23:28
1,1,2-Trichloroethane	ND	U	0.000364	0.00216	mg/kg	1	7/2/23 23:28
1,1-Dichloroethane	ND	U	0.000316	0.00216	mg/kg	1	7/2/23 23:28
1,1-Dichloroethene	ND	U	0.000400	0.00216	mg/kg	1	7/2/23 23:28
1,2,3-Trichlorobenzene	ND	U	0.000467	0.00216	mg/kg	1	7/2/23 23:28
1,2,4-Trichlorobenzene	ND	U	0.000576	0.00216	mg/kg	1	7/2/23 23:28
1,2,4-Trimethylbenzene	ND	U	0.000298	0.00216	mg/kg	1	7/2/23 23:28
1,2-Dibromo-3-chloropropane	ND	U	0.000528	0.00541	mg/kg	1	7/2/23 23:28
1,2-Dibromoethane	ND	U	0.000272	0.00216	mg/kg	1	7/2/23 23:28
1,2-Dichlorobenzene	ND	U	0.000382	0.00216	mg/kg	1	7/2/23 23:28
1,2-Dichloroethane	ND	U	0.000305	0.00216	mg/kg	1	7/2/23 23:28
1,2-Dichloropropane	ND	U	0.000355	0.00216	mg/kg	1	7/2/23 23:28
1,3-Dichlorobenzene	ND	U	0.000159	0.00216	mg/kg	1	7/2/23 23:28
1,4-Dichlorobenzene	ND	U	0.000311	0.00216	mg/kg	1	7/2/23 23:28
2-Butanone	ND	U	0.000353	0.0108	mg/kg	1	7/2/23 23:28
2-Hexanone	ND	U	0.000202	0.00216	mg/kg	1	7/2/23 23:28
4-Methyl-2-pentanone	ND	U	0.000270	0.00216	mg/kg	1	7/2/23 23:28
Acetone	**0.272**		**0.000655**	**0.0541**	**mg/kg**	**1**	**7/2/23 23:28** J, RC:SH
Benzene	ND	U	0.000197	0.00216	mg/kg	1	7/2/23 23:28
Bromochloromethane	ND	U	0.000399	0.00216	mg/kg	1	7/2/23 23:28
Bromodichloromethane	ND	U	0.000271	0.00216	mg/kg	1	7/2/23 23:28
Bromoform	ND	U	0.000380	0.00216	mg/kg	1	7/2/23 23:28
Bromomethane	ND	U	0.000624	0.00216	mg/kg	1	7/2/23 23:28
Carbon disulfide	ND	U	0.000310	0.00216	mg/kg	1	7/2/23 23:28
Carbon Tetrachloride	ND	U	0.000325	0.00216	mg/kg	1	7/2/23 23:28
Chlorobenzene	ND	U	0.000314	0.00216	mg/kg	1	7/2/23 23:28
Chlorodibromomethane	ND	U	0.000266	0.00216	mg/kg	1	7/2/23 23:28
Chloroethane	ND	U	0.000369	0.00216	mg/kg	1	7/2/23 23:28
Chloroform	ND	U	0.000363	0.00216	mg/kg	1	7/2/23 23:28
Chloromethane	ND	U	0.000833	0.00216	mg/kg	1	7/2/23 23:28
cis-1,2-Dichloroethene	ND	U	0.000105	0.00216	mg/kg	1	7/2/23 23:28
cis-1,3-Dichloropropene	ND	U	0.000274	0.00216	mg/kg	1	7/2/23 23:28
Cyclohexane	ND	U	0.000479	0.00216	mg/kg	1	7/2/23 23:28
Dichlorodifluoromethane	ND	U	0.000730	0.00216	mg/kg	1	7/2/23 23:28
EthylBenzene	ND	U	0.000293	0.00216	mg/kg	1	7/2/23 23:28

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000340	0.00216	mg/kg	1	7/2/23 23:28
m+p-Xylenes	ND	U	0.000546	0.00433	mg/kg	1	7/2/23 23:28
Methyl Acetate	ND	U	0.000287	0.00216	mg/kg	1	7/2/23 23:28
Methyl tert-Butyl Ether	ND	U	0.000365	0.00216	mg/kg	1	7/2/23 23:28
Methylcyclohexane	ND	U	0.000348	0.00216	mg/kg	1	7/2/23 23:28
Methylene Chloride	ND	U	0.000650	0.00541	mg/kg	1	7/2/23 23:28
o-Xylene	ND	U	0.000278	0.00216	mg/kg	1	7/2/23 23:28
Styrene	ND	U	0.000309	0.00216	mg/kg	1	7/2/23 23:28
tert-Butyl alcohol	**0.817**		**0.00454**	**0.0216**	**mg/kg**	**1**	**7/2/23 23:28**
Tetrachloroethene	ND	U	0.000214	0.00216	mg/kg	1	7/2/23 23:28
Toluene	ND	U	0.000174	0.00216	mg/kg	1	7/2/23 23:28
Total Xylenes	ND	U	0.000278	0.00216	mg/kg	1	7/2/23 23:28
trans-1,2-Dichloroethene	ND	U	0.000293	0.00216	mg/kg	1	7/2/23 23:28
trans-1,3-Dichloropropene	ND	U	0.000413	0.00216	mg/kg	1	7/2/23 23:28
Trichloroethene	ND	U	0.000318	0.00216	mg/kg	1	7/2/23 23:28
Trichlorofluoromethane	ND	U	0.000249	0.00216	mg/kg	1	7/2/23 23:28
Vinyl chloride	ND	U	0.000411	0.00216	mg/kg	1	7/2/23 23:28

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Acetic acid, methyl ester	0.0504	3.71	J	mg/kg	1	7/2/23 23:28
Hexane	0.00973	4.69	J	mg/kg	1	7/2/23 23:28
Lab Contamination	0.175	3.89	J	mg/kg	1	7/2/23 23:28
TIC Total	**0.235**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/24/23 19:43 R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/24/23 19:43
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/24/23 19:43
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/24/23 19:43
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/24/23 19:43
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/24/23 19:43
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/24/23 19:43
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/24/23 19:43
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/24/23 19:43
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/24/23 19:43
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/24/23 19:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0946
Date to Lab: 6/20/2023 5:35:00PM

23F0946-02 (Soil) Sample Name: **MR-101-65.0-67.0-20230619** Collected: **6/19/2023 9:50:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.2**				**%**	**1**	**6/21/23 10:50**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	6/29/23 15:47

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00787	0.0660	mg/kg	1	6/27/23 18:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.38**				**pH Units**	**1**	**6/21/23 16:00**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	6/27/23 16:00

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	6/23/23 18:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23G0474
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 11, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-207_9.0-10.0_20230710	23G0474-01	7/10/2024	Soil
MR-102_6.0-8.0_20230710	23G0474-02	7/10/2024	Soil
MR-102_20.0-22.0_20230710	23G0474-03	7/10/2024	Soil
MR-207_30-32_20230711	23G0474-04	7/11/2024	Soil
MR-102_80.0-82.0_20230711	23G0474-05	7/11/2024	Soil

Data validation was performed on the analytical data for five (5) samples collected July 10 and 11, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Due to major holding time deviations associated with TCLP leachate extractions, TCLP results for VOCs, SVOCs, Pesticides, and Herbicides were qualified as follows: all non-detect results were qualified as rejected, and detections were qualified as estimated. SVOCs 1,4-Dioxane and Bis(2-chloroisopropyl)ether were qualified as rejected due to major deviations associated with laboratory control samples. Additionally, Pesticides Methoxychlor and 4,4-DDT associated with MR-207_9.0-10.0_20230710 were qualified as rejected due to major deviations associated with matrix spike samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, holding times, surrogates, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP VOCs by 1311/8260D	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for “lab contamination.” Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Bromoform Carbon tetrachloride	> CL	J (detects) No Action (non-detects)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-102_6.0-8.0_20230710	Acetone	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
		Cyclohexane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-207_9.0-10.0_20230710	Acetone Chloroethane Chloromethane	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
	MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Cyclohexane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8260D-TCLP	MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Chloroform	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples extracted/analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For extractions/analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP SVOCs by 1311/8270E	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester and Octadecanoic acid, butyl ester. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711	2,4-Dinitrophenol 3-Nitroaniline 4,6-Dinitro-2-methylphenol	> CL	J (detects) No Action (non-detects)	6H
	MR-207_9.0-10.0_20230710 MR-102_80.0-82.0_20230711	1,4-Dioxane bis(2-chloroisopropyl)ether	10% > %R < CL	J (detects) R (non-detects)	6L
8270E-TCLP	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	2,4-Dinitrotoluene	> CL	J (detects) No Action (non-detects)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde associated with MR-102_80.0-82.0_20230711 which exhibited a correlation coefficient below the control limit. Non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711	4-Chloroaniline Benzaldehyde bis(2-chloroethoxy)methane bis(2-chloroethyl)ether bis(2-chloroisopropyl)ether Isophorone Pentachlorophenol Phenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-102_80.0-82.0_20230711	1,4-Dioxane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol 4-Nitroaniline 4-Nitrophenol Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-207_9.0-10.0_20230710	1,4-Dioxane 2-Methylphenol 3+4-Methylphenol 4-Chloroaniline Benzaldehyde bis(2-chloroethoxy)methane bis(2-chloroethyl)ether bis(2-chloroisopropyl)ether Caprolactam n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	2,4-Dinitrotoluene Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples extracted/analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For extractions/analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP Herbicides by 1311/8151A,	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1
TCLP Pesticides by 1311/8081B		14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited a detection for Aldrin; however, since all sample results were non-detect, no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	MR-207_9.0-10.0_20230710	DCB	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	2,4-D	> CL	J (detects) No Action (non-detects)	6H
8181B	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Aldrin Delta-BHC Endosulfan I Endosulfan sulfate Endrin Heptachlor Heptachlor epoxide	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	MR-207_9.0-10.0_20230710	beta-BHC delta-BHC gamma-BHC Heptachlor Endosulfan I	> CL	J (detects) No Action (non-detects)	4H
		Dieldrin Endosulfan II Endrin	10% < %R < CL	J (detects) UJ (non-detects)	4L
		4,4'-DDT Methoxychlor	10% > %R < CL	J (detects) R (non-detects)	4L

- Additionally, RPDs were outside control limit for 4,4-DDT, Dieldrin, Endosulfan II, Endrin, Endrin aldehyde, and Methoxychlor. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30%

relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met except for 2,4-D was outside the control limits for 8151A soil samples. Results are qualified as estimated, J, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	2,4-D 2,4,5-TP (Silvex)	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP Mercury by 1311/7473	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	14 Days	HT < 1.5X HT Criteria	J (Detects) UJ (NDs)	1
Reactive Sulfide by SW-846 9030B	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710	7 Days	HT < 1.5X HT Criteria	J (Detects) UJ (NDs)	1

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Arsenic Barium Cadmium Chromium Lead Selenium Silver	> CL	J (detects) No Action (non-detects)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis was performed on sample MR-207_9.0-10.0_20230710 for Cyanide exhibited acceptable recoveries and RPDs.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-207_9.0-10.0_20230710 MR-102_6.0-8.0_20230710 MR-102_20.0-22.0_20230710 MR-207_30-32_20230711 MR-102_80.0-82.0_20230711	Silver	CCV %D > 10% (increase in response)	No Action (NDs) J (Detects)	SH

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 11, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23G0474

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jun 25, 2024

1275 Bloomfield Ave., Bldg. 6, Fairfield, New Jersey 07004
(t) 973.227.0422 (f) 973.227.2813 (w) www.pacelabs.com

NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23G0474

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-207_9.0-10.0_20230710	23G0474-01	Soil	07/10/2023 12:25	07/11/2023 17:03
MR-102_6.0-8.0_20230710	23G0474-02	Soil	07/10/2023 11:54	07/11/2023 17:03
MR-102_20.0-22.0_20230710	23G0474-03	Soil	07/10/2023 13:25	07/11/2023 17:03
MR-207_30-32_20230711	23G0474-04	Soil	07/11/2023 09:35	07/11/2023 17:03
MR-102_80.0-82.0_20230711	23G0474-05	Soil	07/11/2023 12:42	07/11/2023 17:03

PN: 23G0474

APL 23G0474

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive	ADDRESS: " "
3rd Floor Elmwood Park, NJ	
PHONE: 201-767-9621	PHONE: " "
E-MAIL: SWang@Yu-Associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO: " "
PROJECT MGR: Siuan Wang	ADDRESS: " "
PROJECT or PO #: 1568541	SAMPLED BY: HAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

- [x] NYS Category B

CONTAMINATION LEVEL

- [ ] HIGH
- [x] MEDIUM
- [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23G0474 -01	MR-207_9.0-10.0_20230710	7/10	1225	X		S	4		VOC, SVOC, PCB, Pesticides, Herbicides, TAL Metals, TCN, RCRA characteristics
-02	MR-102-6.0-8.0-20230710	7/10/23	1154	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL metals, TCN, RCRA characteristics
-03	MR-102-20.0-22.0-20230710	7/10/23	1325	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL metals, TCN, RCRA characteristics
-04	MR-207_30-32_20230711	7/11/23	935	X		S	4		VOC, SVOC, PCB, Pesticides, Herbicides, TAL metals, TCN, RCRA characteristics
-05	MR-102_80.0-82.0_20230711	7/11/23	1242	X		S	4		SVOC, VOC, PCB, Pesticides, Herbicides, TAL metals, TCN, RCRA characteristics

RELINQUISHED BY (Print)	Harrison Simplicio	DATE 7/11/23	RECEIVED BY (Print) Alfonso Rivera (AHL) 7-11-23
Signature		Time 1303	Signature 1303
RELINQUISHED BY (Print)	Alfonso Rivera (AHL)	DATE 7-11-23	RECEIVED BY (Print) Abby Hempert 7-11-23
Signature		Time 1703	Signature 1703
RELINQUISHED BY (Print)		DATE	RECEIVED BY (Print)
Signature		Time	Signature

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.0°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Pace Analytical Services, LLC-Fairfield
Data Reporting Abbreviations and Qualifiers

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:

"Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifers:

B	Compound was also detected in the blank
D	The concentration is from a dilution
E	Concentration exceeds calibration range
H	Analyzed outside of holding time
IG_>60	> 60
J	Estimated
U	Compound not detected

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 1010B+ASTM D8175-18 / 9045D / 9010C+9014 / 9030B]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high). The blank spike met all QC criteria.

Method 9030B:
Samples 23G0474-01, -02 and -03 were analyzed one day beyond the holding time of 7 days.

Methods 7473 / 1010B+ASTM D8175-18 / 9045D / 9010C+9014:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

All samples met the QC criteria.

ANALYSIS: PCBs [8082A]

Sample 23G0474-01 has two surrogates (Decachlorobiphenyl, Decachlorobiphenyl [2C]) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spikes and matrix spike duplicates (low and high).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spikes and matrix spike duplicates (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for several compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high). The blank spike met all QC criteria.

*Note:
The TCLP BNA, TCLP Herbicides, TCLP Pesticides and TCLP VO analysis for samples 23G0474-01 through 23G0474-05 were logged in after the 14 day leaching holding time expired.

The TCLP Mercury analysis for samples 23G0474-01 through 23G0474-05 were logged in after the 28 day leaching holding time expired.

Reviewed By: _____ (SK) 6/27/2024
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5260		0.168	2.83	mg/kg dry	1	7/25/23 11:14
Arsenic	1.98		0.101	1.41	mg/kg dry	1	7/25/23 11:14
Barium	18.9		0.0427	0.565	mg/kg dry	1	7/25/23 11:14
Beryllium	0.395		0.00327	0.0283	mg/kg dry	1	7/25/23 11:14
Calcium	510		3.18	28.3	mg/kg dry	1	7/25/23 11:14
Chromium	8.54		0.0319	0.283	mg/kg dry	1	7/25/23 11:14
Cobalt	5.15		0.0289	0.226	mg/kg dry	1	7/25/23 11:14
Copper	6.64		0.0791	0.283	mg/kg dry	1	7/25/23 11:14
Iron	10600		0.801	5.65	mg/kg dry	1	7/25/23 11:14
Lead	3.75		0.118	1.41	mg/kg dry	1	7/25/23 11:14
Magnesium	1600		9.99	56.5	mg/kg dry	1	7/25/23 11:14
Manganese	202		0.0352	0.283	mg/kg dry	1	7/25/23 11:14
Nickel	12.6		0.0248	0.141	mg/kg dry	1	7/25/23 11:14
Potassium	1200		33.6	113	mg/kg dry	1	7/25/23 11:14
Sodium	304		5.39	56.5	mg/kg dry	1	7/25/23 11:14
Vanadium	18.9		0.0650	0.565	mg/kg dry	1	7/25/23 11:14
Zinc	28.3		0.0864	0.848	mg/kg dry	1	7/25/23 11:14

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.10		0.00279	0.100	mg/L	1	8/17/23 13:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	2.39	D	0.229	1.58	mg/kg dry	10	7/20/23 20:21
Phenanthrene	2.73	D	0.208	1.58	mg/kg dry	10	7/20/23 20:21
TIC_Acridine, 9-methyl-	13.6	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Cyclohexane, 2-butyl-1,1,3-trimethyl-	5.53	J, D			mg/kg dry	10	7/20/23 20:21
TIC_DECAHYDRO-4,4,8,9,10-PENTAMETHYLNAPHTHAL	11.2	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Decane, 4-methyl-	9.96	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Dodecane, 2,6,10-trimethyl-	27.8	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Dodecane, 2,6,11-trimethyl-	14.8	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Naphthalene, decahydro-, cis-	5.47	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Nonadecane	24.2	J, D			mg/kg dry	10	7/20/23 20:21
TIC_Octadecane	16.6	J, D			mg/kg dry	10	7/20/23 20:21
TIC_unknown (01)	4.54	J, D			mg/kg dry	10	7/20/23 20:21

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (02)	4.51	J, D			mg/kg dry	10	7/20/23 20:21
TIC_unknown (03)	11.8	J, D			mg/kg dry	10	7/20/23 20:21
TIC_unknown (04)	4.67	J, D			mg/kg dry	10	7/20/23 20:21
TIC_unknown (05)	6.69	J, D			mg/kg dry	10	7/20/23 20:21
TIC_unknown (06)	8.60	J, D			mg/kg dry	10	7/20/23 20:21

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyclohexane	0.00589		0.000417	0.00188	mg/kg dry	1	7/17/23 17:14
Methylcyclohexane	0.0741		0.000303	0.00188	mg/kg dry	1	7/17/23 17:14
TIC_1-Dotriacontanol	0.501	J			mg/kg dry	1	7/17/23 17:14
TIC_4,7-Methano-1H-inden-1-ol, octahydro-	0.343	J			mg/kg dry	1	7/17/23 17:14
TIC_Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimet	0.712	J			mg/kg dry	1	7/17/23 17:14
TIC_Cyclohexane, 1,1,2,3-tetramethyl-	0.673	J			mg/kg dry	1	7/17/23 17:14
TIC_Cyclohexane, 1,3-dimethyl-, trans-	0.688	J			mg/kg dry	1	7/17/23 17:14
TIC_Cyclohexane, 1-ethyl-2-methyl-, cis-	0.566	J			mg/kg dry	1	7/17/23 17:14
TIC_Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.350	J			mg/kg dry	1	7/17/23 17:14
TIC_Cyclohexane, butyl-	0.463	J			mg/kg dry	1	7/17/23 17:14
TIC_Cyclohexane, methyl-	0.561	J			mg/kg dry	1	7/17/23 17:14
TIC_Naphthalene, decahydro-	0.555	J			mg/kg dry	1	7/17/23 17:14
TIC_Nonane, 2,6-dimethyl-	0.878	J			mg/kg dry	1	7/17/23 17:14
TIC_Nonane, 3-methyl-	0.403	J			mg/kg dry	1	7/17/23 17:14
TIC_Octane, 2,5-dimethyl-	0.351	J			mg/kg dry	1	7/17/23 17:14
TIC_Octane, 3,6-dimethyl-	0.680	J			mg/kg dry	1	7/17/23 17:14
TIC_Undecane, 5,6-dimethyl-	0.413	J			mg/kg dry	1	7/17/23 17:14

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0181	D	0.00365	0.0100	mg/L	10	8/15/23 16:55

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.88				pH Units	1	7/17/23 16:52

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710**

SW 846 9030B - Reactivity (Reported as Totals) - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Sulfide	1.88	H	0.119	0.119	mg/kg dry	1	7/18/23 13:29

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.11		0.00727	0.0291	mg/kg dry	1	7/24/23 15:14

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12800		0.206	3.46	mg/kg dry	1	7/25/23 11:16
Arsenic	8.18		0.124	1.73	mg/kg dry	1	7/25/23 11:16
Barium	67.9		0.0524	0.693	mg/kg dry	1	7/25/23 11:16
Beryllium	0.643		0.00401	0.0346	mg/kg dry	1	7/25/23 11:16
Cadmium	0.506		0.0675	0.346	mg/kg dry	1	7/25/23 11:16
Calcium	12600		3.90	34.6	mg/kg dry	1	7/25/23 11:16
Chromium	25.0		0.0391	0.346	mg/kg dry	1	7/25/23 11:16
Cobalt	7.27		0.0354	0.277	mg/kg dry	1	7/25/23 11:16
Copper	17.5		0.0969	0.346	mg/kg dry	1	7/25/23 11:16
Iron	26300		0.981	6.93	mg/kg dry	1	7/25/23 11:16
Lead	74.7		0.144	1.73	mg/kg dry	1	7/25/23 11:16
Magnesium	4600		12.2	69.3	mg/kg dry	1	7/25/23 11:16
Manganese	229		0.0431	0.346	mg/kg dry	1	7/25/23 11:16
Nickel	20.4		0.0304	0.173	mg/kg dry	1	7/25/23 11:16
Potassium	2740		41.2	139	mg/kg dry	1	7/25/23 11:16
Silver	0.225		0.0589	0.208	mg/kg dry	1	7/25/23 11:16
Sodium	2560		6.60	69.3	mg/kg dry	1	7/25/23 11:16
Vanadium	32.1		0.0797	0.693	mg/kg dry	1	7/25/23 11:16
Zinc	57.1		0.106	1.04	mg/kg dry	1	7/25/23 11:16

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.79		0.00279	0.100	mg/L	1	8/17/23 13:31

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00205		0.000865	0.00189	mg/kg dry	1	7/18/23 18:20
4,4'-DDE [2C]	0.00328		0.00103	0.00189	mg/kg dry	1	7/18/23 18:20

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.503		0.0464	0.291	mg/kg dry	1	7/18/23 14:43
Acenaphthene	0.418		0.0110	0.193	mg/kg dry	1	7/18/23 14:43
Acenaphthylene	0.316		0.00673	0.193	mg/kg dry	1	7/18/23 14:43
Anthracene	1.11		0.0281	0.193	mg/kg dry	1	7/18/23 14:43
Benzo(a)anthracene	2.18		0.0195	0.193	mg/kg dry	1	7/18/23 14:43
Benzo(a)pyrene	2.63		0.0337	0.193	mg/kg dry	1	7/18/23 14:43
Benzo(b)fluoranthene	2.86		0.0272	0.193	mg/kg dry	1	7/18/23 14:43
Benzo(g,h,i)perylene	2.01		0.0157	0.193	mg/kg dry	1	7/18/23 14:43
Benzo(k)fluoranthene	0.984		0.0223	0.193	mg/kg dry	1	7/18/23 14:43
Biphenyl	0.0904	J	0.0170	0.193	mg/kg dry	1	7/18/23 14:43
bis(2-ethylhexyl)phthalate	0.547		0.0387	0.193	mg/kg dry	1	7/18/23 14:43
Carbazole	0.212	J	0.0372	0.484	mg/kg dry	1	7/18/23 14:43
Chrysene	2.31		0.0133	0.193	mg/kg dry	1	7/18/23 14:43
Dibenzo(a,h)anthracene	0.187	J	0.0192	0.193	mg/kg dry	1	7/18/23 14:43
Dibenzofuran	0.287		0.0115	0.193	mg/kg dry	1	7/18/23 14:43
Fluoranthene	3.56		0.0182	0.193	mg/kg dry	1	7/18/23 14:43
Fluorene	0.279		0.0161	0.193	mg/kg dry	1	7/18/23 14:43
Indeno(1,2,3-cd)pyrene	1.58		0.0208	0.193	mg/kg dry	1	7/18/23 14:43
Naphthalene	0.749		0.0143	0.193	mg/kg dry	1	7/18/23 14:43
Phenanthrene	1.21		0.0255	0.193	mg/kg dry	1	7/18/23 14:43
Pyrene	5.12		0.0142	0.193	mg/kg dry	1	7/18/23 14:43
TIC_Hexadecanoic acid, butyl ester	19.0	J, B			mg/kg dry	1	7/18/23 14:43
TIC_Octadecanoic acid, butyl ester	7.98	J, B			mg/kg dry	1	7/18/23 14:43
TIC_unknown (01)	0.636	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (02)	1.13	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (03)	0.673	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (04)	2.34	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (05)	1.12	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (06)	0.659	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (07)	0.391	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (08)	0.443	J			mg/kg dry	1	7/18/23 14:43
TIC_unknown (09)	2.06	J			mg/kg dry	1	7/18/23 14:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0298		0.000773	0.00539	mg/kg dry	1	7/14/23 21:38

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0474-02 (Soil) Sample Name: MR-102_6.0-8.0_20230710

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0192	D	0.00365	0.0100	mg/L	10	8/15/23 17:25

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.31				pH Units	1	7/17/23 16:52

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Sulfide	6.30	H	0.145	0.145	mg/kg dry	1	7/18/23 13:29

23G0474-03 (Soil) Sample Name: MR-102_20.0-22.0_20230710

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0281		0.00688	0.0275	mg/kg dry	1	7/24/23 15:23

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12000		0.207	3.49	mg/kg dry	1	7/25/23 11:18
Arsenic	4.26		0.125	1.75	mg/kg dry	1	7/25/23 11:18
Barium	40.8		0.0528	0.698	mg/kg dry	1	7/25/23 11:18
Beryllium	0.567		0.00404	0.0349	mg/kg dry	1	7/25/23 11:18
Calcium	3440		3.93	34.9	mg/kg dry	1	7/25/23 11:18
Chromium	14.9		0.0394	0.349	mg/kg dry	1	7/25/23 11:18
Cobalt	5.83		0.0357	0.279	mg/kg dry	1	7/25/23 11:18
Copper	8.55		0.0977	0.349	mg/kg dry	1	7/25/23 11:18
Iron	18100		0.989	6.98	mg/kg dry	1	7/25/23 11:18
Lead	14.6		0.146	1.75	mg/kg dry	1	7/25/23 11:18
Magnesium	3200		12.3	69.8	mg/kg dry	1	7/25/23 11:18
Manganese	140		0.0434	0.349	mg/kg dry	1	7/25/23 11:18
Nickel	12.0		0.0307	0.175	mg/kg dry	1	7/25/23 11:18
Potassium	1740		41.5	140	mg/kg dry	1	7/25/23 11:18
Sodium	2010		6.66	69.8	mg/kg dry	1	7/25/23 11:18
Vanadium	21.9		0.0803	0.698	mg/kg dry	1	7/25/23 11:18
Zinc	31.5		0.107	1.05	mg/kg dry	1	7/25/23 11:18

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.656		0.00279	0.100	mg/L	1	8/17/23 13:33

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)pyrene	0.936		0.0319	0.183	mg/kg dry	1	7/18/23 12:32
Naphthalene	0.406		0.0136	0.183	mg/kg dry	1	7/18/23 12:32
TIC_1-Heptadecene	2.36	J			mg/kg dry	1	7/18/23 12:32
TIC_Hexadecanoic acid, butyl ester	21.1	J, B			mg/kg dry	1	7/18/23 12:32
TIC_Nonacosanol	5.79	J			mg/kg dry	1	7/18/23 12:32
TIC_Octadecanoic acid, butyl ester	11.5	J, B			mg/kg dry	1	7/18/23 12:32
TIC_unknown (01)	0.857	J			mg/kg dry	1	7/18/23 12:32
TIC_unknown (02)	1.40	J			mg/kg dry	1	7/18/23 12:32

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0272		0.000241	0.00168	mg/kg dry	1	7/19/23 10:20
TIC_Lab Contamination	0.00549	J, B			mg/kg dry	1	7/19/23 10:20

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.00382	J, D	0.00365	0.0100	mg/L	10	8/24/23 18:25

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.84				pH Units	1	7/17/23 16:52

23G0474-04 (Soil) Sample Name: **MR-207_30-32_20230711**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8460		0.163	2.75	mg/kg dry	1	7/25/23 11:20
Arsenic	1.77		0.0981	1.38	mg/kg dry	1	7/25/23 11:20
Barium	41.5		0.0416	0.550	mg/kg dry	1	7/25/23 11:20
Beryllium	0.625		0.00319	0.0275	mg/kg dry	1	7/25/23 11:20
Calcium	9150		3.09	27.5	mg/kg dry	1	7/25/23 11:20
Chromium	15.7		0.0311	0.275	mg/kg dry	1	7/25/23 11:20
Cobalt	5.72		0.0281	0.220	mg/kg dry	1	7/25/23 11:20
Copper	13.6		0.0770	0.275	mg/kg dry	1	7/25/23 11:20
Iron	15500		0.779	5.50	mg/kg dry	1	7/25/23 11:20
Lead	7.45		0.115	1.38	mg/kg dry	1	7/25/23 11:20
Magnesium	5930		9.72	55.0	mg/kg dry	1	7/25/23 11:20
Manganese	274		0.0342	0.275	mg/kg dry	1	7/25/23 11:20

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0474-04 (Soil) Sample Name: **MR-207_30-32_20230711**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nickel	16.3		0.0242	0.138	mg/kg dry	1	7/25/23 11:20
Potassium	2380		32.7	110	mg/kg dry	1	7/25/23 11:20
Sodium	467		5.25	55.0	mg/kg dry	1	7/25/23 11:20
Vanadium	24.9		0.0633	0.550	mg/kg dry	1	7/25/23 11:20
Zinc	31.9		0.0840	0.825	mg/kg dry	1	7/25/23 11:20

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.622		0.00279	0.100	mg/L	1	8/17/23 13:36

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	14.3	J, B			mg/kg dry	1	7/18/23 13:04
TIC_Octadecanoic acid, butyl ester	8.25	J, B			mg/kg dry	1	7/18/23 13:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	0.0131		0.000695	0.00181	mg/kg dry	1	7/19/23 10:52
TIC_2,4,6-Trimethyl-1-nonene	0.00676	J			mg/kg dry	1	7/19/23 10:52
TIC_Lab Contamination	0.00853	J, B			mg/kg dry	1	7/19/23 10:52

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.00434	J, D	0.00365	0.0100	mg/L	10	8/24/23 21:26

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.11				pH Units	1	7/17/23 16:52

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5190		0.171	2.87	mg/kg dry	1	7/25/23 11:22
Barium	43.3		0.0435	0.575	mg/kg dry	1	7/25/23 11:22
Beryllium	0.386		0.00333	0.0287	mg/kg dry	1	7/25/23 11:22
Calcium	7550		3.23	28.7	mg/kg dry	1	7/25/23 11:22
Chromium	12.0		0.0325	0.287	mg/kg dry	1	7/25/23 11:22

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cobalt	4.60		0.0294	0.230	mg/kg dry	1	7/25/23 11:22
Copper	15.4		0.0804	0.287	mg/kg dry	1	7/25/23 11:22
Iron	10400		0.814	5.75	mg/kg dry	1	7/25/23 11:22
Lead	4.98		0.120	1.44	mg/kg dry	1	7/25/23 11:22
Magnesium	4810		10.2	57.5	mg/kg dry	1	7/25/23 11:22
Manganese	228		0.0358	0.287	mg/kg dry	1	7/25/23 11:22
Nickel	17.8		0.0253	0.144	mg/kg dry	1	7/25/23 11:22
Potassium	1370		34.2	115	mg/kg dry	1	7/25/23 11:22
Sodium	446		5.48	57.5	mg/kg dry	1	7/25/23 11:22
Vanadium	17.0		0.0661	0.575	mg/kg dry	1	7/25/23 11:22
Zinc	20.8		0.0878	0.862	mg/kg dry	1	7/25/23 11:22

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.31		0.00279	0.100	mg/L	1	8/17/23 13:38

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Eicosanoic acid	7.51	J			mg/kg dry	1	7/19/23 13:57
TIC_Octadecanoic acid, butyl ester	4.18	J, B			mg/kg dry	1	7/19/23 13:57

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.0173	J, B			mg/kg dry	1	7/19/23 11:24

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.18				pH Units	1	7/17/23 16:52

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00526	0.0392	mg/kg	1	7/14/23 22:33	UJ, RC:3L
Aroclor-1221	ND	U	0.0103	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1232	ND	U	0.0131	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1242	ND	U	0.00770	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1248	ND	U	0.00805	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1254	ND	U	0.00632	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1260	ND	U	0.00491	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1262	ND	U	0.0105	0.0392	mg/kg	1	7/14/23 22:33	
Aroclor-1268	ND	U	0.00474	0.0392	mg/kg	1	7/14/23 22:33	
Total PCBs	ND	U	0.00366	0.0392	mg/kg	1	7/14/23 22:33	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0116	0.119	mg/kg	1	7/19/23 9:07	
2,4-D	ND	U	0.0197	0.119	mg/kg	1	7/19/23 9:07	UJ, RC:Q

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:21	R, RC:1
2,4-D	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:21	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00594	0.0237	mg/kg	1	7/24/23 15:04

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/11/23 13:01	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5260**		**0.168**	**2.83**	**mg/kg**	**1**	**7/25/23 11:14**
Antimony	ND	U	0.154	1.41	mg/kg	1	7/25/23 11:14
Arsenic	**1.98**		**0.101**	**1.41**	**mg/kg**	**1**	**7/25/23 11:14**
Barium	**18.9**		**0.0427**	**0.565**	**mg/kg**	**1**	**7/25/23 11:14**
Beryllium	**0.395**		**0.00327**	**0.0283**	**mg/kg**	**1**	**7/25/23 11:14**
Cadmium	ND	U	0.0551	0.283	mg/kg	1	7/25/23 11:14
Calcium	**510**		**3.18**	**28.3**	**mg/kg**	**1**	**7/25/23 11:14**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**8.54**		**0.0319**	**0.283**	**mg/kg**	**1**	**7/25/23 11:14**	
Cobalt	**5.15**		**0.0289**	**0.226**	**mg/kg**	**1**	**7/25/23 11:14**	
Copper	**6.64**		**0.0791**	**0.283**	**mg/kg**	**1**	**7/25/23 11:14**	
Iron	**10600**		**0.801**	**5.65**	**mg/kg**	**1**	**7/25/23 11:14**	
Lead	**3.75**		**0.118**	**1.41**	**mg/kg**	**1**	**7/25/23 11:14**	
Magnesium	**1600**		**9.99**	**56.5**	**mg/kg**	**1**	**7/25/23 11:14**	
Manganese	**202**		**0.0352**	**0.283**	**mg/kg**	**1**	**7/25/23 11:14**	
Nickel	**12.6**		**0.0248**	**0.141**	**mg/kg**	**1**	**7/25/23 11:14**	
Potassium	**1200**		**33.6**	**113**	**mg/kg**	**1**	**7/25/23 11:14**	
Selenium	ND	U	0.271	1.41	mg/kg	1	7/25/23 11:14	
Silver	ND	U	0.0481	0.170	mg/kg	1	7/25/23 11:14	
Sodium	**304**		**5.39**	**56.5**	**mg/kg**	**1**	**7/25/23 11:14**	
Thallium	ND	U	0.0951	1.41	mg/kg	1	7/25/23 11:14	
Vanadium	**18.9**		**0.0650**	**0.565**	**mg/kg**	**1**	**7/25/23 11:14**	
Zinc	**28.3**		**0.0864**	**0.848**	**mg/kg**	**1**	**7/25/23 11:14**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 13:29	
Barium	**1.10**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 13:29**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 13:29	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 13:29	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 13:29	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 13:29	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 13:29	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000706	0.00154	mg/kg	1	7/20/23 19:17	
4,4'-DDE	ND	U	0.000844	0.00154	mg/kg	1	7/20/23 19:17	
4,4'-DDT	ND	U	0.00109	0.00154	mg/kg	1	7/20/23 19:17	R, RC:4L
Aldrin	ND	U	0.000731	0.00154	mg/kg	1	7/20/23 19:17	
alpha-BHC	ND	U	0.000459	0.00154	mg/kg	1	7/20/23 19:17	
beta-BHC	ND	U	0.000737	0.00154	mg/kg	1	7/20/23 19:17	
Chlordane	ND	U	0.000686	0.00154	mg/kg	1	7/20/23 19:17	
delta-BHC	ND	U	0.000717	0.00154	mg/kg	1	7/20/23 19:17	
Dieldrin	ND	U	0.000807	0.00154	mg/kg	1	7/20/23 19:17	UJ, RC:4L
Endosulfan I	ND	U	0.000729	0.00154	mg/kg	1	7/20/23 19:17	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000702	0.00154	mg/kg	1	7/20/23 19:17	UJ, RC:6L,4L
Endosulfan sulfate	ND	U	0.000581	0.00154	mg/kg	1	7/20/23 19:17	
Endosulfans, Total (alpha and beta)	ND	U	0.000702	0.00154	mg/kg	1	7/20/23 19:17	
Endrin	ND	U	0.000533	0.00154	mg/kg	1	7/20/23 19:17	UJ, RC:4L
Endrin aldehyde	ND	U	0.000615	0.00154	mg/kg	1	7/20/23 19:17	
Endrin ketone	ND	U	0.000544	0.00154	mg/kg	1	7/20/23 19:17	
gamma-BHC (Lindane)	ND	U	0.000489	0.00154	mg/kg	1	7/20/23 19:17	
Heptachlor	ND	U	0.000413	0.00154	mg/kg	1	7/20/23 19:17	
Heptachlor Epoxide	ND	U	0.000779	0.00154	mg/kg	1	7/20/23 19:17	
Methoxychlor	ND	U	0.000452	0.00154	mg/kg	1	7/20/23 19:17	R, RC:4L
Toxaphene	ND	U	0.0744	0.0784	mg/kg	1	7/20/23 19:17	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	8/28/23 21:37	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	8/28/23 21:37	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	8/28/23 21:37	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	8/28/23 21:37	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	8/28/23 21:37	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	8/28/23 21:37	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	8/28/23 21:37	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	8/28/23 21:37	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	8/28/23 21:37	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	8/28/23 21:37	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	8/28/23 21:37	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	8/28/23 21:37	RC:6L
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	8/28/23 21:37	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	8/28/23 21:37	

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0446	0.395	mg/kg	10	7/20/23 20:21	R, RC:6L,SL
2,3,4,6-Tetrachlorophenol	ND	U	0.243	1.58	mg/kg	10	7/20/23 20:21	
2,4,5-Trichlorophenol	ND	U	0.215	1.58	mg/kg	10	7/20/23 20:21	
2,4,6-Trichlorophenol	ND	U	0.0989	1.58	mg/kg	10	7/20/23 20:21	
2,4-Dichlorophenol	ND	U	0.159	1.58	mg/kg	10	7/20/23 20:21	
2,4-Dimethylphenol	ND	U	0.156	1.58	mg/kg	10	7/20/23 20:21	
2,4-Dinitrophenol	ND	U	0.228	7.92	mg/kg	10	7/20/23 20:21	
2,4-Dinitrotoluene	ND	U	0.169	1.58	mg/kg	10	7/20/23 20:21	
2,6-Dinitrotoluene	ND	U	0.378	1.58	mg/kg	10	7/20/23 20:21	
2-Chloronaphthalene	ND	U	0.182	1.58	mg/kg	10	7/20/23 20:21	
2-Chlorophenol	ND	U	0.209	1.58	mg/kg	10	7/20/23 20:21	
2-Methylnaphthalene	ND	U	0.379	2.37	mg/kg	10	7/20/23 20:21	
2-Methylphenol	ND	U	0.312	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
2-Nitroaniline	ND	U	0.127	1.58	mg/kg	10	7/20/23 20:21	
2-Nitrophenol	ND	U	0.176	1.58	mg/kg	10	7/20/23 20:21	
3,3'-Dichlorobenzidine	ND	U	0.166	1.58	mg/kg	10	7/20/23 20:21	
3+4-Methylphenol	ND	U	0.290	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
3-Nitroaniline	ND	U	0.293	1.58	mg/kg	10	7/20/23 20:21	
4,6-Dinitro-2-methylphenol	ND	U	0.298	3.95	mg/kg	10	7/20/23 20:21	
4-Bromophenyl-phenyl ether	ND	U	0.226	1.58	mg/kg	10	7/20/23 20:21	
4-Chloro-3-methylphenol	ND	U	0.249	1.58	mg/kg	10	7/20/23 20:21	
4-Chloroaniline	ND	U	0.0553	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.0854	1.58	mg/kg	10	7/20/23 20:21	
4-Nitroaniline	ND	U	0.791	1.58	mg/kg	10	7/20/23 20:21	
4-Nitrophenol	ND	U	0.101	1.58	mg/kg	10	7/20/23 20:21	
Acenaphthene	ND	U	0.0901	1.58	mg/kg	10	7/20/23 20:21	
Acenaphthylene	ND	U	0.0550	1.58	mg/kg	10	7/20/23 20:21	
Acetophenone	ND	U	0.157	1.58	mg/kg	10	7/20/23 20:21	
Anthracene	**2.39**	D	**0.229**	**1.58**	**mg/kg**	**10**	**7/20/23 20:21**	
Atrazine	ND	U	0.148	1.58	mg/kg	10	7/20/23 20:21	
Benzaldehyde	ND	U	0.486	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.159	1.58	mg/kg	10	7/20/23 20:21	
Benzo(a)pyrene	ND	U	0.275	1.58	mg/kg	10	7/20/23 20:21	
Benzo(b)fluoranthene	ND	U	0.222	1.58	mg/kg	10	7/20/23 20:21	
Benzo(g,h,i)perylene	ND	U	0.128	1.58	mg/kg	10	7/20/23 20:21	
Benzo(k)fluoranthene	ND	U	0.182	1.58	mg/kg	10	7/20/23 20:21	
Biphenyl	ND	U	0.139	1.58	mg/kg	10	7/20/23 20:21	
bis(2-chloroethoxy)methane	ND	U	0.218	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_2023 0710** Collected: **7/10/2023 12:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.173	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
bis(2-chloroisopropyl)ether	ND	U	0.569	1.58	mg/kg	10	7/20/23 20:21	R, RC:6L
bis(2-ethylhexyl)phthalate	ND	U	0.316	1.58	mg/kg	10	7/20/23 20:21	
Butylbenzylphthalate	ND	U	0.144	1.58	mg/kg	10	7/20/23 20:21	
Caprolactam	ND	U	0.204	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
Carbazole	ND	U	0.304	3.95	mg/kg	10	7/20/23 20:21	
Chrysene	ND	U	0.108	1.58	mg/kg	10	7/20/23 20:21	
Dibenzo(a,h)anthracene	ND	U	0.157	1.58	mg/kg	10	7/20/23 20:21	
Dibenzofuran	ND	U	0.0942	1.58	mg/kg	10	7/20/23 20:21	
Diethylphthalate	ND	U	0.306	1.58	mg/kg	10	7/20/23 20:21	
Dimethylphthalate	ND	U	0.0981	1.58	mg/kg	10	7/20/23 20:21	
Di-n-butylphthalate	ND	U	0.646	1.58	mg/kg	10	7/20/23 20:21	
Di-n-octylphthalate	ND	U	0.324	1.58	mg/kg	10	7/20/23 20:21	
Fluoranthene	ND	U	0.148	1.58	mg/kg	10	7/20/23 20:21	
Fluorene	ND	U	0.132	1.58	mg/kg	10	7/20/23 20:21	
Hexachlorobenzene	ND	U	0.207	1.58	mg/kg	10	7/20/23 20:21	
Hexachlorobutadiene	ND	U	0.759	1.58	mg/kg	10	7/20/23 20:21	
Hexachlorocyclopentadiene	ND	U	0.659	3.95	mg/kg	10	7/20/23 20:21	
Hexachloroethane	ND	U	0.173	1.58	mg/kg	10	7/20/23 20:21	
Indeno(1,2,3-cd)pyrene	ND	U	0.170	1.58	mg/kg	10	7/20/23 20:21	
Isophorone	ND	U	0.104	1.58	mg/kg	10	7/20/23 20:21	
Naphthalene	ND	U	0.117	1.58	mg/kg	10	7/20/23 20:21	
Nitrobenzene	ND	U	0.268	1.58	mg/kg	10	7/20/23 20:21	
n-Nitroso-di-n-propylamine	ND	U	0.0847	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
n-Nitrosodiphenylamine	ND	U	0.337	1.58	mg/kg	10	7/20/23 20:21	
Pentachlorophenol	ND	U	0.217	3.95	mg/kg	10	7/20/23 20:21	
Phenanthrene	**2.73**	D	**0.208**	**1.58**	**mg/kg**	**10**	**7/20/23 20:21**	
Phenol	ND	U	0.128	1.58	mg/kg	10	7/20/23 20:21	UJ, RC:SL
Pyrene	ND	U	0.116	1.58	mg/kg	10	7/20/23 20:21	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Acridine, 9-methyl-	13.6	9.11	J, D	mg/kg	10	7/20/23 20:21
Cyclohexane, 2-butyl-1,1,3-trimethyl-	5.53	7.82	J, D	mg/kg	10	7/20/23 20:21
DECAHYDRO-4,4,8,9,10-PENTAM ETHYLNAPHTHAL	11.2	9.32	J, D	mg/kg	10	7/20/23 20:21
Decane, 4-methyl-	9.96	7.99	J, D	mg/kg	10	7/20/23 20:21
Dodecane, 2,6,10-trimethyl-	27.8	10.70	J, D	mg/kg	10	7/20/23 20:21

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Dodecane, 2,6,11-trimethyl-	14.8	8.59	J, D	mg/kg	10	7/20/23 20:21
Naphthalene, decahydro-, cis-	5.47	6.77	J, D	mg/kg	10	7/20/23 20:21
Nonadecane	24.2	9.04	J, D	mg/kg	10	7/20/23 20:21
Octadecane	16.6	9.97	J, D	mg/kg	10	7/20/23 20:21
unknown (01)	4.54	7.89	J, D	mg/kg	10	7/20/23 20:21
unknown (02)	4.51	8.50	J, D	mg/kg	10	7/20/23 20:21
unknown (03)	11.8	8.78	J, D	mg/kg	10	7/20/23 20:21
unknown (04)	4.67	9.15	J, D	mg/kg	10	7/20/23 20:21
unknown (05)	6.69	10.45	J, D	mg/kg	10	7/20/23 20:21
unknown (06)	8.60	12.25	J, D	mg/kg	10	7/20/23 20:21
TIC Total	**170**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/17/23 17:33	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 17:33	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 17:33	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 17:33	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 17:33	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 17:33	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 17:33	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 17:33	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 17:33	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 17:33	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/17/23 17:33	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000275	0.00188	mg/kg	1	7/17/23 17:14
1,1,2,2-Tetrachloroethane	ND	U	0.000260	0.00188	mg/kg	1	7/17/23 17:14
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000807	0.00188	mg/kg	1	7/17/23 17:14
1,1,2-Trichloroethane	ND	U	0.000318	0.00188	mg/kg	1	7/17/23 17:14
1,1-Dichloroethane	ND	U	0.000275	0.00188	mg/kg	1	7/17/23 17:14
1,1-Dichloroethene	ND	U	0.000349	0.00188	mg/kg	1	7/17/23 17:14
1,2,3-Trichlorobenzene	ND	U	0.000407	0.00188	mg/kg	1	7/17/23 17:14
1,2,4-Trichlorobenzene	ND	U	0.000502	0.00188	mg/kg	1	7/17/23 17:14
1,2,4-Trimethylbenzene	ND	U	0.000260	0.00188	mg/kg	1	7/17/23 17:14

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromo-3-chloropropane	ND	U	0.000460	0.00188	mg/kg	1	7/17/23 17:14
1,2-Dibromoethane	ND	U	0.000237	0.00188	mg/kg	1	7/17/23 17:14
1,2-Dichlorobenzene	ND	U	0.000333	0.00188	mg/kg	1	7/17/23 17:14
1,2-Dichloroethane	ND	U	0.000266	0.00188	mg/kg	1	7/17/23 17:14
1,2-Dichloropropane	ND	U	0.000309	0.00188	mg/kg	1	7/17/23 17:14
1,3-Dichlorobenzene	ND	U	0.000139	0.00188	mg/kg	1	7/17/23 17:14
1,4-Dichlorobenzene	ND	U	0.000271	0.00188	mg/kg	1	7/17/23 17:14
2-Butanone	ND	U	0.000307	0.00471	mg/kg	1	7/17/23 17:14
2-Hexanone	ND	U	0.000176	0.00188	mg/kg	1	7/17/23 17:14
4-Methyl-2-pentanone	ND	U	0.000236	0.00188	mg/kg	1	7/17/23 17:14
Acetone	ND	U	0.000571	0.00471	mg/kg	1	7/17/23 17:14
Benzene	ND	U	0.000172	0.00188	mg/kg	1	7/17/23 17:14
Bromochloromethane	ND	U	0.000348	0.00188	mg/kg	1	7/17/23 17:14
Bromodichloromethane	ND	U	0.000237	0.00188	mg/kg	1	7/17/23 17:14
Bromoform	ND	U	0.000331	0.00188	mg/kg	1	7/17/23 17:14
Bromomethane	ND	U	0.000544	0.00188	mg/kg	1	7/17/23 17:14
Carbon disulfide	ND	U	0.000270	0.00188	mg/kg	1	7/17/23 17:14
Carbon Tetrachloride	ND	U	0.000284	0.00188	mg/kg	1	7/17/23 17:14
Chlorobenzene	ND	U	0.000273	0.00188	mg/kg	1	7/17/23 17:14
Chlorodibromomethane	ND	U	0.000232	0.00188	mg/kg	1	7/17/23 17:14
Chloroethane	ND	U	0.000321	0.00188	mg/kg	1	7/17/23 17:14
Chloroform	ND	U	0.000317	0.00188	mg/kg	1	7/17/23 17:14
Chloromethane	ND	U	0.000726	0.00188	mg/kg	1	7/17/23 17:14
cis-1,2-Dichloroethene	ND	U	0.0000911	0.00188	mg/kg	1	7/17/23 17:14
cis-1,3-Dichloropropene	ND	U	0.000238	0.00188	mg/kg	1	7/17/23 17:14
Cyclohexane	**0.00589**		**0.000417**	**0.00188**	**mg/kg**	**1**	**7/17/23 17:14**
Dichlorodifluoromethane	ND	U	0.000636	0.00188	mg/kg	1	7/17/23 17:14
EthylBenzene	ND	U	0.000255	0.00188	mg/kg	1	7/17/23 17:14
Isopropylbenzene	ND	U	0.000296	0.00188	mg/kg	1	7/17/23 17:14
m+p-Xylenes	ND	U	0.000476	0.00377	mg/kg	1	7/17/23 17:14
Methyl Acetate	ND	U	0.000250	0.00188	mg/kg	1	7/17/23 17:14
Methyl tert-Butyl Ether	ND	U	0.000319	0.00188	mg/kg	1	7/17/23 17:14
Methylcyclohexane	**0.0741**		**0.000303**	**0.00188**	**mg/kg**	**1**	**7/17/23 17:14**
Methylene Chloride	ND	U	0.000566	0.00188	mg/kg	1	7/17/23 17:14
o-Xylene	ND	U	0.000242	0.00188	mg/kg	1	7/17/23 17:14
Styrene	ND	U	0.000270	0.00188	mg/kg	1	7/17/23 17:14
tert-Butyl alcohol	ND	U	0.00396	0.0188	mg/kg	1	7/17/23 17:14
Tetrachloroethene	ND	U	0.000187	0.00188	mg/kg	1	7/17/23 17:14

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	ND	U	0.000152	0.00188	mg/kg	1	7/17/23 17:14
Total Xylenes	ND	U	0.000242	0.00188	mg/kg	1	7/17/23 17:14
trans-1,2-Dichloroethene	ND	U	0.000255	0.00188	mg/kg	1	7/17/23 17:14
trans-1,3-Dichloropropene	ND	U	0.000360	0.00188	mg/kg	1	7/17/23 17:14
Trichloroethene	ND	U	0.000277	0.00188	mg/kg	1	7/17/23 17:14
Trichlorofluoromethane	ND	U	0.000217	0.00188	mg/kg	1	7/17/23 17:14
Vinyl chloride	ND	U	0.000358	0.00188	mg/kg	1	7/17/23 17:14

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Dotriacontanol	0.501	19.18	J	mg/kg	1	7/17/23 17:14
4,7-Methano-1H-inden-1-ol, octahydro-	0.343	21.66	J	mg/kg	1	7/17/23 17:14
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimet	0.712	21.34	J	mg/kg	1	7/17/23 17:14
Cyclohexane, 1,1,2,3-tetramethyl-	0.673	17.90	J	mg/kg	1	7/17/23 17:14
Cyclohexane, 1,3-dimethyl-, trans-	0.688	18.26	J	mg/kg	1	7/17/23 17:14
Cyclohexane, 1-ethyl-2-methyl-, cis-	0.566	16.58	J	mg/kg	1	7/17/23 17:14
Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.350	18.09	J	mg/kg	1	7/17/23 17:14
Cyclohexane, butyl-	0.463	19.36	J	mg/kg	1	7/17/23 17:14
Cyclohexane, methyl-	0.561	17.08	J	mg/kg	1	7/17/23 17:14
Naphthalene, decahydro-	0.555	20.22	J	mg/kg	1	7/17/23 17:14
Nonane, 2,6-dimethyl-	0.878	18.79	J	mg/kg	1	7/17/23 17:14
Nonane, 3-methyl-	0.403	16.99	J	mg/kg	1	7/17/23 17:14
Octane, 2,5-dimethyl-	0.351	17.47	J	mg/kg	1	7/17/23 17:14
Octane, 3,6-dimethyl-	0.680	16.86	J	mg/kg	1	7/17/23 17:14
Undecane, 5,6-dimethyl-	0.413	17.37	J	mg/kg	1	7/17/23 17:14
TIC Total	**8.14**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/15/23 16:55	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/15/23 16:55	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/15/23 16:55	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/15/23 16:55	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/15/23 16:55	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/15/23 16:55	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-01 (Soil) Sample Name: **MR-207_9.0-10.0_20230710** Collected: **7/10/2023 12:25:00PM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/15/23 16:55	R, RC:1
Chloroform	**0.0181**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/15/23 16:55**	J, RC:1
Tetrachloroethene	ND	U	0.00486	0.0100	mg/L	10	8/15/23 16:55	R, RC:1
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/15/23 16:55	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/15/23 16:55	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.2**				**%**	**1**	**7/12/23 12:00**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/24/23 15:25

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00799	0.0670	mg/kg	1	7/12/23 14:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.88**				**pH Units**	**1**	**7/17/23 16:52**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/12/23 17:41

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Reactive Sulfide	1.88	0.00	H	mg/kg	1	7/18/23 13:29	J, RC:1

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00644	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1221	ND	U	0.0127	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1232	ND	U	0.0161	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1242	ND	U	0.00943	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1248	ND	U	0.00987	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1254	ND	U	0.00775	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1260	ND	U	0.00601	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1262	ND	U	0.0129	0.0480	mg/kg	1	7/17/23 18:42
Aroclor-1268	ND	U	0.00581	0.0480	mg/kg	1	7/17/23 18:42
Total PCBs	ND	U	0.00448	0.0480	mg/kg	1	7/17/23 18:42

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0143	0.145	mg/kg	1	7/19/23 9:17	
2,4-D	ND	U	0.0241	0.145	mg/kg	1	7/19/23 9:17	UJ, RC:Q

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:31	R, RC:1
2,4-D	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:31	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.11**		**0.00727**	**0.0291**	**mg/kg**	**1**	**7/24/23 15:14**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/11/23 13:03	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12800**		**0.206**	**3.46**	**mg/kg**	**1**	**7/25/23 11:16**
Antimony	ND	U	0.189	1.73	mg/kg	1	7/25/23 11:16
Arsenic	**8.18**		**0.124**	**1.73**	**mg/kg**	**1**	**7/25/23 11:16**
Barium	**67.9**		**0.0524**	**0.693**	**mg/kg**	**1**	**7/25/23 11:16**
Beryllium	**0.643**		**0.00401**	**0.0346**	**mg/kg**	**1**	**7/25/23 11:16**
Cadmium	**0.506**		**0.0675**	**0.346**	**mg/kg**	**1**	**7/25/23 11:16**
Calcium	**12600**		**3.90**	**34.6**	**mg/kg**	**1**	**7/25/23 11:16**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**25.0**		**0.0391**	**0.346**	**mg/kg**	**1**	**7/25/23 11:16**
Cobalt	**7.27**		**0.0354**	**0.277**	**mg/kg**	**1**	**7/25/23 11:16**
Copper	**17.5**		**0.0969**	**0.346**	**mg/kg**	**1**	**7/25/23 11:16**
Iron	**26300**		**0.981**	**6.93**	**mg/kg**	**1**	**7/25/23 11:16**
Lead	**74.7**		**0.144**	**1.73**	**mg/kg**	**1**	**7/25/23 11:16**
Magnesium	**4600**		**12.2**	**69.3**	**mg/kg**	**1**	**7/25/23 11:16**
Manganese	**229**		**0.0431**	**0.346**	**mg/kg**	**1**	**7/25/23 11:16**
Nickel	**20.4**		**0.0304**	**0.173**	**mg/kg**	**1**	**7/25/23 11:16**
Potassium	**2740**		**41.2**	**139**	**mg/kg**	**1**	**7/25/23 11:16**
Selenium	ND	U	0.332	1.73	mg/kg	1	7/25/23 11:16
Silver	**0.225**		**0.0589**	**0.208**	**mg/kg**	**1**	**7/25/23 11:16**
Sodium	**2560**		**6.60**	**69.3**	**mg/kg**	**1**	**7/25/23 11:16**
Thallium	ND	U	0.117	1.73	mg/kg	1	7/25/23 11:16
Vanadium	**32.1**		**0.0797**	**0.693**	**mg/kg**	**1**	**7/25/23 11:16**
Zinc	**57.1**		**0.106**	**1.04**	**mg/kg**	**1**	**7/25/23 11:16**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 13:31	
Barium	**1.79**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 13:31**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 13:31	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 13:31	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 13:31	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 13:31	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 13:31	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	**0.00205**		**0.000865**	**0.00189**	**mg/kg**	**1**	**7/18/23 18:20**
4,4'-DDE [2C]	**0.00328**		**0.00103**	**0.00189**	**mg/kg**	**1**	**7/18/23 18:20**
4,4'-DDT	ND	U	0.00134	0.00189	mg/kg	1	7/18/23 18:20
Aldrin	ND	U	0.000896	0.00189	mg/kg	1	7/18/23 18:20
alpha-BHC	ND	U	0.000563	0.00189	mg/kg	1	7/18/23 18:20
beta-BHC	ND	U	0.000903	0.00189	mg/kg	1	7/18/23 18:20
Chlordane	ND	U	0.000841	0.00189	mg/kg	1	7/18/23 18:20
delta-BHC	ND	U	0.000879	0.00189	mg/kg	1	7/18/23 18:20
Dieldrin	ND	U	0.000989	0.00189	mg/kg	1	7/18/23 18:20
Endosulfan I	ND	U	0.000893	0.00189	mg/kg	1	7/18/23 18:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000860	0.00189	mg/kg	1	7/18/23 18:20	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000711	0.00189	mg/kg	1	7/18/23 18:20	
Endosulfans, Total (alpha and beta)	ND	U	0.000860	0.00189	mg/kg	1	7/18/23 18:20	
Endrin	ND	U	0.000653	0.00189	mg/kg	1	7/18/23 18:20	
Endrin aldehyde	ND	U	0.000753	0.00189	mg/kg	1	7/18/23 18:20	
Endrin ketone	ND	U	0.000666	0.00189	mg/kg	1	7/18/23 18:20	
gamma-BHC (Lindane)	ND	U	0.000599	0.00189	mg/kg	1	7/18/23 18:20	
Heptachlor	ND	U	0.000506	0.00189	mg/kg	1	7/18/23 18:20	
Heptachlor Epoxide	ND	U	0.000954	0.00189	mg/kg	1	7/18/23 18:20	
Methoxychlor	ND	U	0.000554	0.00189	mg/kg	1	7/18/23 18:20	
Toxaphene	ND	U	0.0911	0.0960	mg/kg	1	7/18/23 18:20	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	8/28/23 21:55	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	8/28/23 21:55	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	8/28/23 21:55	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	8/28/23 21:55	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	8/28/23 21:55	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	8/28/23 21:55	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	8/28/23 21:55	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	8/28/23 21:55	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	8/28/23 21:55	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	8/28/23 21:55	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	8/28/23 21:55	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	8/28/23 21:55	RC:6L
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	8/28/23 21:55	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	8/28/23 21:55	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00547	0.0484	mg/kg	1	7/18/23 14:43	
2,3,4,6-Tetrachlorophenol	ND	U	0.0298	0.193	mg/kg	1	7/18/23 14:43	
2,4,5-Trichlorophenol	ND	U	0.0263	0.193	mg/kg	1	7/18/23 14:43	
2,4,6-Trichlorophenol	ND	U	0.0121	0.193	mg/kg	1	7/18/23 14:43	
2,4-Dichlorophenol	ND	U	0.0195	0.193	mg/kg	1	7/18/23 14:43	
2,4-Dimethylphenol	ND	U	0.0191	0.193	mg/kg	1	7/18/23 14:43	
2,4-Dinitrophenol	ND	U	0.0279	0.970	mg/kg	1	7/18/23 14:43	
2,4-Dinitrotoluene	ND	U	0.0207	0.193	mg/kg	1	7/18/23 14:43	
2,6-Dinitrotoluene	ND	U	0.0463	0.193	mg/kg	1	7/18/23 14:43	
2-Chloronaphthalene	ND	U	0.0223	0.193	mg/kg	1	7/18/23 14:43	
2-Chlorophenol	ND	U	0.0256	0.193	mg/kg	1	7/18/23 14:43	
2-Methylnaphthalene	**0.503**		**0.0464**	**0.291**	**mg/kg**	**1**	**7/18/23 14:43**	
2-Methylphenol	ND	U	0.0383	0.193	mg/kg	1	7/18/23 14:43	
2-Nitroaniline	ND	U	0.0156	0.193	mg/kg	1	7/18/23 14:43	
2-Nitrophenol	ND	U	0.0215	0.193	mg/kg	1	7/18/23 14:43	
3,3'-Dichlorobenzidine	ND	U	0.0204	0.193	mg/kg	1	7/18/23 14:43	
3+4-Methylphenol	ND	U	0.0355	0.193	mg/kg	1	7/18/23 14:43	
3-Nitroaniline	ND	U	0.0359	0.193	mg/kg	1	7/18/23 14:43	
4,6-Dinitro-2-methylphenol	ND	U	0.0365	0.484	mg/kg	1	7/18/23 14:43	
4-Bromophenyl-phenyl ether	ND	U	0.0276	0.193	mg/kg	1	7/18/23 14:43	
4-Chloro-3-methylphenol	ND	U	0.0305	0.193	mg/kg	1	7/18/23 14:43	
4-Chloroaniline	ND	U	0.00678	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.0105	0.193	mg/kg	1	7/18/23 14:43	
4-Nitroaniline	ND	U	0.0969	0.193	mg/kg	1	7/18/23 14:43	
4-Nitrophenol	ND	U	0.0124	0.193	mg/kg	1	7/18/23 14:43	
Acenaphthene	**0.418**		**0.0110**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Acenaphthylene	**0.316**		**0.00673**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Acetophenone	ND	U	0.0192	0.193	mg/kg	1	7/18/23 14:43	
Anthracene	**1.11**		**0.0281**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Atrazine	ND	U	0.0182	0.193	mg/kg	1	7/18/23 14:43	
Benzaldehyde	ND	U	0.0595	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL
Benzo(a)anthracene	**2.18**		**0.0195**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Benzo(a)pyrene	**2.63**		**0.0337**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Benzo(b)fluoranthene	**2.86**		**0.0272**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Benzo(g,h,i)perylene	**2.01**		**0.0157**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Benzo(k)fluoranthene	**0.984**		**0.0223**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Biphenyl	**0.0904**	J	**0.0170**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
bis(2-chloroethoxy)methane	ND	U	0.0268	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0212	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL
bis(2-chloroisopropyl)ether	ND	U	0.0697	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**0.547**		**0.0387**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Butylbenzylphthalate	ND	U	0.0176	0.193	mg/kg	1	7/18/23 14:43	
Caprolactam	ND	U	0.0250	0.193	mg/kg	1	7/18/23 14:43	
Carbazole	**0.212**	J	**0.0372**	**0.484**	**mg/kg**	**1**	**7/18/23 14:43**	
Chrysene	**2.31**		**0.0133**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Dibenzo(a,h)anthracene	**0.187**	J	**0.0192**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Dibenzofuran	**0.287**		**0.0115**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Diethylphthalate	ND	U	0.0375	0.193	mg/kg	1	7/18/23 14:43	
Dimethylphthalate	ND	U	0.0120	0.193	mg/kg	1	7/18/23 14:43	
Di-n-butylphthalate	ND	U	0.0791	0.193	mg/kg	1	7/18/23 14:43	
Di-n-octylphthalate	ND	U	0.0397	0.193	mg/kg	1	7/18/23 14:43	
Fluoranthene	**3.56**		**0.0182**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Fluorene	**0.279**		**0.0161**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Hexachlorobenzene	ND	U	0.0253	0.193	mg/kg	1	7/18/23 14:43	
Hexachlorobutadiene	ND	U	0.0929	0.193	mg/kg	1	7/18/23 14:43	
Hexachlorocyclopentadiene	ND	U	0.0807	0.484	mg/kg	1	7/18/23 14:43	
Hexachloroethane	ND	U	0.0212	0.193	mg/kg	1	7/18/23 14:43	
Indeno(1,2,3-cd)pyrene	**1.58**		**0.0208**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Isophorone	ND	U	0.0127	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL
Naphthalene	**0.749**		**0.0143**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Nitrobenzene	ND	U	0.0329	0.193	mg/kg	1	7/18/23 14:43	
n-Nitroso-di-n-propylamine	ND	U	0.0104	0.193	mg/kg	1	7/18/23 14:43	
n-Nitrosodiphenylamine	ND	U	0.0413	0.193	mg/kg	1	7/18/23 14:43	
Pentachlorophenol	ND	U	0.0266	0.484	mg/kg	1	7/18/23 14:43	UJ, RC:SL
Phenanthrene	**1.21**		**0.0255**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	
Phenol	ND	U	0.0157	0.193	mg/kg	1	7/18/23 14:43	UJ, RC:SL
Pyrene	**5.12**		**0.0142**	**0.193**	**mg/kg**	**1**	**7/18/23 14:43**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~19.0~~	12.26	J, B	mg/kg	1	7/18/23 14:43	R, RC:2
Octadecanoic acid, butyl ester	~~7.98~~	13.07	J, B	mg/kg	1	7/18/23 14:43	R, RC:2
unknown (01)	0.636	10.50	J	mg/kg	1	7/18/23 14:43	
unknown (02)	1.13	11.42	J	mg/kg	1	7/18/23 14:43	
unknown (03)	0.673	11.51	J	mg/kg	1	7/18/23 14:43	
unknown (04)	2.34	11.56	J	mg/kg	1	7/18/23 14:43	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G0474

Project: Owls Head Phase 2 **Date to Lab:** 7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (05)	1.12	12.00	J	mg/kg	1	7/18/23 14:43
unknown (06)	0.659	12.82	J	mg/kg	1	7/18/23 14:43
unknown (07)	0.391	12.89	J	mg/kg	1	7/18/23 14:43
unknown (08)	0.443	14.47	J	mg/kg	1	7/18/23 14:43
unknown (09)	2.06	16.16	J	mg/kg	1	7/18/23 14:43
TIC Total	~~36.4~~ 9.42					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	~~ND~~	~~U~~	~~0.000438~~	~~0.0200~~	mg/L	1	8/17/23 18:06 R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 18:06
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 18:06
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 18:06
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 18:06
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 18:06
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 18:06
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 18:06
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 18:06
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 18:06
Pyridine	~~ND~~	~~U~~	~~0.000494~~	~~0.0200~~	mg/L	1	8/17/23 18:06

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000787	0.00539	mg/kg	1	7/14/23 21:38
1,1,2,2-Tetrachloroethane	ND	U	0.000743	0.00539	mg/kg	1	7/14/23 21:38
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00231	0.00539	mg/kg	1	7/14/23 21:38
1,1,2-Trichloroethane	ND	U	0.000908	0.00539	mg/kg	1	7/14/23 21:38
1,1-Dichloroethane	ND	U	0.000787	0.00539	mg/kg	1	7/14/23 21:38
1,1-Dichloroethene	ND	U	0.000997	0.00539	mg/kg	1	7/14/23 21:38
1,2,3-Trichlorobenzene	ND	U	0.00116	0.00539	mg/kg	1	7/14/23 21:38
1,2,4-Trichlorobenzene	ND	U	0.00144	0.00539	mg/kg	1	7/14/23 21:38
1,2,4-Trimethylbenzene	ND	U	0.000743	0.00539	mg/kg	1	7/14/23 21:38
1,2-Dibromo-3-chloropropane	ND	U	0.00131	0.00539	mg/kg	1	7/14/23 21:38
1,2-Dibromoethane	ND	U	0.000679	0.00539	mg/kg	1	7/14/23 21:38
1,2-Dichlorobenzene	ND	U	0.000951	0.00539	mg/kg	1	7/14/23 21:38
1,2-Dichloroethane	ND	U	0.000760	0.00539	mg/kg	1	7/14/23 21:38
1,2-Dichloropropane	ND	U	0.000884	0.00539	mg/kg	1	7/14/23 21:38

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,3-Dichlorobenzene	ND	U	0.000396	0.00539	mg/kg	1	7/14/23 21:38	
1,4-Dichlorobenzene	ND	U	0.000776	0.00539	mg/kg	1	7/14/23 21:38	
2-Butanone	ND	U	0.000878	0.0135	mg/kg	1	7/14/23 21:38	
2-Hexanone	ND	U	0.000504	0.00539	mg/kg	1	7/14/23 21:38	
4-Methyl-2-pentanone	ND	U	0.000673	0.00539	mg/kg	1	7/14/23 21:38	
Acetone	ND	U	0.00163	0.0135	mg/kg	1	7/14/23 21:38	
Benzene	ND	U	0.000490	0.00539	mg/kg	1	7/14/23 21:38	
Bromochloromethane	ND	U	0.000994	0.00539	mg/kg	1	7/14/23 21:38	
Bromodichloromethane	ND	U	0.000676	0.00539	mg/kg	1	7/14/23 21:38	
Bromoform	ND	U	0.000945	0.00539	mg/kg	1	7/14/23 21:38	
Bromomethane	ND	U	0.00155	0.00539	mg/kg	1	7/14/23 21:38	
Carbon disulfide	**0.0298**		**0.000773**	**0.00539**	**mg/kg**	**1**	**7/14/23 21:38**	
Carbon Tetrachloride	ND	U	0.000811	0.00539	mg/kg	1	7/14/23 21:38	
Chlorobenzene	ND	U	0.000781	0.00539	mg/kg	1	7/14/23 21:38	
Chlorodibromomethane	ND	U	0.000663	0.00539	mg/kg	1	7/14/23 21:38	
Chloroethane	ND	U	0.000919	0.00539	mg/kg	1	7/14/23 21:38	
Chloroform	ND	U	0.000905	0.00539	mg/kg	1	7/14/23 21:38	
Chloromethane	ND	U	0.00207	0.00539	mg/kg	1	7/14/23 21:38	
cis-1,2-Dichloroethene	ND	U	0.000260	0.00539	mg/kg	1	7/14/23 21:38	
cis-1,3-Dichloropropene	ND	U	0.000681	0.00539	mg/kg	1	7/14/23 21:38	
Cyclohexane	ND	U	0.00119	0.00539	mg/kg	1	7/14/23 21:38	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.00182	0.00539	mg/kg	1	7/14/23 21:38	UJ, RC:SL
EthylBenzene	ND	U	0.000730	0.00539	mg/kg	1	7/14/23 21:38	
Isopropylbenzene	ND	U	0.000846	0.00539	mg/kg	1	7/14/23 21:38	
m+p-Xylenes	ND	U	0.00136	0.0108	mg/kg	1	7/14/23 21:38	
Methyl Acetate	ND	U	0.000714	0.00539	mg/kg	1	7/14/23 21:38	
Methyl tert-Butyl Ether	ND	U	0.000910	0.00539	mg/kg	1	7/14/23 21:38	
Methylcyclohexane	ND	U	0.000867	0.00539	mg/kg	1	7/14/23 21:38	
Methylene Chloride	ND	U	0.00162	0.00539	mg/kg	1	7/14/23 21:38	
o-Xylene	ND	U	0.000692	0.00539	mg/kg	1	7/14/23 21:38	
Styrene	ND	U	0.000770	0.00539	mg/kg	1	7/14/23 21:38	
tert-Butyl alcohol	ND	U	0.0113	0.0539	mg/kg	1	7/14/23 21:38	
Tetrachloroethene	ND	U	0.000533	0.00539	mg/kg	1	7/14/23 21:38	
Toluene	ND	U	0.000434	0.00539	mg/kg	1	7/14/23 21:38	
Total Xylenes	ND	U	0.000692	0.00539	mg/kg	1	7/14/23 21:38	
trans-1,2-Dichloroethene	ND	U	0.000730	0.00539	mg/kg	1	7/14/23 21:38	
trans-1,3-Dichloropropene	ND	U	0.00103	0.00539	mg/kg	1	7/14/23 21:38	
Trichloroethene	ND	U	0.000792	0.00539	mg/kg	1	7/14/23 21:38	

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichlorofluoromethane	ND	U	0.000620	0.00539	mg/kg	1	7/14/23 21:38
Vinyl chloride	ND	U	0.00102	0.00539	mg/kg	1	7/14/23 21:38

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/15/23 17:25	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/15/23 17:25	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/15/23 17:25	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/15/23 17:25	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/15/23 17:25	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/15/23 17:25	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/15/23 17:25	
Chloroform	**0.0192**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/15/23 17:25**	J, RC:1
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/15/23 17:25	R, RC:1
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/15/23 17:25	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/15/23 17:25	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**68.8**				**%**	**1**	**7/12/23 12:00**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/24/23 15:25

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00908	0.0762	mg/kg	1	7/12/23 14:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.31**				**pH Units**	**1**	**7/17/23 16:52**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-02 (Soil) Sample Name: **MR-102_6.0-8.0_20230710** Collected: **7/10/2023 11:54:00AM**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/12/23 17:41	

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Reactive Sulfide	6.30	0.00	H	mg/kg	1	7/18/23 13:29	J, RC:1

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00609	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1221	ND	U	0.0120	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1232	ND	U	0.0152	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1242	ND	U	0.00892	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1248	ND	U	0.00933	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1254	ND	U	0.00733	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1260	ND	U	0.00568	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1262	ND	U	0.0122	0.0454	mg/kg	1	7/17/23 19:04
Aroclor-1268	ND	U	0.00549	0.0454	mg/kg	1	7/17/23 19:04
Total PCBs	ND	U	0.00424	0.0454	mg/kg	1	7/17/23 19:04

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0135	0.138	mg/kg	1	7/19/23 9:26	
2,4-D	ND	U	0.0228	0.138	mg/kg	1	7/19/23 9:26	UJ, RC:Q

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:40	R, RC:1
2,4-D	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:40	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0281**		**0.00688**	**0.0275**	**mg/kg**	**1**	**7/24/23 15:23**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/11/23 13:06	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12000**		**0.207**	**3.49**	**mg/kg**	**1**	**7/25/23 11:18**
Antimony	ND	U	0.190	1.75	mg/kg	1	7/25/23 11:18
Arsenic	**4.26**		**0.125**	**1.75**	**mg/kg**	**1**	**7/25/23 11:18**
Barium	**40.8**		**0.0528**	**0.698**	**mg/kg**	**1**	**7/25/23 11:18**
Beryllium	**0.567**		**0.00404**	**0.0349**	**mg/kg**	**1**	**7/25/23 11:18**
Cadmium	ND	U	0.0681	0.349	mg/kg	1	7/25/23 11:18
Calcium	**3440**		**3.93**	**34.9**	**mg/kg**	**1**	**7/25/23 11:18**
Chromium	**14.9**		**0.0394**	**0.349**	**mg/kg**	**1**	**7/25/23 11:18**
Cobalt	**5.83**		**0.0357**	**0.279**	**mg/kg**	**1**	**7/25/23 11:18**
Copper	**8.55**		**0.0977**	**0.349**	**mg/kg**	**1**	**7/25/23 11:18**
Iron	**18100**		**0.989**	**6.98**	**mg/kg**	**1**	**7/25/23 11:18**
Lead	**14.6**		**0.146**	**1.75**	**mg/kg**	**1**	**7/25/23 11:18**
Magnesium	**3200**		**12.3**	**69.8**	**mg/kg**	**1**	**7/25/23 11:18**
Manganese	**140**		**0.0434**	**0.349**	**mg/kg**	**1**	**7/25/23 11:18**
Nickel	**12.0**		**0.0307**	**0.175**	**mg/kg**	**1**	**7/25/23 11:18**
Potassium	**1740**		**41.5**	**140**	**mg/kg**	**1**	**7/25/23 11:18**
Selenium	ND	U	0.335	1.75	mg/kg	1	7/25/23 11:18
Silver	ND	U	0.0594	0.210	mg/kg	1	7/25/23 11:18
Sodium	**2010**		**6.66**	**69.8**	**mg/kg**	**1**	**7/25/23 11:18**
Thallium	ND	U	0.117	1.75	mg/kg	1	7/25/23 11:18
Vanadium	**21.9**		**0.0803**	**0.698**	**mg/kg**	**1**	**7/25/23 11:18**
Zinc	**31.5**		**0.107**	**1.05**	**mg/kg**	**1**	**7/25/23 11:18**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 13:33	
Barium	**0.656**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 13:33**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 13:33	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 13:33	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 13:33	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 13:33	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 13:33	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000819	0.00179	mg/kg	1	7/18/23 18:43	
4,4'-DDE	ND	U	0.000978	0.00179	mg/kg	1	7/18/23 18:43	
4,4'-DDT	ND	U	0.00126	0.00179	mg/kg	1	7/18/23 18:43	
Aldrin	ND	U	0.000847	0.00179	mg/kg	1	7/18/23 18:43	
alpha-BHC	ND	U	0.000532	0.00179	mg/kg	1	7/18/23 18:43	
beta-BHC	ND	U	0.000854	0.00179	mg/kg	1	7/18/23 18:43	
Chlordane	ND	U	0.000795	0.00179	mg/kg	1	7/18/23 18:43	
delta-BHC	ND	U	0.000831	0.00179	mg/kg	1	7/18/23 18:43	
Dieldrin	ND	U	0.000936	0.00179	mg/kg	1	7/18/23 18:43	
Endosulfan I	ND	U	0.000845	0.00179	mg/kg	1	7/18/23 18:43	
Endosulfan II	ND	U	0.000813	0.00179	mg/kg	1	7/18/23 18:43	UJ, RC:SL
Endosulfan sulfate	ND	U	0.000673	0.00179	mg/kg	1	7/18/23 18:43	
Endosulfans, Total (alpha and beta)	ND	U	0.000813	0.00179	mg/kg	1	7/18/23 18:43	
Endrin	ND	U	0.000618	0.00179	mg/kg	1	7/18/23 18:43	
Endrin aldehyde	ND	U	0.000713	0.00179	mg/kg	1	7/18/23 18:43	
Endrin ketone	ND	U	0.000630	0.00179	mg/kg	1	7/18/23 18:43	
gamma-BHC (Lindane)	ND	U	0.000567	0.00179	mg/kg	1	7/18/23 18:43	
Heptachlor	ND	U	0.000479	0.00179	mg/kg	1	7/18/23 18:43	
Heptachlor Epoxide	ND	U	0.000902	0.00179	mg/kg	1	7/18/23 18:43	
Methoxychlor	ND	U	0.000524	0.00179	mg/kg	1	7/18/23 18:43	
Toxaphene	ND	U	0.0862	0.0908	mg/kg	1	7/18/23 18:43	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	8/28/23 22:14	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	8/28/23 22:14	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	8/28/23 22:14	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L
alpha-BHC	ND	U, H	2.56E-7	0.0000200	mg/L	1	8/28/23 22:14	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	8/28/23 22:14	
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	8/28/23 22:14	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	8/28/23 22:14	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	8/28/23 22:14	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	8/28/23 22:14	R, RC:1
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	8/28/23 22:14	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	8/28/23 22:14	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	8/28/23 22:14	RC:6L
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	8/28/23 22:14	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	8/28/23 22:14	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00517	0.0458	mg/kg	1	7/18/23 12:32	
2,3,4,6-Tetrachlorophenol	ND	U	0.0282	0.183	mg/kg	1	7/18/23 12:32	
2,4,5-Trichlorophenol	ND	U	0.0249	0.183	mg/kg	1	7/18/23 12:32	
2,4,6-Trichlorophenol	ND	U	0.0115	0.183	mg/kg	1	7/18/23 12:32	
2,4-Dichlorophenol	ND	U	0.0184	0.183	mg/kg	1	7/18/23 12:32	
2,4-Dimethylphenol	ND	U	0.0180	0.183	mg/kg	1	7/18/23 12:32	
2,4-Dinitrophenol	ND	U	0.0264	0.918	mg/kg	1	7/18/23 12:32	
2,4-Dinitrotoluene	ND	U	0.0195	0.183	mg/kg	1	7/18/23 12:32	
2,6-Dinitrotoluene	ND	U	0.0437	0.183	mg/kg	1	7/18/23 12:32	
2-Chloronaphthalene	ND	U	0.0210	0.183	mg/kg	1	7/18/23 12:32	
2-Chlorophenol	ND	U	0.0242	0.183	mg/kg	1	7/18/23 12:32	
2-Methylnaphthalene	ND	U	0.0439	0.275	mg/kg	1	7/18/23 12:32	
2-Methylphenol	ND	U	0.0362	0.183	mg/kg	1	7/18/23 12:32	
2-Nitroaniline	ND	U	0.0147	0.183	mg/kg	1	7/18/23 12:32	
2-Nitrophenol	ND	U	0.0204	0.183	mg/kg	1	7/18/23 12:32	
3,3'-Dichlorobenzidine	ND	U	0.0193	0.183	mg/kg	1	7/18/23 12:32	
3+4-Methylphenol	ND	U	0.0336	0.183	mg/kg	1	7/18/23 12:32	
3-Nitroaniline	ND	U	0.0340	0.183	mg/kg	1	7/18/23 12:32	
4,6-Dinitro-2-methylphenol	ND	U	0.0345	0.458	mg/kg	1	7/18/23 12:32	
4-Bromophenyl-phenyl ether	ND	U	0.0261	0.183	mg/kg	1	7/18/23 12:32	
4-Chloro-3-methylphenol	ND	U	0.0289	0.183	mg/kg	1	7/18/23 12:32	
4-Chloroaniline	ND	U	0.00641	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00989	0.183	mg/kg	1	7/18/23 12:32	
4-Nitroaniline	ND	U	0.0916	0.183	mg/kg	1	7/18/23 12:32	
4-Nitrophenol	ND	U	0.0117	0.183	mg/kg	1	7/18/23 12:32	
Acenaphthene	ND	U	0.0104	0.183	mg/kg	1	7/18/23 12:32	
Acenaphthylene	ND	U	0.00637	0.183	mg/kg	1	7/18/23 12:32	
Acetophenone	ND	U	0.0182	0.183	mg/kg	1	7/18/23 12:32	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Anthracene	ND	U	0.0266	0.183	mg/kg	1	7/18/23 12:32	
Atrazine	ND	U	0.0172	0.183	mg/kg	1	7/18/23 12:32	
Benzaldehyde	ND	U	0.0563	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0184	0.183	mg/kg	1	7/18/23 12:32	
Benzo(a)pyrene	**0.936**		**0.0319**	**0.183**	**mg/kg**	**1**	**7/18/23 12:32**	
Benzo(b)fluoranthene	ND	U	0.0257	0.183	mg/kg	1	7/18/23 12:32	
Benzo(g,h,i)perylene	ND	U	0.0149	0.183	mg/kg	1	7/18/23 12:32	
Benzo(k)fluoranthene	ND	U	0.0210	0.183	mg/kg	1	7/18/23 12:32	
Biphenyl	ND	U	0.0161	0.183	mg/kg	1	7/18/23 12:32	
bis(2-chloroethoxy)methane	ND	U	0.0253	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0201	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL
bis(2-chloroisopropyl)ether	ND	U	0.0659	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0366	0.183	mg/kg	1	7/18/23 12:32	
Butylbenzylphthalate	ND	U	0.0166	0.183	mg/kg	1	7/18/23 12:32	
Caprolactam	ND	U	0.0237	0.183	mg/kg	1	7/18/23 12:32	
Carbazole	ND	U	0.0352	0.458	mg/kg	1	7/18/23 12:32	
Chrysene	ND	U	0.0125	0.183	mg/kg	1	7/18/23 12:32	
Dibenzo(a,h)anthracene	ND	U	0.0182	0.183	mg/kg	1	7/18/23 12:32	
Dibenzofuran	ND	U	0.0109	0.183	mg/kg	1	7/18/23 12:32	
Diethylphthalate	ND	U	0.0355	0.183	mg/kg	1	7/18/23 12:32	
Dimethylphthalate	ND	U	0.0114	0.183	mg/kg	1	7/18/23 12:32	
Di-n-butylphthalate	ND	U	0.0748	0.183	mg/kg	1	7/18/23 12:32	
Di-n-octylphthalate	ND	U	0.0376	0.183	mg/kg	1	7/18/23 12:32	
Fluoranthene	ND	U	0.0172	0.183	mg/kg	1	7/18/23 12:32	
Fluorene	ND	U	0.0153	0.183	mg/kg	1	7/18/23 12:32	
Hexachlorobenzene	ND	U	0.0239	0.183	mg/kg	1	7/18/23 12:32	
Hexachlorobutadiene	ND	U	0.0879	0.183	mg/kg	1	7/18/23 12:32	
Hexachlorocyclopentadiene	ND	U	0.0764	0.458	mg/kg	1	7/18/23 12:32	
Hexachloroethane	ND	U	0.0201	0.183	mg/kg	1	7/18/23 12:32	
Indeno(1,2,3-cd)pyrene	ND	U	0.0197	0.183	mg/kg	1	7/18/23 12:32	
Isophorone	ND	U	0.0120	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL
Naphthalene	**0.406**		**0.0136**	**0.183**	**mg/kg**	**1**	**7/18/23 12:32**	
Nitrobenzene	ND	U	0.0311	0.183	mg/kg	1	7/18/23 12:32	
n-Nitroso-di-n-propylamine	ND	U	0.00981	0.183	mg/kg	1	7/18/23 12:32	
n-Nitrosodiphenylamine	ND	U	0.0391	0.183	mg/kg	1	7/18/23 12:32	
Pentachlorophenol	ND	U	0.0252	0.458	mg/kg	1	7/18/23 12:32	UJ, RC:SL
Phenanthrene	ND	U	0.0241	0.183	mg/kg	1	7/18/23 12:32	
Phenol	ND	U	0.0149	0.183	mg/kg	1	7/18/23 12:32	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pyrene	ND	U	0.0135	0.183	mg/kg	1	7/18/23 12:32

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Heptadecene	2.36	13.56	J	mg/kg	1	7/18/23 12:32	
Hexadecanoic acid, butyl ester	~~21.1~~	12.25	J, B	mg/kg	1	7/18/23 12:32	R, RC:2
Nonacosanol	5.79	14.45	J	mg/kg	1	7/18/23 12:32	
Octadecanoic acid, butyl ester	~~11.5~~	13.07	J, B	mg/kg	1	7/18/23 12:32	R, RC:2
unknown (01)	0.857	13.27	J	mg/kg	1	7/18/23 12:32	
unknown (02)	1.40	13.60	J	mg/kg	1	7/18/23 12:32	
TIC Total	~~43.0~~ 10.4						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	~~ND~~	U	~~0.000438~~	~~0.0200~~	mg/L	1	8/17/23 18:39	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 18:39	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 18:39	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 18:39	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 18:39	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 18:39	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 18:39	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 18:39	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 18:39	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 18:39	
Pyridine	ND	U	~~0.000494~~	~~0.0200~~	mg/L	1	8/17/23 18:39	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000245	0.00168	mg/kg	1	7/19/23 10:20
1,1,2,2-Tetrachloroethane	ND	U	0.000232	0.00168	mg/kg	1	7/19/23 10:20
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000718	0.00168	mg/kg	1	7/19/23 10:20
1,1,2-Trichloroethane	ND	U	0.000283	0.00168	mg/kg	1	7/19/23 10:20
1,1-Dichloroethane	ND	U	0.000245	0.00168	mg/kg	1	7/19/23 10:20
1,1-Dichloroethene	ND	U	0.000310	0.00168	mg/kg	1	7/19/23 10:20
1,2,3-Trichlorobenzene	ND	U	0.000362	0.00168	mg/kg	1	7/19/23 10:20
1,2,4-Trichlorobenzene	ND	U	0.000447	0.00168	mg/kg	1	7/19/23 10:20
1,2,4-Trimethylbenzene	ND	U	0.000232	0.00168	mg/kg	1	7/19/23 10:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromo-3-chloropropane	ND	U	0.000409	0.00168	mg/kg	1	7/19/23 10:20	
1,2-Dibromoethane	ND	U	0.000211	0.00168	mg/kg	1	7/19/23 10:20	
1,2-Dichlorobenzene	ND	U	0.000296	0.00168	mg/kg	1	7/19/23 10:20	
1,2-Dichloroethane	ND	U	0.000237	0.00168	mg/kg	1	7/19/23 10:20	
1,2-Dichloropropane	ND	U	0.000275	0.00168	mg/kg	1	7/19/23 10:20	
1,3-Dichlorobenzene	ND	U	0.000123	0.00168	mg/kg	1	7/19/23 10:20	
1,4-Dichlorobenzene	ND	U	0.000242	0.00168	mg/kg	1	7/19/23 10:20	
2-Butanone	ND	U	0.000273	0.00419	mg/kg	1	7/19/23 10:20	
2-Hexanone	ND	U	0.000157	0.00168	mg/kg	1	7/19/23 10:20	
4-Methyl-2-pentanone	ND	U	0.000210	0.00168	mg/kg	1	7/19/23 10:20	
Acetone	ND	U	0.000508	0.00419	mg/kg	1	7/19/23 10:20	
Benzene	ND	U	0.000153	0.00168	mg/kg	1	7/19/23 10:20	
Bromochloromethane	ND	U	0.000310	0.00168	mg/kg	1	7/19/23 10:20	
Bromodichloromethane	ND	U	0.000211	0.00168	mg/kg	1	7/19/23 10:20	
Bromoform	ND	U	0.000294	0.00168	mg/kg	1	7/19/23 10:20	
Bromomethane	ND	U	0.000484	0.00168	mg/kg	1	7/19/23 10:20	
Carbon disulfide	**0.0272**		**0.000241**	**0.00168**	**mg/kg**	**1**	**7/19/23 10:20**	
Carbon Tetrachloride	ND	U	0.000252	0.00168	mg/kg	1	7/19/23 10:20	
Chlorobenzene	ND	U	0.000243	0.00168	mg/kg	1	7/19/23 10:20	
Chlorodibromomethane	ND	U	0.000206	0.00168	mg/kg	1	7/19/23 10:20	
Chloroethane	ND	U	0.000286	0.00168	mg/kg	1	7/19/23 10:20	
Chloroform	ND	U	0.000282	0.00168	mg/kg	1	7/19/23 10:20	
Chloromethane	ND	U	0.000646	0.00168	mg/kg	1	7/19/23 10:20	
cis-1,2-Dichloroethene	ND	U	0.0000811	0.00168	mg/kg	1	7/19/23 10:20	
cis-1,3-Dichloropropene	ND	U	0.000212	0.00168	mg/kg	1	7/19/23 10:20	
Cyclohexane	ND	U	0.000372	0.00168	mg/kg	1	7/19/23 10:20	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.000566	0.00168	mg/kg	1	7/19/23 10:20	UJ, RC:SL
EthylBenzene	ND	U	0.000227	0.00168	mg/kg	1	7/19/23 10:20	
Isopropylbenzene	ND	U	0.000263	0.00168	mg/kg	1	7/19/23 10:20	
m+p-Xylenes	ND	U	0.000424	0.00336	mg/kg	1	7/19/23 10:20	
Methyl Acetate	ND	U	0.000222	0.00168	mg/kg	1	7/19/23 10:20	
Methyl tert-Butyl Ether	ND	U	0.000284	0.00168	mg/kg	1	7/19/23 10:20	
Methylcyclohexane	ND	U	0.000270	0.00168	mg/kg	1	7/19/23 10:20	
Methylene Chloride	ND	U	0.000504	0.00168	mg/kg	1	7/19/23 10:20	
o-Xylene	ND	U	0.000216	0.00168	mg/kg	1	7/19/23 10:20	
Styrene	ND	U	0.000240	0.00168	mg/kg	1	7/19/23 10:20	
tert-Butyl alcohol	ND	U	0.00352	0.0168	mg/kg	1	7/19/23 10:20	
Tetrachloroethene	ND	U	0.000166	0.00168	mg/kg	1	7/19/23 10:20	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G0474

Project: Owls Head Phase 2 **Date to Lab:** 7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	ND	U	0.000135	0.00168	mg/kg	1	7/19/23 10:20
Total Xylenes	ND	U	0.000216	0.00168	mg/kg	1	7/19/23 10:20
trans-1,2-Dichloroethene	ND	U	0.000227	0.00168	mg/kg	1	7/19/23 10:20
trans-1,3-Dichloropropene	ND	U	0.000320	0.00168	mg/kg	1	7/19/23 10:20
Trichloroethene	ND	U	0.000247	0.00168	mg/kg	1	7/19/23 10:20
Trichlorofluoromethane	ND	U	0.000193	0.00168	mg/kg	1	7/19/23 10:20
Vinyl chloride	ND	U	0.000319	0.00168	mg/kg	1	7/19/23 10:20

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Lab Contamination	~~0.00549~~	5.29	J, B	mg/kg	1	7/19/23 10:20	R, RC:2
TIC Total	~~0.005~~						R, RC:2

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	~~ND~~	~~U~~	~~0.00149~~	~~0.0100~~	mg/L	10	8/24/23 18:25	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/24/23 18:25	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/24/23 18:25	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/24/23 18:25	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/24/23 18:25	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/24/23 18:25	
Chlorobenzene	~~ND~~	~~U~~	~~0.00300~~	~~0.0100~~	mg/L	10	8/24/23 18:25	
Chloroform	**0.00382**	J, D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/24/23 18:25**	J, RC:1,SH
Tetrachloroethene	~~ND~~	~~U~~	~~0.00466~~	~~0.0100~~	mg/L	10	8/24/23 18:25	R, RC:1
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/24/23 18:25	
Vinyl chloride	~~ND~~	~~U~~	~~0.00157~~	~~0.0100~~	mg/L	10	8/24/23 18:25	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**72.7**				**%**	**1**	**7/12/23 12:00**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/24/23 15:25

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-03 (Soil) Sample Name: **MR-102_20.0-22.0_20230710** Collected: **7/10/2023 1:25:00PM**

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyanide	ND	U	0.0103	0.0861	mg/kg	1	7/12/23 14:47	

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Corrosivity-pH	**7.84**				**pH Units**	**1**	**7/17/23 16:52**	

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/12/23 17:41	

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Reactive Sulfide	ND	0.00	U, H	mg/kg	1	7/18/23 13:29	UJ, RC:1

23G0474-04 (Soil) Sample Name: **MR-207_30-32_20230711** Collected: **7/11/2023 9:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00511	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1221	ND	U	0.0101	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1232	ND	U	0.0128	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1242	ND	U	0.00749	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1248	ND	U	0.00784	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1254	ND	U	0.00615	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1260	ND	U	0.00477	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1262	ND	U	0.0103	0.0381	mg/kg	1	7/17/23 19:26
Aroclor-1268	ND	U	0.00461	0.0381	mg/kg	1	7/17/23 19:26
Total PCBs	ND	U	0.00356	0.0381	mg/kg	1	7/17/23 19:26

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0113	0.116	mg/kg	1	7/25/23 16:22	
2,4-D	ND	U	0.0192	0.116	mg/kg	1	7/25/23 16:22	UJ, RC:Q

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_20230711** Collected: **7/11/2023 9:35:00AM**

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:50	R, RC:1
2,4-D	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:50	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00578	0.0231	mg/kg	1	7/24/23 15:33

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/11/23 13:08	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8460**		**0.163**	**2.75**	**mg/kg**	**1**	**7/25/23 11:20**
Antimony	ND	U	0.150	1.38	mg/kg	1	7/25/23 11:20
Arsenic	**1.77**		**0.0981**	**1.38**	**mg/kg**	**1**	**7/25/23 11:20**
Barium	**41.5**		**0.0416**	**0.550**	**mg/kg**	**1**	**7/25/23 11:20**
Beryllium	**0.625**		**0.00319**	**0.0275**	**mg/kg**	**1**	**7/25/23 11:20**
Cadmium	ND	U	0.0536	0.275	mg/kg	1	7/25/23 11:20
Calcium	**9150**		**3.09**	**27.5**	**mg/kg**	**1**	**7/25/23 11:20**
Chromium	**15.7**		**0.0311**	**0.275**	**mg/kg**	**1**	**7/25/23 11:20**
Cobalt	**5.72**		**0.0281**	**0.220**	**mg/kg**	**1**	**7/25/23 11:20**
Copper	**13.6**		**0.0770**	**0.275**	**mg/kg**	**1**	**7/25/23 11:20**
Iron	**15500**		**0.779**	**5.50**	**mg/kg**	**1**	**7/25/23 11:20**
Lead	**7.45**		**0.115**	**1.38**	**mg/kg**	**1**	**7/25/23 11:20**
Magnesium	**5930**		**9.72**	**55.0**	**mg/kg**	**1**	**7/25/23 11:20**
Manganese	**274**		**0.0342**	**0.275**	**mg/kg**	**1**	**7/25/23 11:20**
Nickel	**16.3**		**0.0242**	**0.138**	**mg/kg**	**1**	**7/25/23 11:20**
Potassium	**2380**		**32.7**	**110**	**mg/kg**	**1**	**7/25/23 11:20**
Selenium	ND	U	0.264	1.38	mg/kg	1	7/25/23 11:20
Silver	ND	U	0.0468	0.165	mg/kg	1	7/25/23 11:20
Sodium	**467**		**5.25**	**55.0**	**mg/kg**	**1**	**7/25/23 11:20**
Thallium	ND	U	0.0926	1.38	mg/kg	1	7/25/23 11:20
Vanadium	**24.9**		**0.0633**	**0.550**	**mg/kg**	**1**	**7/25/23 11:20**
Zinc	**31.9**		**0.0840**	**0.825**	**mg/kg**	**1**	**7/25/23 11:20**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_202307 11** Collected: **7/11/2023 9:35:00AM**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 13:36	
Barium	**0.622**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 13:36**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 13:36	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 13:36	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 13:36	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 13:36	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 13:36	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000687	0.00150	mg/kg	1	7/18/23 19:05	
4,4'-DDE	ND	U	0.000821	0.00150	mg/kg	1	7/18/23 19:05	
4,4'-DDT	ND	U	0.00106	0.00150	mg/kg	1	7/18/23 19:05	
Aldrin	ND	U	0.000712	0.00150	mg/kg	1	7/18/23 19:05	
alpha-BHC	ND	U	0.000447	0.00150	mg/kg	1	7/18/23 19:05	
beta-BHC	ND	U	0.000717	0.00150	mg/kg	1	7/18/23 19:05	
Chlordane	ND	U	0.000668	0.00150	mg/kg	1	7/18/23 19:05	
delta-BHC	ND	U	0.000698	0.00150	mg/kg	1	7/18/23 19:05	
Dieldrin	ND	U	0.000786	0.00150	mg/kg	1	7/18/23 19:05	
Endosulfan I	ND	U	0.000709	0.00150	mg/kg	1	7/18/23 19:05	
Endosulfan II	ND	U	0.000683	0.00150	mg/kg	1	7/18/23 19:05	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000565	0.00150	mg/kg	1	7/18/23 19:05	
Endosulfans, Total (alpha and beta)	ND	U	0.000683	0.00150	mg/kg	1	7/18/23 19:05	
Endrin	ND	U	0.000519	0.00150	mg/kg	1	7/18/23 19:05	
Endrin aldehyde	ND	U	0.000598	0.00150	mg/kg	1	7/18/23 19:05	
Endrin ketone	ND	U	0.000529	0.00150	mg/kg	1	7/18/23 19:05	
gamma-BHC (Lindane)	ND	U	0.000476	0.00150	mg/kg	1	7/18/23 19:05	
Heptachlor	ND	U	0.000402	0.00150	mg/kg	1	7/18/23 19:05	
Heptachlor Epoxide	ND	U	0.000758	0.00150	mg/kg	1	7/18/23 19:05	
Methoxychlor	ND	U	0.000440	0.00150	mg/kg	1	7/18/23 19:05	
Toxaphene	ND	U	0.0724	0.0763	mg/kg	1	7/18/23 19:05	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	~~ND~~	~~U, H~~	~~3.78E-7~~	~~0.0000200~~	mg/L	1	8/28/23 22:32	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	8/28/23 22:32	
4,4'-DDT	~~ND~~	~~U, H~~	~~3.19E-7~~	~~0.0000200~~	mg/L	1	8/28/23 22:32	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_202307 11** Collected: **7/11/2023 9:35:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	8/28/23 22:32	R, RC:1 RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	8/28/23 22:32	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	8/28/23 22:32	RC:6L
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	8/28/23 22:32	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	8/28/23 22:32	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	8/28/23 22:32	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	8/28/23 22:32	RC:6L
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	8/28/23 22:32	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	8/28/23 22:32	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	8/28/23 22:32	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	8/28/23 22:32	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	8/28/23 22:32	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	8/28/23 22:32	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	8/28/23 22:32	RC:6L
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	8/28/23 22:32	RC:6L
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	8/28/23 22:32	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	8/28/23 22:32	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00434	0.0385	mg/kg	1	7/18/23 13:04
2,3,4,6-Tetrachlorophenol	ND	U	0.0237	0.154	mg/kg	1	7/18/23 13:04
2,4,5-Trichlorophenol	ND	U	0.0209	0.154	mg/kg	1	7/18/23 13:04
2,4,6-Trichlorophenol	ND	U	0.00962	0.154	mg/kg	1	7/18/23 13:04
2,4-Dichlorophenol	ND	U	0.0155	0.154	mg/kg	1	7/18/23 13:04
2,4-Dimethylphenol	ND	U	0.0151	0.154	mg/kg	1	7/18/23 13:04
2,4-Dinitrophenol	ND	U	0.0222	0.771	mg/kg	1	7/18/23 13:04
2,4-Dinitrotoluene	ND	U	0.0164	0.154	mg/kg	1	7/18/23 13:04
2,6-Dinitrotoluene	ND	U	0.0367	0.154	mg/kg	1	7/18/23 13:04
2-Chloronaphthalene	ND	U	0.0177	0.154	mg/kg	1	7/18/23 13:04
2-Chlorophenol	ND	U	0.0203	0.154	mg/kg	1	7/18/23 13:04
2-Methylnaphthalene	ND	U	0.0369	0.231	mg/kg	1	7/18/23 13:04
2-Methylphenol	ND	U	0.0304	0.154	mg/kg	1	7/18/23 13:04
2-Nitroaniline	ND	U	0.0124	0.154	mg/kg	1	7/18/23 13:04
2-Nitrophenol	ND	U	0.0171	0.154	mg/kg	1	7/18/23 13:04
3,3'-Dichlorobenzidine	ND	U	0.0162	0.154	mg/kg	1	7/18/23 13:04
3+4-Methylphenol	ND	U	0.0282	0.154	mg/kg	1	7/18/23 13:04
3-Nitroaniline	ND	U	0.0285	0.154	mg/kg	1	7/18/23 13:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_202307 11** Collected: **7/11/2023 9:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,6-Dinitro-2-methylphenol	ND	U	0.0290	0.385	mg/kg	1	7/18/23 13:04	
4-Bromophenyl-phenyl ether	ND	U	0.0220	0.154	mg/kg	1	7/18/23 13:04	
4-Chloro-3-methylphenol	ND	U	0.0243	0.154	mg/kg	1	7/18/23 13:04	
4-Chloroaniline	ND	U	0.00538	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00831	0.154	mg/kg	1	7/18/23 13:04	
4-Nitroaniline	ND	U	0.0769	0.154	mg/kg	1	7/18/23 13:04	
4-Nitrophenol	ND	U	0.00984	0.154	mg/kg	1	7/18/23 13:04	
Acenaphthene	ND	U	0.00877	0.154	mg/kg	1	7/18/23 13:04	
Acenaphthylene	ND	U	0.00535	0.154	mg/kg	1	7/18/23 13:04	
Acetophenone	ND	U	0.0153	0.154	mg/kg	1	7/18/23 13:04	
Anthracene	ND	U	0.0223	0.154	mg/kg	1	7/18/23 13:04	
Atrazine	ND	U	0.0144	0.154	mg/kg	1	7/18/23 13:04	
Benzaldehyde	ND	U	0.0473	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0155	0.154	mg/kg	1	7/18/23 13:04	
Benzo(a)pyrene	ND	U	0.0268	0.154	mg/kg	1	7/18/23 13:04	
Benzo(b)fluoranthene	ND	U	0.0216	0.154	mg/kg	1	7/18/23 13:04	
Benzo(g,h,i)perylene	ND	U	0.0125	0.154	mg/kg	1	7/18/23 13:04	
Benzo(k)fluoranthene	ND	U	0.0177	0.154	mg/kg	1	7/18/23 13:04	
Biphenyl	ND	U	0.0135	0.154	mg/kg	1	7/18/23 13:04	
bis(2-chloroethoxy)methane	ND	U	0.0213	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0169	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
bis(2-chloroisopropyl)ether	ND	U	0.0553	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0307	0.154	mg/kg	1	7/18/23 13:04	
Butylbenzylphthalate	ND	U	0.0140	0.154	mg/kg	1	7/18/23 13:04	
Caprolactam	ND	U	0.0199	0.154	mg/kg	1	7/18/23 13:04	
Carbazole	ND	U	0.0296	0.385	mg/kg	1	7/18/23 13:04	
Chrysene	ND	U	0.0105	0.154	mg/kg	1	7/18/23 13:04	
Dibenzo(a,h)anthracene	ND	U	0.0153	0.154	mg/kg	1	7/18/23 13:04	
Dibenzofuran	ND	U	0.00916	0.154	mg/kg	1	7/18/23 13:04	
Diethylphthalate	ND	U	0.0298	0.154	mg/kg	1	7/18/23 13:04	
Dimethylphthalate	ND	U	0.00954	0.154	mg/kg	1	7/18/23 13:04	
Di-n-butylphthalate	ND	U	0.0628	0.154	mg/kg	1	7/18/23 13:04	
Di-n-octylphthalate	ND	U	0.0315	0.154	mg/kg	1	7/18/23 13:04	
Fluoranthene	ND	U	0.0144	0.154	mg/kg	1	7/18/23 13:04	
Fluorene	ND	U	0.0128	0.154	mg/kg	1	7/18/23 13:04	
Hexachlorobenzene	ND	U	0.0201	0.154	mg/kg	1	7/18/23 13:04	
Hexachlorobutadiene	ND	U	0.0738	0.154	mg/kg	1	7/18/23 13:04	
Hexachlorocyclopentadiene	ND	U	0.0641	0.385	mg/kg	1	7/18/23 13:04	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_202307 11** Collected: **7/11/2023 9:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachloroethane	ND	U	0.0169	0.154	mg/kg	1	7/18/23 13:04	
Indeno(1,2,3-cd)pyrene	ND	U	0.0165	0.154	mg/kg	1	7/18/23 13:04	
Isophorone	ND	U	0.0101	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
Naphthalene	ND	U	0.0114	0.154	mg/kg	1	7/18/23 13:04	
Nitrobenzene	ND	U	0.0261	0.154	mg/kg	1	7/18/23 13:04	
n-Nitroso-di-n-propylamine	ND	U	0.00824	0.154	mg/kg	1	7/18/23 13:04	
n-Nitrosodiphenylamine	ND	U	0.0328	0.154	mg/kg	1	7/18/23 13:04	
Pentachlorophenol	ND	U	0.0211	0.385	mg/kg	1	7/18/23 13:04	UJ, RC:SL
Phenanthrene	ND	U	0.0202	0.154	mg/kg	1	7/18/23 13:04	
Phenol	ND	U	0.0125	0.154	mg/kg	1	7/18/23 13:04	UJ, RC:SL
Pyrene	ND	U	0.0113	0.154	mg/kg	1	7/18/23 13:04	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~14.3~~	12.25	J, B	mg/kg	1	7/18/23 13:04	R, RC:2
Octadecanoic acid, butyl ester	~~8.25~~	13.06	J, B	mg/kg	1	7/18/23 13:04	R, RC:2
TIC Total	~~22.6~~						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	~~ND~~	~~U~~	~~0.000438~~	~~0.0200~~	mg/L	1	8/17/23 19:12	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 19:12	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 19:12	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 19:12	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 19:12	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 19:12	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 19:12	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 19:12	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 19:12	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 19:12	
Pyridine	~~ND~~	~~U~~	~~0.000494~~	~~0.0200~~	mg/L	1	8/17/23 19:12	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000264	0.00181	mg/kg	1	7/19/23 10:52
1,1,2,2-Tetrachloroethane	ND	U	0.000249	0.00181	mg/kg	1	7/19/23 10:52
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000773	0.00181	mg/kg	1	7/19/23 10:52

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_202307 11** Collected: **7/11/2023 9:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,2-Trichloroethane	ND	U	0.000304	0.00181	mg/kg	1	7/19/23 10:52	
1,1-Dichloroethane	ND	U	0.000264	0.00181	mg/kg	1	7/19/23 10:52	
1,1-Dichloroethene	ND	U	0.000334	0.00181	mg/kg	1	7/19/23 10:52	
1,2,3-Trichlorobenzene	ND	U	0.000390	0.00181	mg/kg	1	7/19/23 10:52	
1,2,4-Trichlorobenzene	ND	U	0.000481	0.00181	mg/kg	1	7/19/23 10:52	
1,2,4-Trimethylbenzene	ND	U	0.000249	0.00181	mg/kg	1	7/19/23 10:52	
1,2-Dibromo-3-chloropropane	ND	U	0.000440	0.00181	mg/kg	1	7/19/23 10:52	
1,2-Dibromoethane	ND	U	0.000227	0.00181	mg/kg	1	7/19/23 10:52	
1,2-Dichlorobenzene	ND	U	0.000319	0.00181	mg/kg	1	7/19/23 10:52	
1,2-Dichloroethane	ND	U	0.000255	0.00181	mg/kg	1	7/19/23 10:52	
1,2-Dichloropropane	ND	U	0.000296	0.00181	mg/kg	1	7/19/23 10:52	
1,3-Dichlorobenzene	ND	U	0.000133	0.00181	mg/kg	1	7/19/23 10:52	
1,4-Dichlorobenzene	ND	U	0.000260	0.00181	mg/kg	1	7/19/23 10:52	
2-Butanone	ND	U	0.000294	0.00451	mg/kg	1	7/19/23 10:52	
2-Hexanone	ND	U	0.000169	0.00181	mg/kg	1	7/19/23 10:52	
4-Methyl-2-pentanone	ND	U	0.000226	0.00181	mg/kg	1	7/19/23 10:52	
Acetone	ND	U	0.000547	0.00451	mg/kg	1	7/19/23 10:52	
Benzene	ND	U	0.000164	0.00181	mg/kg	1	7/19/23 10:52	
Bromochloromethane	ND	U	0.000333	0.00181	mg/kg	1	7/19/23 10:52	
Bromodichloromethane	ND	U	0.000227	0.00181	mg/kg	1	7/19/23 10:52	
Bromoform	ND	U	0.000317	0.00181	mg/kg	1	7/19/23 10:52	
Bromomethane	ND	U	0.000521	0.00181	mg/kg	1	7/19/23 10:52	
Carbon disulfide	ND	U	0.000259	0.00181	mg/kg	1	7/19/23 10:52	
Carbon Tetrachloride	ND	U	0.000272	0.00181	mg/kg	1	7/19/23 10:52	
Chlorobenzene	ND	U	0.000262	0.00181	mg/kg	1	7/19/23 10:52	
Chlorodibromomethane	ND	U	0.000222	0.00181	mg/kg	1	7/19/23 10:52	
Chloroethane	ND	U	0.000308	0.00181	mg/kg	1	7/19/23 10:52	
Chloroform	ND	U	0.000303	0.00181	mg/kg	1	7/19/23 10:52	
Chloromethane	**0.0131**		**0.000695**	**0.00181**	**mg/kg**	**1**	**7/19/23 10:52**	
cis-1,2-Dichloroethene	ND	U	0.0000873	0.00181	mg/kg	1	7/19/23 10:52	
cis-1,3-Dichloropropene	ND	U	0.000228	0.00181	mg/kg	1	7/19/23 10:52	
Cyclohexane	ND	U	0.000400	0.00181	mg/kg	1	7/19/23 10:52	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.000609	0.00181	mg/kg	1	7/19/23 10:52	UJ, RC:SL
EthylBenzene	ND	U	0.000245	0.00181	mg/kg	1	7/19/23 10:52	
Isopropylbenzene	ND	U	0.000283	0.00181	mg/kg	1	7/19/23 10:52	
m+p-Xylenes	ND	U	0.000456	0.00361	mg/kg	1	7/19/23 10:52	
Methyl Acetate	ND	U	0.000239	0.00181	mg/kg	1	7/19/23 10:52	
Methyl tert-Butyl Ether	ND	U	0.000305	0.00181	mg/kg	1	7/19/23 10:52	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_202307 11** Collected: **7/11/2023 9:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	ND	U	0.000291	0.00181	mg/kg	1	7/19/23 10:52
Methylene Chloride	ND	U	0.000542	0.00181	mg/kg	1	7/19/23 10:52
o-Xylene	ND	U	0.000232	0.00181	mg/kg	1	7/19/23 10:52
Styrene	ND	U	0.000258	0.00181	mg/kg	1	7/19/23 10:52
tert-Butyl alcohol	ND	U	0.00379	0.0181	mg/kg	1	7/19/23 10:52
Tetrachloroethene	ND	U	0.000179	0.00181	mg/kg	1	7/19/23 10:52
Toluene	ND	U	0.000145	0.00181	mg/kg	1	7/19/23 10:52
Total Xylenes	ND	U	0.000232	0.00181	mg/kg	1	7/19/23 10:52
trans-1,2-Dichloroethene	ND	U	0.000245	0.00181	mg/kg	1	7/19/23 10:52
trans-1,3-Dichloropropene	ND	U	0.000345	0.00181	mg/kg	1	7/19/23 10:52
Trichloroethene	ND	U	0.000265	0.00181	mg/kg	1	7/19/23 10:52
Trichlorofluoromethane	ND	U	0.000208	0.00181	mg/kg	1	7/19/23 10:52
Vinyl chloride	ND	U	0.000343	0.00181	mg/kg	1	7/19/23 10:52

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2,4,6-Trimethyl-1-nonene	0.00676	18.26	J	mg/kg	1	7/19/23 10:52	
Lab Contamination	~~0.00853~~	5.27	J, B	mg/kg	1	7/19/23 10:52	R, RC:2
TIC Total	~~0.015~~ 0.00647						

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	~~ND~~	~~U~~	~~0.00149~~	~~0.0100~~	mg/L	10	8/24/23 21:26	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/24/23 21:26	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/24/23 21:26	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/24/23 21:26	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/24/23 21:26	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/24/23 21:26	
Chlorobenzene	~~ND~~	~~U~~	~~0.00300~~	~~0.0100~~	mg/L	10	8/24/23 21:26	
Chloroform	**0.00434**	J, D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/24/23 21:26**	J, RC:1,SH
Tetrachloroethene	~~ND~~	~~U~~	~~0.00466~~	~~0.0100~~	mg/L	10	8/24/23 21:26	R, RC:1
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/24/23 21:26	
Vinyl chloride	~~ND~~	~~U~~	~~0.00157~~	~~0.0100~~	mg/L	10	8/24/23 21:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G0474

Project: Owls Head Phase 2 **Date to Lab:** 7/11/2023 5:03:00PM

23G0474-04 (Soil) Sample Name: **MR-207_30-32_20230711** Collected: **7/11/2023 9:35:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.6**				**%**	**1**	**7/12/23 12:00**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/24/23 15:25

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00826	0.0693	mg/kg	1	7/12/23 14:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.11**				**pH Units**	**1**	**7/17/23 16:52**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/12/23 17:41

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	7/18/23 13:29

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00499	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1221	ND	U	0.00981	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1232	ND	U	0.0125	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1242	ND	U	0.00731	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1248	ND	U	0.00764	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1254	ND	U	0.00600	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1260	ND	U	0.00466	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1262	ND	U	0.0100	0.0372	mg/kg	1	7/17/23 19:49
Aroclor-1268	ND	U	0.00450	0.0372	mg/kg	1	7/17/23 19:49
Total PCBs	ND	U	0.00347	0.0372	mg/kg	1	7/17/23 19:49

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0110	0.113	mg/kg	1	7/25/23 16:31
2,4-D	ND	U	0.0187	0.113	mg/kg	1	7/25/23 16:31

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:59	R, RC:1
2,4-D	~~ND~~	~~U~~	~~0.00900~~	~~0.0200~~	mg/L	1	8/21/23 12:59	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00563	0.0225	mg/kg	1	7/24/23 15:43

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/11/23 13:11	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5190**		**0.171**	**2.87**	**mg/kg**	**1**	**7/25/23 11:22**
Antimony	ND	U	0.157	1.44	mg/kg	1	7/25/23 11:22
Arsenic	ND	U	0.103	1.44	mg/kg	1	7/25/23 11:22
Barium	**43.3**		**0.0435**	**0.575**	**mg/kg**	**1**	**7/25/23 11:22**
Beryllium	**0.386**		**0.00333**	**0.0287**	**mg/kg**	**1**	**7/25/23 11:22**
Cadmium	ND	U	0.0560	0.287	mg/kg	1	7/25/23 11:22
Calcium	**7550**		**3.23**	**28.7**	**mg/kg**	**1**	**7/25/23 11:22**
Chromium	**12.0**		**0.0325**	**0.287**	**mg/kg**	**1**	**7/25/23 11:22**
Cobalt	**4.60**		**0.0294**	**0.230**	**mg/kg**	**1**	**7/25/23 11:22**
Copper	**15.4**		**0.0804**	**0.287**	**mg/kg**	**1**	**7/25/23 11:22**
Iron	**10400**		**0.814**	**5.75**	**mg/kg**	**1**	**7/25/23 11:22**
Lead	**4.98**		**0.120**	**1.44**	**mg/kg**	**1**	**7/25/23 11:22**
Magnesium	**4810**		**10.2**	**57.5**	**mg/kg**	**1**	**7/25/23 11:22**
Manganese	**228**		**0.0358**	**0.287**	**mg/kg**	**1**	**7/25/23 11:22**
Nickel	**17.8**		**0.0253**	**0.144**	**mg/kg**	**1**	**7/25/23 11:22**
Potassium	**1370**		**34.2**	**115**	**mg/kg**	**1**	**7/25/23 11:22**
Selenium	ND	U	0.276	1.44	mg/kg	1	7/25/23 11:22
Silver	ND	U	0.0489	0.172	mg/kg	1	7/25/23 11:22
Sodium	**446**		**5.48**	**57.5**	**mg/kg**	**1**	**7/25/23 11:22**
Thallium	ND	U	0.0967	1.44	mg/kg	1	7/25/23 11:22

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	**17.0**		**0.0661**	**0.575**	**mg/kg**	**1**	**7/25/23 11:22**
Zinc	**20.8**		**0.0878**	**0.862**	**mg/kg**	**1**	**7/25/23 11:22**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 13:38	
Barium	**1.31**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 13:38**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 13:38	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 13:38	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 13:38	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 13:38	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 13:38	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000671	0.00147	mg/kg	1	7/18/23 19:27	
4,4'-DDE	ND	U	0.000801	0.00147	mg/kg	1	7/18/23 19:27	
4,4'-DDT	ND	U	0.00103	0.00147	mg/kg	1	7/18/23 19:27	
Aldrin	ND	U	0.000694	0.00147	mg/kg	1	7/18/23 19:27	
alpha-BHC	ND	U	0.000436	0.00147	mg/kg	1	7/18/23 19:27	
beta-BHC	ND	U	0.000700	0.00147	mg/kg	1	7/18/23 19:27	
Chlordane	ND	U	0.000651	0.00147	mg/kg	1	7/18/23 19:27	
delta-BHC	ND	U	0.000681	0.00147	mg/kg	1	7/18/23 19:27	
Dieldrin	ND	U	0.000766	0.00147	mg/kg	1	7/18/23 19:27	
Endosulfan I	ND	U	0.000692	0.00147	mg/kg	1	7/18/23 19:27	
Endosulfan II	ND	U	0.000666	0.00147	mg/kg	1	7/18/23 19:27	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000551	0.00147	mg/kg	1	7/18/23 19:27	
Endosulfans, Total (alpha and beta)	ND	U	0.000666	0.00147	mg/kg	1	7/18/23 19:27	
Endrin	ND	U	0.000506	0.00147	mg/kg	1	7/18/23 19:27	
Endrin aldehyde	ND	U	0.000584	0.00147	mg/kg	1	7/18/23 19:27	
Endrin ketone	ND	U	0.000516	0.00147	mg/kg	1	7/18/23 19:27	
gamma-BHC (Lindane)	ND	U	0.000464	0.00147	mg/kg	1	7/18/23 19:27	
Heptachlor	ND	U	0.000392	0.00147	mg/kg	1	7/18/23 19:27	
Heptachlor Epoxide	ND	U	0.000739	0.00147	mg/kg	1	7/18/23 19:27	
Methoxychlor	ND	U	0.000429	0.00147	mg/kg	1	7/18/23 19:27	
Toxaphene	ND	U	0.0706	0.0744	mg/kg	1	7/18/23 19:27	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	8/28/23 22:50	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	8/28/23 22:50	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	8/28/23 22:50	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	8/28/23 22:50	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	8/28/23 22:50	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	8/28/23 22:50	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	8/28/23 22:50	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	8/28/23 22:50	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	8/28/23 22:50	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	8/28/23 22:50	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	8/28/23 22:50	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	8/28/23 22:50	RC:6L
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	8/28/23 22:50	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	8/28/23 22:50	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00424	0.0375	mg/kg	1	7/19/23 13:57	R, RC:6L
2,3,4,6-Tetrachlorophenol	ND	U	0.0231	0.150	mg/kg	1	7/19/23 13:57	
2,4,5-Trichlorophenol	ND	U	0.0204	0.150	mg/kg	1	7/19/23 13:57	
2,4,6-Trichlorophenol	ND	U	0.00939	0.150	mg/kg	1	7/19/23 13:57	
2,4-Dichlorophenol	ND	U	0.0151	0.150	mg/kg	1	7/19/23 13:57	
2,4-Dimethylphenol	ND	U	0.0148	0.150	mg/kg	1	7/19/23 13:57	
2,4-Dinitrophenol	ND	U	0.0216	0.752	mg/kg	1	7/19/23 13:57	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0160	0.150	mg/kg	1	7/19/23 13:57	
2,6-Dinitrotoluene	ND	U	0.0358	0.150	mg/kg	1	7/19/23 13:57	
2-Chloronaphthalene	ND	U	0.0172	0.150	mg/kg	1	7/19/23 13:57	
2-Chlorophenol	ND	U	0.0198	0.150	mg/kg	1	7/19/23 13:57	
2-Methylnaphthalene	ND	U	0.0359	0.225	mg/kg	1	7/19/23 13:57	
2-Methylphenol	ND	U	0.0296	0.150	mg/kg	1	7/19/23 13:57	
2-Nitroaniline	ND	U	0.0121	0.150	mg/kg	1	7/19/23 13:57	
2-Nitrophenol	ND	U	0.0167	0.150	mg/kg	1	7/19/23 13:57	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3,3'-Dichlorobenzidine	ND	U	0.0158	0.150	mg/kg	1	7/19/23 13:57	
3+4-Methylphenol	ND	U	0.0275	0.150	mg/kg	1	7/19/23 13:57	
3-Nitroaniline	ND	U	0.0278	0.150	mg/kg	1	7/19/23 13:57	
4,6-Dinitro-2-methylphenol	ND	U	0.0283	0.375	mg/kg	1	7/19/23 13:57	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0214	0.150	mg/kg	1	7/19/23 13:57	
4-Chloro-3-methylphenol	ND	U	0.0237	0.150	mg/kg	1	7/19/23 13:57	
4-Chloroaniline	ND	U	0.00525	0.150	mg/kg	1	7/19/23 13:57	
4-Chlorophenyl phenyl ether	ND	U	0.00810	0.150	mg/kg	1	7/19/23 13:57	
4-Nitroaniline	ND	U	0.0751	0.150	mg/kg	1	7/19/23 13:57	UJ, RC:SL
4-Nitrophenol	ND	U	0.00960	0.150	mg/kg	1	7/19/23 13:57	UJ, RC:SL
Acenaphthene	ND	U	0.00855	0.150	mg/kg	1	7/19/23 13:57	
Acenaphthylene	ND	U	0.00522	0.150	mg/kg	1	7/19/23 13:57	
Acetophenone	ND	U	0.0149	0.150	mg/kg	1	7/19/23 13:57	
Anthracene	ND	U	0.0218	0.150	mg/kg	1	7/19/23 13:57	
Atrazine	ND	U	0.0141	0.150	mg/kg	1	7/19/23 13:57	
Benzaldehyde	ND	U	0.0461	0.150	mg/kg	1	7/19/23 13:57	UJ, RC:SL,Q
Benzo(a)anthracene	ND	U	0.0151	0.150	mg/kg	1	7/19/23 13:57	
Benzo(a)pyrene	ND	U	0.0261	0.150	mg/kg	1	7/19/23 13:57	
Benzo(b)fluoranthene	ND	U	0.0211	0.150	mg/kg	1	7/19/23 13:57	
Benzo(g,h,i)perylene	ND	U	0.0122	0.150	mg/kg	1	7/19/23 13:57	
Benzo(k)fluoranthene	ND	U	0.0172	0.150	mg/kg	1	7/19/23 13:57	
Biphenyl	ND	U	0.0132	0.150	mg/kg	1	7/19/23 13:57	
bis(2-chloroethoxy)methane	ND	U	0.0207	0.150	mg/kg	1	7/19/23 13:57	
bis(2-chloroethyl)ether	ND	U	0.0165	0.150	mg/kg	1	7/19/23 13:57	
bis(2-chloroisopropyl)ether	ND	U	0.0540	0.150	mg/kg	1	7/19/23 13:57	R, RC:6L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.0300	0.150	mg/kg	1	7/19/23 13:57	
Butylbenzylphthalate	ND	U	0.0136	0.150	mg/kg	1	7/19/23 13:57	
Caprolactam	ND	U	0.0194	0.150	mg/kg	1	7/19/23 13:57	
Carbazole	ND	U	0.0288	0.375	mg/kg	1	7/19/23 13:57	
Chrysene	ND	U	0.0103	0.150	mg/kg	1	7/19/23 13:57	
Dibenzo(a,h)anthracene	ND	U	0.0149	0.150	mg/kg	1	7/19/23 13:57	
Dibenzofuran	ND	U	0.00894	0.150	mg/kg	1	7/19/23 13:57	
Diethylphthalate	ND	U	0.0291	0.150	mg/kg	1	7/19/23 13:57	
Dimethylphthalate	ND	U	0.00931	0.150	mg/kg	1	7/19/23 13:57	
Di-n-butylphthalate	ND	U	0.0613	0.150	mg/kg	1	7/19/23 13:57	
Di-n-octylphthalate	ND	U	0.0308	0.150	mg/kg	1	7/19/23 13:57	
Fluoranthene	ND	U	0.0141	0.150	mg/kg	1	7/19/23 13:57	
Fluorene	ND	U	0.0125	0.150	mg/kg	1	7/19/23 13:57	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorobenzene	ND	U	0.0196	0.150	mg/kg	1	7/19/23 13:57	
Hexachlorobutadiene	ND	U	0.0720	0.150	mg/kg	1	7/19/23 13:57	
Hexachlorocyclopentadiene	ND	U	0.0625	0.375	mg/kg	1	7/19/23 13:57	UJ, RC:SL
Hexachloroethane	ND	U	0.0165	0.150	mg/kg	1	7/19/23 13:57	
Indeno(1,2,3-cd)pyrene	ND	U	0.0161	0.150	mg/kg	1	7/19/23 13:57	
Isophorone	ND	U	0.00983	0.150	mg/kg	1	7/19/23 13:57	
Naphthalene	ND	U	0.0111	0.150	mg/kg	1	7/19/23 13:57	
Nitrobenzene	ND	U	0.0255	0.150	mg/kg	1	7/19/23 13:57	
n-Nitroso-di-n-propylamine	ND	U	0.00804	0.150	mg/kg	1	7/19/23 13:57	
n-Nitrosodiphenylamine	ND	U	0.0320	0.150	mg/kg	1	7/19/23 13:57	
Pentachlorophenol	ND	U	0.0206	0.375	mg/kg	1	7/19/23 13:57	UJ, RC:SL
Phenanthrene	ND	U	0.0197	0.150	mg/kg	1	7/19/23 13:57	
Phenol	ND	U	0.0122	0.150	mg/kg	1	7/19/23 13:57	
Pyrene	ND	U	0.0110	0.150	mg/kg	1	7/19/23 13:57	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Eicosanoic acid	7.51	11.79	J	mg/kg	1	7/19/23 13:57	
Octadecanoic acid, butyl ester	~~4.18~~	12.57	J, B	mg/kg	1	7/19/23 13:57	R, RC:2
TIC Total	~~11.7~~ 7.51						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	~~ND~~	~~U~~	~~0.000438~~	~~0.0200~~	mg/L	1	8/17/23 19:45	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 19:45	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 19:45	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 19:45	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 19:45	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 19:45	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 19:45	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 19:45	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 19:45	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 19:45	
Pyridine	~~ND~~	~~U~~	~~0.000494~~	~~0.0200~~	mg/L	1	8/17/23 19:45	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G0474
Date to Lab: 7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000238	0.00163	mg/kg	1	7/19/23 11:24	
1,1,2,2-Tetrachloroethane	ND	U	0.000225	0.00163	mg/kg	1	7/19/23 11:24	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000699	0.00163	mg/kg	1	7/19/23 11:24	
1,1,2-Trichloroethane	ND	U	0.000275	0.00163	mg/kg	1	7/19/23 11:24	
1,1-Dichloroethane	ND	U	0.000238	0.00163	mg/kg	1	7/19/23 11:24	
1,1-Dichloroethene	ND	U	0.000302	0.00163	mg/kg	1	7/19/23 11:24	
1,2,3-Trichlorobenzene	ND	U	0.000353	0.00163	mg/kg	1	7/19/23 11:24	
1,2,4-Trichlorobenzene	ND	U	0.000435	0.00163	mg/kg	1	7/19/23 11:24	
1,2,4-Trimethylbenzene	ND	U	0.000225	0.00163	mg/kg	1	7/19/23 11:24	
1,2-Dibromo-3-chloropropane	ND	U	0.000399	0.00163	mg/kg	1	7/19/23 11:24	
1,2-Dibromoethane	ND	U	0.000206	0.00163	mg/kg	1	7/19/23 11:24	
1,2-Dichlorobenzene	ND	U	0.000288	0.00163	mg/kg	1	7/19/23 11:24	
1,2-Dichloroethane	ND	U	0.000230	0.00163	mg/kg	1	7/19/23 11:24	
1,2-Dichloropropane	ND	U	0.000268	0.00163	mg/kg	1	7/19/23 11:24	
1,3-Dichlorobenzene	ND	U	0.000120	0.00163	mg/kg	1	7/19/23 11:24	
1,4-Dichlorobenzene	ND	U	0.000235	0.00163	mg/kg	1	7/19/23 11:24	
2-Butanone	ND	U	0.000266	0.00408	mg/kg	1	7/19/23 11:24	
2-Hexanone	ND	U	0.000153	0.00163	mg/kg	1	7/19/23 11:24	
4-Methyl-2-pentanone	ND	U	0.000204	0.00163	mg/kg	1	7/19/23 11:24	
Acetone	ND	U	0.000495	0.00408	mg/kg	1	7/19/23 11:24	
Benzene	ND	U	0.000149	0.00163	mg/kg	1	7/19/23 11:24	
Bromochloromethane	ND	U	0.000301	0.00163	mg/kg	1	7/19/23 11:24	
Bromodichloromethane	ND	U	0.000205	0.00163	mg/kg	1	7/19/23 11:24	
Bromoform	ND	U	0.000287	0.00163	mg/kg	1	7/19/23 11:24	
Bromomethane	ND	U	0.000471	0.00163	mg/kg	1	7/19/23 11:24	
Carbon disulfide	ND	U	0.000234	0.00163	mg/kg	1	7/19/23 11:24	
Carbon Tetrachloride	ND	U	0.000246	0.00163	mg/kg	1	7/19/23 11:24	
Chlorobenzene	ND	U	0.000237	0.00163	mg/kg	1	7/19/23 11:24	
Chlorodibromomethane	ND	U	0.000201	0.00163	mg/kg	1	7/19/23 11:24	
Chloroethane	ND	U	0.000278	0.00163	mg/kg	1	7/19/23 11:24	
Chloroform	ND	U	0.000274	0.00163	mg/kg	1	7/19/23 11:24	
Chloromethane	ND	U	0.000629	0.00163	mg/kg	1	7/19/23 11:24	
cis-1,2-Dichloroethene	ND	U	0.0000790	0.00163	mg/kg	1	7/19/23 11:24	
cis-1,3-Dichloropropene	ND	U	0.000207	0.00163	mg/kg	1	7/19/23 11:24	
Cyclohexane	ND	U	0.000362	0.00163	mg/kg	1	7/19/23 11:24	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.000551	0.00163	mg/kg	1	7/19/23 11:24	UJ, RC:SL
EthylBenzene	ND	U	0.000221	0.00163	mg/kg	1	7/19/23 11:24	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000256	0.00163	mg/kg	1	7/19/23 11:24
m+p-Xylenes	ND	U	0.000412	0.00327	mg/kg	1	7/19/23 11:24
Methyl Acetate	ND	U	0.000216	0.00163	mg/kg	1	7/19/23 11:24
Methyl tert-Butyl Ether	ND	U	0.000276	0.00163	mg/kg	1	7/19/23 11:24
Methylcyclohexane	ND	U	0.000263	0.00163	mg/kg	1	7/19/23 11:24
Methylene Chloride	ND	U	0.000491	0.00163	mg/kg	1	7/19/23 11:24
o-Xylene	ND	U	0.000210	0.00163	mg/kg	1	7/19/23 11:24
Styrene	ND	U	0.000234	0.00163	mg/kg	1	7/19/23 11:24
tert-Butyl alcohol	ND	U	0.00343	0.0163	mg/kg	1	7/19/23 11:24
Tetrachloroethene	ND	U	0.000162	0.00163	mg/kg	1	7/19/23 11:24
Toluene	ND	U	0.000131	0.00163	mg/kg	1	7/19/23 11:24
Total Xylenes	ND	U	0.000210	0.00163	mg/kg	1	7/19/23 11:24
trans-1,2-Dichloroethene	ND	U	0.000221	0.00163	mg/kg	1	7/19/23 11:24
trans-1,3-Dichloropropene	ND	U	0.000312	0.00163	mg/kg	1	7/19/23 11:24
Trichloroethene	ND	U	0.000240	0.00163	mg/kg	1	7/19/23 11:24
Trichlorofluoromethane	ND	U	0.000188	0.00163	mg/kg	1	7/19/23 11:24
Vinyl chloride	ND	U	0.000310	0.00163	mg/kg	1	7/19/23 11:24

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Lab Contamination	~~0.0173~~	5.29	J, B	mg/kg	1	7/19/23 11:24	R, RC:2
TIC Total	~~0.017~~						

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	~~ND~~	~~U~~	~~0.00149~~	~~0.0100~~	mg/L	10	8/24/23 18:51	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/24/23 18:51	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/24/23 18:51	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/24/23 18:51	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/24/23 18:51	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/24/23 18:51	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/24/23 18:51	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/24/23 18:51	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/24/23 18:51	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/24/23 18:51	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/24/23 18:51	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0474
Project:	Owls Head Phase 2	**Date to Lab:**	7/11/2023 5:03:00PM

23G0474-05 (Soil) Sample Name: **MR-102_80.0-82.0_20230711** Collected: **7/11/2023 12:42:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.7**				**%**	**1**	**7/12/23 12:00**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/24/23 15:25

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00716	0.0601	mg/kg	1	7/12/23 14:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.18**				**pH Units**	**1**	**7/17/23 16:52**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/12/23 17:41

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	7/18/23 13:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23G0678
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 13, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-204-6.0-8.0-20230711	23G0678-01	7/11/2024	Soil
MR-204-30.0-32.0-20230712	23G0678-02	7/12/2024	Soil
MR-205-6.0-7.0-20230713	23G0678-03	7/13/2024	Soil
MR-205-8.0-10.0-20230713	23G0678-04	7/13/2024	Soil
MR-205-15.0-17.0-20230713	23G0678-05	7/13/2024	Soil

Data validation was performed on the analytical data for five (5) samples collected July 11 - 13, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Due to major holding time deviations associated with TCLP leachate extractions, TCLP results for VOCs, SVOCs, Pesticides, and Herbicides were qualified as follows: all non-detect results were qualified as rejected, and detections were qualified as estimated. SVOCs 1,4-Dioxane and Bis(2-chloroisopropyl)ether were qualified as rejected due to major deviations associated with laboratory control samples. Additionally, multiple SVOCs associated with sample MR-204-6.0-8.0-20230711 were qualified as rejected due to major deviations associated with matrix spike samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibrations, holding times, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP VOCs by 1311/8260D	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713	Acetone Chloroethane Chloromethane	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
	MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Cyclohexane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples extracted/analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For extractions/analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP SVOCs by 1311/8270E	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester and Octadecanoic acid, butyl ester. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	1,4-Dioxane bis(2-chloroisopropyl)ether	10% > %R < CL	J (detects) R (non-detects)	6L
8270E-TCLP	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Hexachlorobenzene	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-204-6.0-8.0-20230711	1,4-Dioxane 2,3,4,6-Tetrachlorophenol 2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene Pentachlorophenol	10% > %R < CL	J (detects) R (non-detects)	4L
		2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2-Methylphenol 3+4-Methylphenol Dimethylphthalate Phenol	10% < %R < CL	J (detects) UJ (non-detects)	4L
		Caprolactam	> CL	J (detects) No Action (non-detects)	4H

- Additionally, RPDs were outside control limit for 2,3,4,6-Tetrachlorophenol, 2,4,6-Trichlorophenol, 2-Methylphenol, 3+4-Methylphenol, 4-Chloroaniline, Caprolactam and Isophorone. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	1,4-Dioxane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol 4-Nitroaniline 4-Nitrophenol Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Hexachlorobenzene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples extracted/analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For extractions/analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP Herbicides by 1311/8151A,	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1
TCLP Pesticides by 1311/8081B		14 Days	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	MR-204-6.0-8.0-20230711	DCB	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	2,4-D	> CL	J (detects) No Action (non-detects)	6H
8181B	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Endrin aldehyde Methoxychlor	> CL	J (detects) No Action (non-detects)	6H
8181B-TCLP	MR-204-6.0-8.0-20230711	Aldrin Delta-BHC Endosulfan I Endosulfan sulfate Endrin Heptachlor Heptachlor epoxide	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Aldrin Endosulfan sulfate Endrin	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce

quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met except for 2,4-D was outside the control limits for 8151A samples. Results are qualified as estimated, J, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	2,4-D 2,4,5-TP (Silvex)	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8081B	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Endosulfan sulfate Methoxychlor	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	180 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
TCLP Mercury by 1311/7473	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	14 Days	HT < 1.5X HT Criteria	J (Detects) UJ (NDs)	1

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Arsenic Barium Cadmium Chromium Lead Selenium Silver	> CL	J (detects) No Action (non-detects)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis was performed on sample MR-204-6.0-8.0-20230711 for Cyanide exhibited acceptable recoveries and RPDs.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-204-6.0-8.0-20230711 MR-204-30.0-32.0-20230712 MR-205-6.0-7.0-20230713 MR-205-8.0-10.0-20230713 MR-205-15.0-17.0-20230713	Silver	CCV %D > 10% (increase in response)	No Action (NDs) J (Detects)	SH

Reporting Limits and Analyte Quantitation

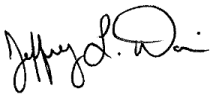
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 13, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23G0678

Yu & Associates

Project: Red Hook-Gowanus

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jul 16, 2024

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23G0678

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-204-6.0-8.0-20230711	23G0678-01	Soil	07/11/2023 13:25	07/13/2023 16:05
MR-204-30.0-32.0-20230712	23G0678-02	Soil	07/12/2023 11:05	07/13/2023 16:05
MR-205-6.0-7.0-20230713	23G0678-03	Soil	07/13/2023 09:45	07/13/2023 16:05
MR-205-8.0-10.0-20230713	23G0678-04	Soil	07/13/2023 09:50	07/13/2023 16:05
MR-205-15.0-17.0-20230713	23G0678-05	Soil	07/13/2023 10:20	07/13/2023 16:05

PN: 23G0678

APL 23G0678

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS: " "
Elmwood Park NJ	
PHONE: 201-767-9671	PHONE: " "
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus ADI Investigation	SEND INVOICE TO: " "
PROJECT MGR: Sixnan Wang	ADDRESS: " "
PROJECT or PO #: 1568541	SAMPLED BY: HAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

[x] NY category B

CONTAMINATION LEVEL

[ ] HIGH [x] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23G0678 -01	MR-204_6.0-8.0_20230711	7/11/23	1325	X		S	4		VOC, SVOC, PCB, Pesticides, Herbicides, TAL metals, TCN, RCRA characteristics
-02	MR-204_30A3d.0_20230712	7/12/23	1105	X		S	4		" "
-03	MR-205_6.0-7.0_20230713	7/13/23	945	X		S	4		" "
-04	MR-205-8.0-10.0_20230713	7/13/23	950	X		S	4		" "
-05	MR-205-15.0-17.0_20230713	7/13/23	1020	X		S	4		" "

RELINQUISHED BY (Print) Harrison Smithgall	DATE 7/13/23	RECEIVED BY (Print) MPIN AIPHA	
Signature	Time 1315	Signature	7/13/23 13:15
RELINQUISHED BY (Print) MPIN AIPHA	DATE 7/13/23	RECEIVED BY (Print) Abby Hegert	
Signature	Time 16:05	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
COMMENTS/SPECIAL INSTRUCTIONS		Cooler Temp. upon receipt at lab 2.0	

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Pace Analytical Services, LLC-Fairfield
Data Reporting Abbreviations and Qualifiers

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:

"Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifers:

B	Compound was also detected in the blank
D	The concentration is from a dilution
E	Concentration exceeds calibration range
H	Analyzed outside of holding time
IG_>60	> 60
J	Estimated
U	Compound not detected

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 1010B+ASTM D8175-18 / 9045D / 9010C+9014 / 9030B]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high). The blank spike met all QC criteria.

Methods 7473 / 1010B+ASTM D8175-18 / 9045D / 9010C+9014 / 9030B:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

All samples met the QC criteria.

ANALYSIS: PCBs [8082A]

All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan sulfate was outside of the QC limits for the matrix spike (low).
The blank spike met all QC criteria.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAG0302-CCV1) was outside of the QC limits for Cyclohexane and Dichlorodifluoromethane (low).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

*Note:
The TCLP BNA, TCLP Herbicides, TCLP Pesticides and TCLP VO analysis for samples 23G0678-01 through 23G0678-05 were logged in after the 14 day leaching holding time expired.

The TCLP Mercury analysis for samples 23G0678-01 through 23G0678-05 were logged in after the 28 day leaching holding time expired.

Reviewed By: _____ (SK) 7/16/2024
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9540		0.161	2.71	mg/kg dry	1	7/25/23 12:38
Arsenic	2.85		0.0966	1.35	mg/kg dry	1	7/25/23 12:38
Barium	51.1		0.0410	0.542	mg/kg dry	1	7/25/23 12:38
Beryllium	0.596		0.00314	0.0271	mg/kg dry	1	7/25/23 12:38
Calcium	4430		3.05	27.1	mg/kg dry	1	7/25/23 12:38
Chromium	16.3		0.0306	0.271	mg/kg dry	1	7/25/23 12:38
Cobalt	5.04		0.0277	0.217	mg/kg dry	1	7/25/23 12:38
Copper	14.5		0.0758	0.271	mg/kg dry	1	7/25/23 12:38
Iron	15400		0.767	5.42	mg/kg dry	1	7/25/23 12:38
Lead	16.6		0.113	1.35	mg/kg dry	1	7/25/23 12:38
Magnesium	3560		9.57	54.2	mg/kg dry	1	7/25/23 12:38
Manganese	177		0.0337	0.271	mg/kg dry	1	7/25/23 12:38
Nickel	16.4		0.0238	0.135	mg/kg dry	1	7/25/23 12:38
Potassium	1630		32.2	108	mg/kg dry	1	7/25/23 12:38
Sodium	350		5.16	54.2	mg/kg dry	1	7/25/23 12:38
Vanadium	24.5		0.0623	0.542	mg/kg dry	1	7/25/23 12:38
Zinc	48.2		0.0827	0.813	mg/kg dry	1	7/25/23 12:38

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.04		0.00279	0.100	mg/L	1	8/17/23 14:24

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.215	J	0.0361	0.226	mg/kg dry	1	7/19/23 14:58
Acenaphthene	0.506		0.00859	0.151	mg/kg dry	1	7/19/23 14:58
Anthracene	0.411		0.0219	0.151	mg/kg dry	1	7/19/23 14:58
Benzo(a)anthracene	0.126	J	0.0152	0.151	mg/kg dry	1	7/19/23 14:58
Benzo(a)pyrene	0.108	J	0.0263	0.151	mg/kg dry	1	7/19/23 14:58
Benzo(b)fluoranthene	0.0886	J	0.0212	0.151	mg/kg dry	1	7/19/23 14:58
Benzo(g,h,i)perylene	0.0739	J	0.0122	0.151	mg/kg dry	1	7/19/23 14:58
Benzo(k)fluoranthene	0.0816	J	0.0173	0.151	mg/kg dry	1	7/19/23 14:58
Chrysene	0.193		0.0103	0.151	mg/kg dry	1	7/19/23 14:58
Dibenzofuran	0.228		0.00898	0.151	mg/kg dry	1	7/19/23 14:58
Fluoranthene	0.247		0.0142	0.151	mg/kg dry	1	7/19/23 14:58
Fluorene	0.353		0.0126	0.151	mg/kg dry	1	7/19/23 14:58
Indeno(1,2,3-cd)pyrene	0.0543	J	0.0162	0.151	mg/kg dry	1	7/19/23 14:58
Phenanthrene	0.860		0.0198	0.151	mg/kg dry	1	7/19/23 14:58
Pyrene	0.384		0.0111	0.151	mg/kg dry	1	7/19/23 14:58

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Dodecane, 2,6,11-trimethyl-	3.87	J			mg/kg dry	1	7/19/23 14:58
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	12.0	J, B			mg/kg dry	1	7/19/23 14:58
TIC_Naphthalene, 1,3-dimethyl-	9.83	J			mg/kg dry	1	7/19/23 14:58
TIC_Naphthalene, 1,4,5-trimethyl-	2.91	J			mg/kg dry	1	7/19/23 14:58
TIC_Naphthalene, 2,3,6-trimethyl-	1.61	J			mg/kg dry	1	7/19/23 14:58
TIC_Naphthalene, 2,6-dimethyl-	2.28	J			mg/kg dry	1	7/19/23 14:58
TIC_Naphthalene, 2,7-dimethyl-	3.12	J			mg/kg dry	1	7/19/23 14:58
TIC_Octadecanoic acid, butyl ester	8.49	B, J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (01)	1.71	J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (02)	3.24	J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (03)	2.17	J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (04)	2.01	J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (05)	2.54	J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (06)	1.71	J			mg/kg dry	1	7/19/23 14:58
TIC_unknown (07)	2.15	J			mg/kg dry	1	7/19/23 14:58

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.172		0.000289	0.00210	mg/kg dry	1	7/17/23 22:03
Carbon disulfide	0.00947		0.000301	0.00210	mg/kg dry	1	7/17/23 22:03
Cyclohexane	0.0304		0.000464	0.00210	mg/kg dry	1	7/17/23 22:03
EthylBenzene	0.0267		0.000284	0.00210	mg/kg dry	1	7/17/23 22:03
Isopropylbenzene	0.0601		0.000329	0.00210	mg/kg dry	1	7/17/23 22:03
m+p-Xylenes	0.0335		0.000529	0.00419	mg/kg dry	1	7/17/23 22:03
Methylcyclohexane	0.229		0.000338	0.00210	mg/kg dry	1	7/17/23 22:03
o-Xylene	0.0182		0.000269	0.00210	mg/kg dry	1	7/17/23 22:03
Toluene	0.00229		0.000169	0.00210	mg/kg dry	1	7/17/23 22:03
Total Xylenes	0.0516		0.000269	0.00210	mg/kg dry	1	7/17/23 22:03
TIC_1-Eicosanol	0.411	J			mg/kg dry	1	7/17/23 22:03
TIC_Benzene, 1,3,5-trimethyl-	0.429	J			mg/kg dry	1	7/17/23 22:03
TIC_Benzene, 1-ethyl-2-methyl-	0.182	J			mg/kg dry	1	7/17/23 22:03
TIC_Benzene, 2-ethenyl-1,3-dimethyl-	0.160	J			mg/kg dry	1	7/17/23 22:03
TIC_Benzene, cyclopropyl-	0.170	J			mg/kg dry	1	7/17/23 22:03

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexane, 1,3,5-trimethyl-, (1.alpha.	0.173	J			mg/kg dry	1	7/17/23 22:03
TIC_Cyclohexane, butyl-	0.225	J			mg/kg dry	1	7/17/23 22:03
TIC_Cyclohexane, propyl-	0.267	J			mg/kg dry	1	7/17/23 22:03
TIC_Cyclopentane, 1-methyl-2-(2-propenyl)-,	0.277	J			mg/kg dry	1	7/17/23 22:03
TIC_Decane, 3-methyl-	0.177	J			mg/kg dry	1	7/17/23 22:03
TIC_Decane, 4-methyl-	0.311	J			mg/kg dry	1	7/17/23 22:03
TIC_Hexane, 1-(hexyloxy)-5-methyl-	0.182	J			mg/kg dry	1	7/17/23 22:03
TIC_Octane, 2-methyl-	0.361	J			mg/kg dry	1	7/17/23 22:03
TIC_Octane, 3,6-dimethyl-	0.283	J			mg/kg dry	1	7/17/23 22:03
TIC_Octane, 3-methyl-	0.237	J			mg/kg dry	1	7/17/23 22:03

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.60				pH Units	1	7/17/23 17:28

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Sulfide	93.1	D	2.83	2.83	mg/kg dry	25	7/18/23 13:29

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6820		0.172	2.89	mg/kg dry	1	7/25/23 12:40
Arsenic	1.62		0.103	1.45	mg/kg dry	1	7/25/23 12:40
Barium	37.0		0.0437	0.579	mg/kg dry	1	7/25/23 12:40
Beryllium	0.538		0.00335	0.0289	mg/kg dry	1	7/25/23 12:40
Calcium	2030		3.25	28.9	mg/kg dry	1	7/25/23 12:40
Chromium	21.6		0.0327	0.289	mg/kg dry	1	7/25/23 12:40
Cobalt	8.10		0.0296	0.231	mg/kg dry	1	7/25/23 12:40
Copper	14.0		0.0809	0.289	mg/kg dry	1	7/25/23 12:40
Iron	14900		0.820	5.79	mg/kg dry	1	7/25/23 12:40
Lead	6.11		0.121	1.45	mg/kg dry	1	7/25/23 12:40
Magnesium	9020		10.2	57.9	mg/kg dry	1	7/25/23 12:40
Manganese	147		0.0360	0.289	mg/kg dry	1	7/25/23 12:40
Nickel	69.4		0.0254	0.145	mg/kg dry	1	7/25/23 12:40
Potassium	1510		34.4	116	mg/kg dry	1	7/25/23 12:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Sodium	553		5.52	57.9	mg/kg dry	1	7/25/23 12:40
Vanadium	23.3		0.0665	0.579	mg/kg dry	1	7/25/23 12:40
Zinc	40.2		0.0884	0.868	mg/kg dry	1	7/25/23 12:40

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	2.21		0.00279	0.100	mg/L	1	8/17/23 14:26

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dieldrin [2C]	0.0000100	J, H	2.71E-7	0.0000200	mg/L	1	9/5/23 17:54

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	7.10	J			mg/kg dry	1	7/19/23 15:29
TIC_Octadecanoic acid, butyl ester	3.83	B, J			mg/kg dry	1	7/19/23 15:29
TIC_Undecane, 4,7-dimethyl-	0.566	J			mg/kg dry	1	7/19/23 15:29

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	0.00398		0.000271	0.00168	mg/kg dry	1	7/17/23 22:35
Trichloroethene	0.00131	J	0.000247	0.00168	mg/kg dry	1	7/17/23 22:35
Trichlorofluoromethane	0.00193		0.000194	0.00168	mg/kg dry	1	7/17/23 22:35
TIC_Cyclohexane, propyl- (01)	0.102	J			mg/kg dry	1	7/17/23 22:35
TIC_Cyclohexane, propyl- (02)	0.0504	J			mg/kg dry	1	7/17/23 22:35
TIC_Decane	0.228	J			mg/kg dry	1	7/17/23 22:35
TIC_Dodecane	0.112	J			mg/kg dry	1	7/17/23 22:35
TIC_Hexane, 2,2,3,3-tetramethyl-	0.0536	J			mg/kg dry	1	7/17/23 22:35
TIC_Nonane	0.276	J			mg/kg dry	1	7/17/23 22:35
TIC_Nonane, 3-methyl- (01)	0.0466	J			mg/kg dry	1	7/17/23 22:35
TIC_Nonane, 3-methyl- (02)	0.0573	J			mg/kg dry	1	7/17/23 22:35
TIC_Octane, 2,5-dimethyl- (01)	0.135	J			mg/kg dry	1	7/17/23 22:35
TIC_Octane, 2,5-dimethyl- (02)	0.256	J			mg/kg dry	1	7/17/23 22:35
TIC_Octane, 2-methyl-	0.113	J			mg/kg dry	1	7/17/23 22:35
TIC_Octane, 3,6-dimethyl-	0.0792	J			mg/kg dry	1	7/17/23 22:35
TIC_Octane, 3-methyl-	0.0603	J			mg/kg dry	1	7/17/23 22:35
TIC_Tridecane	0.0883	J			mg/kg dry	1	7/17/23 22:35
TIC_Undecane	0.0808	J			mg/kg dry	1	7/17/23 22:35

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.37				pH Units	1	7/17/23 17:28

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	10100		0.173	2.91	mg/kg dry	1	7/25/23 12:43
Arsenic	2.62		0.104	1.45	mg/kg dry	1	7/25/23 12:43
Barium	43.2		0.0440	0.582	mg/kg dry	1	7/25/23 12:43
Beryllium	0.653		0.00337	0.0291	mg/kg dry	1	7/25/23 12:43
Calcium	1590		3.27	29.1	mg/kg dry	1	7/25/23 12:43
Chromium	18.2		0.0328	0.291	mg/kg dry	1	7/25/23 12:43
Cobalt	6.49		0.0297	0.233	mg/kg dry	1	7/25/23 12:43
Copper	16.5		0.0814	0.291	mg/kg dry	1	7/25/23 12:43
Iron	15300		0.824	5.82	mg/kg dry	1	7/25/23 12:43
Lead	14.1		0.121	1.45	mg/kg dry	1	7/25/23 12:43
Magnesium	4030		10.3	58.2	mg/kg dry	1	7/25/23 12:43
Manganese	225		0.0362	0.291	mg/kg dry	1	7/25/23 12:43
Nickel	27.8		0.0256	0.145	mg/kg dry	1	7/25/23 12:43
Potassium	1550		34.6	116	mg/kg dry	1	7/25/23 12:43
Sodium	326		5.55	58.2	mg/kg dry	1	7/25/23 12:43
Vanadium	26.8		0.0669	0.582	mg/kg dry	1	7/25/23 12:43
Zinc	39.9		0.0889	0.873	mg/kg dry	1	7/25/23 12:43

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.907		0.00279	0.100	mg/L	1	8/17/23 14:28

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endrin aldehyde	0.000810	J	0.000600	0.00151	mg/kg dry	1	7/18/23 17:55

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	20.4	J			mg/kg dry	1	7/19/23 16:00
TIC_Octadecanoic acid, butyl ester	10.0	B, J			mg/kg dry	1	7/19/23 16:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.00296		0.000185	0.00203	mg/kg dry	1	7/17/23 23:07
TIC_1-Decanol, 2-ethyl-	0.0813	J			mg/kg dry	1	7/17/23 23:07
TIC_Cycloheptane, methyl-	0.0675	J			mg/kg dry	1	7/17/23 23:07
TIC_Decane	0.234	J			mg/kg dry	1	7/17/23 23:07
TIC_Decane, 2,6,7-trimethyl-	0.138	J			mg/kg dry	1	7/17/23 23:07
TIC_Dodecane	0.257	J			mg/kg dry	1	7/17/23 23:07
TIC_Dodecane, 2,5-dimethyl-	0.0835	J			mg/kg dry	1	7/17/23 23:07
TIC_Hexadecane, 7,9-dimethyl-	0.0636	J			mg/kg dry	1	7/17/23 23:07
TIC_Octane, 1,1-oxybis-	0.0539	J			mg/kg dry	1	7/17/23 23:07
TIC_Tridecane	0.365	J			mg/kg dry	1	7/17/23 23:07
TIC_Tridecane, 4-methyl-	0.0606	J			mg/kg dry	1	7/17/23 23:07
TIC_Undecane	0.170	J			mg/kg dry	1	7/17/23 23:07
TIC_Undecane, 2,10-dimethyl-	0.111	J			mg/kg dry	1	7/17/23 23:07
TIC_Undecane, 2,4-dimethyl-	0.118	J			mg/kg dry	1	7/17/23 23:07
TIC_Undecane, 2,6-dimethyl-	0.0896	J			mg/kg dry	1	7/17/23 23:07
TIC_Undecane, 4,5-dimethyl-	0.0549	J			mg/kg dry	1	7/17/23 23:07

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.90				pH Units	1	7/17/23 17:28

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-20230713**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0285		0.00613	0.0245	mg/kg dry	1	7/26/23 16:05

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2630		0.173	2.92	mg/kg dry	1	7/25/23 12:45
Barium	12.0		0.0441	0.584	mg/kg dry	1	7/25/23 12:45
Beryllium	0.172		0.00338	0.0292	mg/kg dry	1	7/25/23 12:45
Calcium	2360		3.28	29.2	mg/kg dry	1	7/25/23 12:45
Chromium	4.78		0.0329	0.292	mg/kg dry	1	7/25/23 12:45
Cobalt	1.62		0.0298	0.233	mg/kg dry	1	7/25/23 12:45
Copper	4.20		0.0816	0.292	mg/kg dry	1	7/25/23 12:45
Iron	4030		0.827	5.84	mg/kg dry	1	7/25/23 12:45
Lead	4.30		0.122	1.46	mg/kg dry	1	7/25/23 12:45
Magnesium	2080		10.3	58.4	mg/kg dry	1	7/25/23 12:45

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-20230713**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Manganese	68.1		0.0363	0.292	mg/kg dry	1	7/25/23 12:45
Nickel	6.42		0.0256	0.146	mg/kg dry	1	7/25/23 12:45
Potassium	472		34.7	117	mg/kg dry	1	7/25/23 12:45
Sodium	542		5.56	58.4	mg/kg dry	1	7/25/23 12:45
Vanadium	7.29		0.0671	0.584	mg/kg dry	1	7/25/23 12:45
Zinc	10.5		0.0891	0.875	mg/kg dry	1	7/25/23 12:45

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.24		0.00279	0.100	mg/L	1	8/17/23 14:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	0.0436	J	0.0164	0.163	mg/kg dry	1	7/19/23 16:30
Benzo(a)pyrene	0.0336	J	0.0284	0.163	mg/kg dry	1	7/19/23 16:30
Chrysene	0.0334	J	0.0112	0.163	mg/kg dry	1	7/19/23 16:30
Fluoranthene	0.0705	J	0.0153	0.163	mg/kg dry	1	7/19/23 16:30
Phenanthrene	0.0619	J	0.0214	0.163	mg/kg dry	1	7/19/23 16:30
Pyrene	0.0516	J	0.0120	0.163	mg/kg dry	1	7/19/23 16:30
TIC_Dodecane	0.702	J			mg/kg dry	1	7/19/23 16:30
TIC_Hexadecanoic acid, butyl ester	11.1	J			mg/kg dry	1	7/19/23 16:30
TIC_Octadecanoic acid, butyl ester	5.60	J, B			mg/kg dry	1	7/19/23 16:30
TIC_unknown (01)	1.58	J			mg/kg dry	1	7/19/23 16:30
TIC_unknown (02)	0.362	J			mg/kg dry	1	7/19/23 16:30

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_(R)-(-)-(Z)-14-Methyl-8-hexadecen-1-ol	0.0121	J			mg/kg dry	1	7/19/23 9:17
TIC_5-Octadecene, (E)-	0.0394	J			mg/kg dry	1	7/19/23 9:17
TIC_Cyclohexane, 1,1-(1,4-butanediyl)bis-	0.0136	J			mg/kg dry	1	7/19/23 9:17
TIC_Cyclohexane, 1,2,4-trimethyl-	0.0121	J			mg/kg dry	1	7/19/23 9:17
TIC_Cyclohexane, propyl-	0.0378	J			mg/kg dry	1	7/19/23 9:17
TIC_Decane	0.0539	J			mg/kg dry	1	7/19/23 9:17
TIC_Decane, 5-methyl-	0.0155	J			mg/kg dry	1	7/19/23 9:17
TIC_Heptane, 5-ethyl-2-methyl-	0.0130	J			mg/kg dry	1	7/19/23 9:17

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-20230713**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Naphthalene, decahydro-, trans-	0.0103	J			mg/kg dry	1	7/19/23 9:17
TIC_Nonane	0.0628	J			mg/kg dry	1	7/19/23 9:17
TIC_Nonane, 4-methyl-	0.0275	J			mg/kg dry	1	7/19/23 9:17
TIC_Octane, 1,1-oxybis-	0.0225	J			mg/kg dry	1	7/19/23 9:17
TIC_Octane, 2,6-dimethyl-	0.0178	J			mg/kg dry	1	7/19/23 9:17
TIC_Octane, 2-methyl-	0.0256	J			mg/kg dry	1	7/19/23 9:17
TIC_Octane, 3-methyl-	0.0122	J			mg/kg dry	1	7/19/23 9:17

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.17				pH Units	1	7/17/23 17:28

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.183		0.0221	0.0886	mg/kg dry	1	7/26/23 16:15

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5050		0.674	11.4	mg/kg dry	1	7/25/23 12:47
Barium	596		0.172	2.27	mg/kg dry	1	7/25/23 12:47
Beryllium	0.243		0.0131	0.114	mg/kg dry	1	7/25/23 12:47
Cadmium	1.61		0.221	1.14	mg/kg dry	1	7/25/23 12:47
Calcium	37300		12.8	114	mg/kg dry	1	7/25/23 12:47
Chromium	33.9		0.128	1.14	mg/kg dry	1	7/25/23 12:47
Cobalt	4.35		0.116	0.908	mg/kg dry	1	7/25/23 12:47
Copper	913		0.318	1.14	mg/kg dry	1	7/25/23 12:47
Iron	22000		3.22	22.7	mg/kg dry	1	7/25/23 12:47
Lead	64.1		0.474	5.68	mg/kg dry	1	7/25/23 12:47
Magnesium	5080		40.1	227	mg/kg dry	1	7/25/23 12:47
Manganese	1710		0.141	1.14	mg/kg dry	1	7/25/23 12:47
Nickel	23.5		0.0997	0.568	mg/kg dry	1	7/25/23 12:47
Potassium	1940		135	454	mg/kg dry	1	7/25/23 12:47
Selenium	7.25		1.09	5.68	mg/kg dry	1	7/25/23 12:47
Silver	5.30		0.193	0.681	mg/kg dry	1	7/25/23 12:47
Sodium	2200		21.6	227	mg/kg dry	1	7/25/23 12:47
Vanadium	17.6		0.261	2.27	mg/kg dry	1	7/25/23 12:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Zinc	2370	D	3.47	34.1	mg/kg dry	10	7/25/23 14:07

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.864		0.00279	0.100	mg/L	1	8/17/23 14:33

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenanthrene	0.160	J	0.0775	0.589	mg/kg dry	1	7/19/23 17:01
TIC_17-Octadecenal	7.12	J			mg/kg dry	1	7/19/23 17:01
TIC_2-Nonadecanone	1.30	J			mg/kg dry	1	7/19/23 17:01
TIC_Cyclohexane, 1,2,3,5-tetraisopropyl-	1.19	J			mg/kg dry	1	7/19/23 17:01
TIC_Hexadecanal	2.97	J			mg/kg dry	1	7/19/23 17:01
TIC_Hexadecanoic acid, butyl ester	63.4	J			mg/kg dry	1	7/19/23 17:01
TIC_Octadecanoic acid, butyl ester	17.6	J, B			mg/kg dry	1	7/19/23 17:01
TIC_unknown (01)	1.99	J			mg/kg dry	1	7/19/23 17:01
TIC_unknown (02)	2.11	J			mg/kg dry	1	7/19/23 17:01
TIC_unknown (03)	4.27	J			mg/kg dry	1	7/19/23 17:01
TIC_unknown (04)	6.22	J			mg/kg dry	1	7/19/23 17:01

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetone	0.676		0.00344	0.0284	mg/kg dry	1	7/19/23 9:49
Bromomethane	0.120		0.00328	0.0114	mg/kg dry	1	7/19/23 9:49
Chloromethane	0.966		0.00437	0.0114	mg/kg dry	1	7/19/23 9:49
TIC_Octane	0.0622	J			mg/kg dry	1	7/19/23 9:49

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.51				pH Units	1	7/17/23 17:28

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Reactive Sulfide	4.29		0.443	0.443	mg/kg dry	1	7/19/23 17:36

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00501	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1221	ND	U	0.00985	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1232	ND	U	0.0125	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1242	ND	U	0.00734	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1248	ND	U	0.00768	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1254	ND	U	0.00603	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1260	ND	U	0.00468	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1262	ND	U	0.0101	0.0374	mg/kg	1	7/19/23 17:55
Aroclor-1268	ND	U	0.00452	0.0374	mg/kg	1	7/19/23 17:55
Total PCBs	ND	U	0.00349	0.0374	mg/kg	1	7/19/23 17:55

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0111	0.113	mg/kg	1	7/25/23 16:41
2,4-D	ND	U	0.0188	0.113	mg/kg	1	7/25/23 16:41 UJ, RC:Q

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 10:51 R, RC:1
2,4-D	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 10:51 R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00566	0.0226	mg/kg	1	7/26/23 15:36

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/15/23 12:59 UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**9540**		**0.161**	**2.71**	**mg/kg**	**1**	**7/25/23 12:38**
Antimony	ND	U	0.148	1.35	mg/kg	1	7/25/23 12:38
Arsenic	**2.85**		**0.0966**	**1.35**	**mg/kg**	**1**	**7/25/23 12:38**
Barium	**51.1**		**0.0410**	**0.542**	**mg/kg**	**1**	**7/25/23 12:38**
Beryllium	**0.596**		**0.00314**	**0.0271**	**mg/kg**	**1**	**7/25/23 12:38**
Cadmium	ND	U	0.0528	0.271	mg/kg	1	7/25/23 12:38
Calcium	**4430**		**3.05**	**27.1**	**mg/kg**	**1**	**7/25/23 12:38**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**16.3**		**0.0306**	**0.271**	**mg/kg**	**1**	**7/25/23 12:38**
Cobalt	**5.04**		**0.0277**	**0.217**	**mg/kg**	**1**	**7/25/23 12:38**
Copper	**14.5**		**0.0758**	**0.271**	**mg/kg**	**1**	**7/25/23 12:38**
Iron	**15400**		**0.767**	**5.42**	**mg/kg**	**1**	**7/25/23 12:38**
Lead	**16.6**		**0.113**	**1.35**	**mg/kg**	**1**	**7/25/23 12:38**
Magnesium	**3560**		**9.57**	**54.2**	**mg/kg**	**1**	**7/25/23 12:38**
Manganese	**177**		**0.0337**	**0.271**	**mg/kg**	**1**	**7/25/23 12:38**
Nickel	**16.4**		**0.0238**	**0.135**	**mg/kg**	**1**	**7/25/23 12:38**
Potassium	**1630**		**32.2**	**108**	**mg/kg**	**1**	**7/25/23 12:38**
Selenium	ND	U	0.260	1.35	mg/kg	1	7/25/23 12:38
Silver	ND	U	0.0461	0.163	mg/kg	1	7/25/23 12:38
Sodium	**350**		**5.16**	**54.2**	**mg/kg**	**1**	**7/25/23 12:38**
Thallium	ND	U	0.0911	1.35	mg/kg	1	7/25/23 12:38
Vanadium	**24.5**		**0.0623**	**0.542**	**mg/kg**	**1**	**7/25/23 12:38**
Zinc	**48.2**		**0.0827**	**0.813**	**mg/kg**	**1**	**7/25/23 12:38**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 14:24	
Barium	**1.04**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 14:24**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 14:24	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 14:24	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 14:24	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 14:24	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 14:24	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000674	0.00147	mg/kg	1	7/18/23 17:18
4,4'-DDE	ND	U	0.000805	0.00147	mg/kg	1	7/18/23 17:18
4,4'-DDT	ND	U	0.00104	0.00147	mg/kg	1	7/18/23 17:18
Aldrin	ND	U	0.000697	0.00147	mg/kg	1	7/18/23 17:18
alpha-BHC	ND	U	0.000438	0.00147	mg/kg	1	7/18/23 17:18
beta-BHC	ND	U	0.000703	0.00147	mg/kg	1	7/18/23 17:18
Chlordane	ND	U	0.000654	0.00147	mg/kg	1	7/18/23 17:18
delta-BHC	ND	U	0.000684	0.00147	mg/kg	1	7/18/23 17:18
Dieldrin	ND	U	0.000770	0.00147	mg/kg	1	7/18/23 17:18
Endosulfan I	ND	U	0.000695	0.00147	mg/kg	1	7/18/23 17:18

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000669	0.00147	mg/kg	1	7/18/23 17:18	
Endosulfan sulfate	ND	U	0.000554	0.00147	mg/kg	1	7/18/23 17:18	UJ, RC:SL
Endosulfans, Total (alpha and beta)	ND	U	0.000669	0.00147	mg/kg	1	7/18/23 17:18	
Endrin	ND	U	0.000508	0.00147	mg/kg	1	7/18/23 17:18	
Endrin aldehyde	ND	U	0.000586	0.00147	mg/kg	1	7/18/23 17:18	
Endrin ketone	ND	U	0.000519	0.00147	mg/kg	1	7/18/23 17:18	
gamma-BHC (Lindane)	ND	U	0.000466	0.00147	mg/kg	1	7/18/23 17:18	
Heptachlor	ND	U	0.000394	0.00147	mg/kg	1	7/18/23 17:18	
Heptachlor Epoxide	ND	U	0.000743	0.00147	mg/kg	1	7/18/23 17:18	
Methoxychlor	ND	U	0.000431	0.00147	mg/kg	1	7/18/23 17:18	UJ, RC:SL
Toxaphene	ND	U	0.0709	0.0747	mg/kg	1	7/18/23 17:18	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	8/28/23 23:09	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	8/28/23 23:09	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	8/28/23 23:09	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	8/28/23 23:09	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	8/28/23 23:09	
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	8/28/23 23:09	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	8/28/23 23:09	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	8/28/23 23:09	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	8/28/23 23:09	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	8/28/23 23:09	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	8/28/23 23:09	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	8/28/23 23:09	RC:6L
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	8/28/23 23:09	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	8/28/23 23:09	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00426	0.0377	mg/kg	1	7/19/23 14:58	R, RC:6L,4L
2,3,4,6-Tetrachlorophenol	ND	U	0.0232	0.151	mg/kg	1	7/19/23 14:58	R, RC:4L
2,4,5-Trichlorophenol	ND	U	0.0205	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:4L
2,4,6-Trichlorophenol	ND	U	0.00943	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:4L
2,4-Dichlorophenol	ND	U	0.0152	0.151	mg/kg	1	7/19/23 14:58	
2,4-Dimethylphenol	ND	U	0.0148	0.151	mg/kg	1	7/19/23 14:58	
2,4-Dinitrophenol	ND	U	0.0217	0.755	mg/kg	1	7/19/23 14:58	R, RC:4L,SL
2,4-Dinitrotoluene	ND	U	0.0161	0.151	mg/kg	1	7/19/23 14:58	
2,6-Dinitrotoluene	ND	U	0.0360	0.151	mg/kg	1	7/19/23 14:58	
2-Chloronaphthalene	ND	U	0.0173	0.151	mg/kg	1	7/19/23 14:58	
2-Chlorophenol	ND	U	0.0199	0.151	mg/kg	1	7/19/23 14:58	
2-Methylnaphthalene	**0.215**	J	**0.0361**	**0.226**	**mg/kg**	**1**	**7/19/23 14:58**	
2-Methylphenol	ND	U	0.0298	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:4L
2-Nitroaniline	ND	U	0.0121	0.151	mg/kg	1	7/19/23 14:58	
2-Nitrophenol	ND	U	0.0168	0.151	mg/kg	1	7/19/23 14:58	
3,3'-Dichlorobenzidine	ND	U	0.0159	0.151	mg/kg	1	7/19/23 14:58	
3+4-Methylphenol	ND	U	0.0276	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:4L
3-Nitroaniline	ND	U	0.0280	0.151	mg/kg	1	7/19/23 14:58	
4,6-Dinitro-2-methylphenol	ND	U	0.0284	0.377	mg/kg	1	7/19/23 14:58	R, RC:4L,SL
4-Bromophenyl-phenyl ether	ND	U	0.0215	0.151	mg/kg	1	7/19/23 14:58	
4-Chloro-3-methylphenol	ND	U	0.0238	0.151	mg/kg	1	7/19/23 14:58	
4-Chloroaniline	ND	U	0.00528	0.151	mg/kg	1	7/19/23 14:58	
4-Chlorophenyl phenyl ether	ND	U	0.00814	0.151	mg/kg	1	7/19/23 14:58	
4-Nitroaniline	ND	U	0.0754	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:SL
4-Nitrophenol	ND	U	0.00965	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:SL
Acenaphthene	**0.506**		**0.00859**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Acenaphthylene	ND	U	0.00524	0.151	mg/kg	1	7/19/23 14:58	
Acetophenone	ND	U	0.0149	0.151	mg/kg	1	7/19/23 14:58	
Anthracene	**0.411**		**0.0219**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Atrazine	ND	U	0.0142	0.151	mg/kg	1	7/19/23 14:58	
Benzaldehyde	ND	U	0.0463	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:SL,Q
Benzo(a)anthracene	**0.126**	J	**0.0152**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Benzo(a)pyrene	**0.108**	J	**0.0263**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Benzo(b)fluoranthene	**0.0886**	J	**0.0212**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Benzo(g,h,i)perylene	**0.0739**	J	**0.0122**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Benzo(k)fluoranthene	**0.0816**	J	**0.0173**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Biphenyl	ND	U	0.0132	0.151	mg/kg	1	7/19/23 14:58	
bis(2-chloroethoxy)methane	ND	U	0.0208	0.151	mg/kg	1	7/19/23 14:58	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0165	0.151	mg/kg	1	7/19/23 14:58	
bis(2-chloroisopropyl)ether	ND	U	0.0542	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:6L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.0301	0.151	mg/kg	1	7/19/23 14:58	
Butylbenzylphthalate	ND	U	0.0137	0.151	mg/kg	1	7/19/23 14:58	
Caprolactam	ND	U	0.0195	0.151	mg/kg	1	7/19/23 14:58	
Carbazole	ND	U	0.0290	0.377	mg/kg	1	7/19/23 14:58	
Chrysene	**0.193**		**0.0103**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Dibenzo(a,h)anthracene	ND	U	0.0149	0.151	mg/kg	1	7/19/23 14:58	
Dibenzofuran	**0.228**		**0.00898**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Diethylphthalate	ND	U	0.0292	0.151	mg/kg	1	7/19/23 14:58	
Dimethylphthalate	ND	U	0.00935	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:4L
Di-n-butylphthalate	ND	U	0.0616	0.151	mg/kg	1	7/19/23 14:58	
Di-n-octylphthalate	ND	U	0.0309	0.151	mg/kg	1	7/19/23 14:58	
Fluoranthene	**0.247**		**0.0142**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Fluorene	**0.353**		**0.0126**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Hexachlorobenzene	ND	U	0.0197	0.151	mg/kg	1	7/19/23 14:58	
Hexachlorobutadiene	ND	U	0.0723	0.151	mg/kg	1	7/19/23 14:58	
Hexachlorocyclopentadiene	ND	U	0.0628	0.377	mg/kg	1	7/19/23 14:58	R, RC:4L,SL
Hexachloroethane	ND	U	0.0165	0.151	mg/kg	1	7/19/23 14:58	
Indeno(1,2,3-cd)pyrene	**0.0543**	J	**0.0162**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Isophorone	ND	U	0.00987	0.151	mg/kg	1	7/19/23 14:58	
Naphthalene	ND	U	0.0112	0.151	mg/kg	1	7/19/23 14:58	
Nitrobenzene	ND	U	0.0256	0.151	mg/kg	1	7/19/23 14:58	
n-Nitroso-di-n-propylamine	ND	U	0.00807	0.151	mg/kg	1	7/19/23 14:58	
n-Nitrosodiphenylamine	ND	U	0.0322	0.151	mg/kg	1	7/19/23 14:58	
Pentachlorophenol	ND	U	0.0207	0.377	mg/kg	1	7/19/23 14:58	R, RC:4L,SL
Phenanthrene	**0.860**		**0.0198**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	
Phenol	ND	U	0.0122	0.151	mg/kg	1	7/19/23 14:58	UJ, RC:4L
Pyrene	**0.384**		**0.0111**	**0.151**	**mg/kg**	**1**	**7/19/23 14:58**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Dodecane, 2,6,11-trimethyl-	3.87	8.15	J	mg/kg	1	7/19/23 14:58	
Hexadecanoic acid, 1,1-dimethylethyl est	~~12.0~~	11.79	J, B	mg/kg	1	7/19/23 14:58	R, RC:2
Naphthalene, 1,3-dimethyl-	9.83	8.61	J	mg/kg	1	7/19/23 14:58	
Naphthalene, 1,4,5-trimethyl-	2.91	9.27	J	mg/kg	1	7/19/23 14:58	
Naphthalene, 2,3,6-trimethyl-	1.61	9.05	J	mg/kg	1	7/19/23 14:58	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Naphthalene, 2,6-dimethyl-	2.28	8.64	J	mg/kg	1	7/19/23 14:58	
Naphthalene, 2,7-dimethyl-	3.12	8.53	J	mg/kg	1	7/19/23 14:58	
Octadecanoic acid, butyl ester	~~8.49~~	12.57	B, J	mg/kg	1	7/19/23 14:58	R, RC:2
unknown (01)	1.71	7.45	J	mg/kg	1	7/19/23 14:58	
unknown (02)	3.24	7.56	J	mg/kg	1	7/19/23 14:58	
unknown (03)	2.17	8.01	J	mg/kg	1	7/19/23 14:58	
unknown (04)	2.01	8.33	J	mg/kg	1	7/19/23 14:58	
unknown (05)	2.54	8.66	J	mg/kg	1	7/19/23 14:58	
unknown (06)	1.71	9.30	J	mg/kg	1	7/19/23 14:58	
unknown (07)	2.15	9.36	J	mg/kg	1	7/19/23 14:58	
TIC Total	~~59.7~~ 39.2						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	~~ND~~	~~U~~	~~0.000438~~	~~0.0200~~	mg/L	1	8/17/23 21:28	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 21:28	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 21:28	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 21:28	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 21:28	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 21:28	RC:6L,SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 21:28	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 21:28	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 21:28	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 21:28	RC:SL
Pyridine	~~ND~~	~~U~~	~~0.000494~~	~~0.0200~~	mg/L	1	8/17/23 21:28	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000306	0.00210	mg/kg	1	7/17/23 22:03
1,1,2,2-Tetrachloroethane	ND	U	0.000289	0.00210	mg/kg	1	7/17/23 22:03
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000897	0.00210	mg/kg	1	7/17/23 22:03
1,1,2-Trichloroethane	ND	U	0.000353	0.00210	mg/kg	1	7/17/23 22:03
1,1-Dichloroethane	ND	U	0.000306	0.00210	mg/kg	1	7/17/23 22:03
1,1-Dichloroethene	ND	U	0.000388	0.00210	mg/kg	1	7/17/23 22:03
1,2,3-Trichlorobenzene	ND	U	0.000453	0.00210	mg/kg	1	7/17/23 22:03
1,2,4-Trichlorobenzene	ND	U	0.000559	0.00210	mg/kg	1	7/17/23 22:03
1,2,4-Trimethylbenzene	**0.172**		**0.000289**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromo-3-chloropropane	ND	U	0.000512	0.00210	mg/kg	1	7/17/23 22:03
1,2-Dibromoethane	ND	U	0.000264	0.00210	mg/kg	1	7/17/23 22:03
1,2-Dichlorobenzene	ND	U	0.000370	0.00210	mg/kg	1	7/17/23 22:03
1,2-Dichloroethane	ND	U	0.000296	0.00210	mg/kg	1	7/17/23 22:03
1,2-Dichloropropane	ND	U	0.000344	0.00210	mg/kg	1	7/17/23 22:03
1,3-Dichlorobenzene	ND	U	0.000154	0.00210	mg/kg	1	7/17/23 22:03
1,4-Dichlorobenzene	ND	U	0.000302	0.00210	mg/kg	1	7/17/23 22:03
2-Butanone	ND	U	0.000342	0.00524	mg/kg	1	7/17/23 22:03
2-Hexanone	ND	U	0.000196	0.00210	mg/kg	1	7/17/23 22:03
4-Methyl-2-pentanone	ND	U	0.000262	0.00210	mg/kg	1	7/17/23 22:03
Acetone	ND	U	0.000635	0.00524	mg/kg	1	7/17/23 22:03
Benzene	ND	U	0.000191	0.00210	mg/kg	1	7/17/23 22:03
Bromochloromethane	ND	U	0.000387	0.00210	mg/kg	1	7/17/23 22:03
Bromodichloromethane	ND	U	0.000263	0.00210	mg/kg	1	7/17/23 22:03
Bromoform	ND	U	0.000368	0.00210	mg/kg	1	7/17/23 22:03
Bromomethane	ND	U	0.000605	0.00210	mg/kg	1	7/17/23 22:03
Carbon disulfide	**0.00947**		**0.000301**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
Carbon Tetrachloride	ND	U	0.000316	0.00210	mg/kg	1	7/17/23 22:03
Chlorobenzene	ND	U	0.000304	0.00210	mg/kg	1	7/17/23 22:03
Chlorodibromomethane	ND	U	0.000258	0.00210	mg/kg	1	7/17/23 22:03
Chloroethane	ND	U	0.000357	0.00210	mg/kg	1	7/17/23 22:03
Chloroform	ND	U	0.000352	0.00210	mg/kg	1	7/17/23 22:03
Chloromethane	ND	U	0.000807	0.00210	mg/kg	1	7/17/23 22:03
cis-1,2-Dichloroethene	ND	U	0.000101	0.00210	mg/kg	1	7/17/23 22:03
cis-1,3-Dichloropropene	ND	U	0.000265	0.00210	mg/kg	1	7/17/23 22:03
Cyclohexane	**0.0304**		**0.000464**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
Dichlorodifluoromethane	ND	U	0.000708	0.00210	mg/kg	1	7/17/23 22:03
EthylBenzene	**0.0267**		**0.000284**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
Isopropylbenzene	**0.0601**		**0.000329**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
m+p-Xylenes	**0.0335**		**0.000529**	**0.00419**	**mg/kg**	**1**	**7/17/23 22:03**
Methyl Acetate	ND	U	0.000278	0.00210	mg/kg	1	7/17/23 22:03
Methyl tert-Butyl Ether	ND	U	0.000354	0.00210	mg/kg	1	7/17/23 22:03
Methylcyclohexane	**0.229**		**0.000338**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
Methylene Chloride	ND	U	0.000630	0.00210	mg/kg	1	7/17/23 22:03
o-Xylene	**0.0182**		**0.000269**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
Styrene	ND	U	0.000300	0.00210	mg/kg	1	7/17/23 22:03
tert-Butyl alcohol	ND	U	0.00440	0.0210	mg/kg	1	7/17/23 22:03
Tetrachloroethene	ND	U	0.000208	0.00210	mg/kg	1	7/17/23 22:03

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	**0.00229**		**0.000169**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
Total Xylenes	**0.0516**		**0.000269**	**0.00210**	**mg/kg**	**1**	**7/17/23 22:03**
trans-1,2-Dichloroethene	ND	U	0.000284	0.00210	mg/kg	1	7/17/23 22:03
trans-1,3-Dichloropropene	ND	U	0.000400	0.00210	mg/kg	1	7/17/23 22:03
Trichloroethene	ND	U	0.000308	0.00210	mg/kg	1	7/17/23 22:03
Trichlorofluoromethane	ND	U	0.000241	0.00210	mg/kg	1	7/17/23 22:03
Vinyl chloride	ND	U	0.000398	0.00210	mg/kg	1	7/17/23 22:03

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Eicosanol	0.411	18.27	J	mg/kg	1	7/17/23 22:03
Benzene, 1,3,5-trimethyl-	0.429	18.91	J	mg/kg	1	7/17/23 22:03
Benzene, 1-ethyl-2-methyl-	0.182	18.60	J	mg/kg	1	7/17/23 22:03
Benzene, 2-ethenyl-1,3-dimethyl-	0.160	20.93	J	mg/kg	1	7/17/23 22:03
Benzene, cyclopropyl-	0.170	19.94	J	mg/kg	1	7/17/23 22:03
Cyclohexane, 1,3,5-trimethyl-, (1.alpha.	0.173	14.73	J	mg/kg	1	7/17/23 22:03
Cyclohexane, butyl-	0.225	19.34	J	mg/kg	1	7/17/23 22:03
Cyclohexane, propyl-	0.267	17.08	J	mg/kg	1	7/17/23 22:03
Cyclopentane, 1-methyl-2-(2-propenyl)-,	0.277	21.33	J	mg/kg	1	7/17/23 22:03
Decane, 3-methyl-	0.177	19.16	J	mg/kg	1	7/17/23 22:03
Decane, 4-methyl-	0.311	18.78	J	mg/kg	1	7/17/23 22:03
Hexane, 1-(hexyloxy)-5-methyl-	0.182	17.37	J	mg/kg	1	7/17/23 22:03
Octane, 2-methyl-	0.361	15.14	J	mg/kg	1	7/17/23 22:03
Octane, 3,6-dimethyl-	0.283	16.86	J	mg/kg	1	7/17/23 22:03
Octane, 3-methyl-	0.237	15.33	J	mg/kg	1	7/17/23 22:03
TIC Total	**3.85**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/26/23 4:27	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/26/23 4:27	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/26/23 4:27	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/26/23 4:27	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/26/23 4:27	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/26/23 4:27	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/26/23 4:27	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-01 (Soil) Sample Name: **MR-204-6.0-8.0-20230711** Collected: **7/11/2023 1:25:00PM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/26/23 4:27
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/26/23 4:27
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/26/23 4:27
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/26/23 4:27

R, RC:1

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.3**				**%**	**1**	**7/19/23 10:55**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 12:56

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00827	0.0694	mg/kg	1	7/17/23 16:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.60**				**pH Units**	**1**	**7/17/23 17:28**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/17/23 17:58

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	93.1	0.00	D	mg/kg	25	7/18/23 13:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00492	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1221	ND	U	0.00967	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1232	ND	U	0.0123	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1242	ND	U	0.00720	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1248	ND	U	0.00754	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1254	ND	U	0.00592	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1260	ND	U	0.00459	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1262	ND	U	0.00987	0.0367	mg/kg	1	7/19/23 18:17	
Aroclor-1268	ND	U	0.00444	0.0367	mg/kg	1	7/19/23 18:17	
Total PCBs	ND	U	0.00342	0.0367	mg/kg	1	7/19/23 18:17	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	7/25/23 16:50	
2,4-D	ND	U	0.0184	0.111	mg/kg	1	7/25/23 16:50	UJ, RC:Q

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:00	R, RC:1
2,4-D	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:00	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.00555	0.0222	mg/kg	1	7/26/23 15:46	

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/15/23 13:02	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6820**		**0.172**	**2.89**	**mg/kg**	**1**	**7/25/23 12:40**
Antimony	ND	U	0.158	1.45	mg/kg	1	7/25/23 12:40
Arsenic	**1.62**		**0.103**	**1.45**	**mg/kg**	**1**	**7/25/23 12:40**
Barium	**37.0**		**0.0437**	**0.579**	**mg/kg**	**1**	**7/25/23 12:40**
Beryllium	**0.538**		**0.00335**	**0.0289**	**mg/kg**	**1**	**7/25/23 12:40**
Cadmium	ND	U	0.0564	0.289	mg/kg	1	7/25/23 12:40
Calcium	**2030**		**3.25**	**28.9**	**mg/kg**	**1**	**7/25/23 12:40**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**21.6**		**0.0327**	**0.289**	**mg/kg**	**1**	**7/25/23 12:40**
Cobalt	**8.10**		**0.0296**	**0.231**	**mg/kg**	**1**	**7/25/23 12:40**
Copper	**14.0**		**0.0809**	**0.289**	**mg/kg**	**1**	**7/25/23 12:40**
Iron	**14900**		**0.820**	**5.79**	**mg/kg**	**1**	**7/25/23 12:40**
Lead	**6.11**		**0.121**	**1.45**	**mg/kg**	**1**	**7/25/23 12:40**
Magnesium	**9020**		**10.2**	**57.9**	**mg/kg**	**1**	**7/25/23 12:40**
Manganese	**147**		**0.0360**	**0.289**	**mg/kg**	**1**	**7/25/23 12:40**
Nickel	**69.4**		**0.0254**	**0.145**	**mg/kg**	**1**	**7/25/23 12:40**
Potassium	**1510**		**34.4**	**116**	**mg/kg**	**1**	**7/25/23 12:40**
Selenium	ND	U	0.278	1.45	mg/kg	1	7/25/23 12:40
Silver	ND	U	0.0492	0.174	mg/kg	1	7/25/23 12:40
Sodium	**553**		**5.52**	**57.9**	**mg/kg**	**1**	**7/25/23 12:40**
Thallium	ND	U	0.0973	1.45	mg/kg	1	7/25/23 12:40
Vanadium	**23.3**		**0.0665**	**0.579**	**mg/kg**	**1**	**7/25/23 12:40**
Zinc	**40.2**		**0.0884**	**0.868**	**mg/kg**	**1**	**7/25/23 12:40**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 14:26	
Barium	**2.21**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 14:26**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 14:26	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 14:26	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 14:26	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 14:26	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 14:26	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000661	0.00144	mg/kg	1	7/18/23 17:37
4,4'-DDE	ND	U	0.000790	0.00144	mg/kg	1	7/18/23 17:37
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	7/18/23 17:37
Aldrin	ND	U	0.000684	0.00144	mg/kg	1	7/18/23 17:37
alpha-BHC	ND	U	0.000430	0.00144	mg/kg	1	7/18/23 17:37
beta-BHC	ND	U	0.000690	0.00144	mg/kg	1	7/18/23 17:37
Chlordane	ND	U	0.000642	0.00144	mg/kg	1	7/18/23 17:37
delta-BHC	ND	U	0.000671	0.00144	mg/kg	1	7/18/23 17:37
Dieldrin	ND	U	0.000755	0.00144	mg/kg	1	7/18/23 17:37
Endosulfan I	ND	U	0.000682	0.00144	mg/kg	1	7/18/23 17:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000657	0.00144	mg/kg	1	7/18/23 17:37	
Endosulfan sulfate	ND	U	0.000543	0.00144	mg/kg	1	7/18/23 17:37	UJ, RC:SL
Endosulfans, Total (alpha and beta)	ND	U	0.000657	0.00144	mg/kg	1	7/18/23 17:37	
Endrin	ND	U	0.000499	0.00144	mg/kg	1	7/18/23 17:37	
Endrin aldehyde	ND	U	0.000575	0.00144	mg/kg	1	7/18/23 17:37	
Endrin ketone	ND	U	0.000509	0.00144	mg/kg	1	7/18/23 17:37	
gamma-BHC (Lindane)	ND	U	0.000458	0.00144	mg/kg	1	7/18/23 17:37	
Heptachlor	ND	U	0.000387	0.00144	mg/kg	1	7/18/23 17:37	
Heptachlor Epoxide	ND	U	0.000729	0.00144	mg/kg	1	7/18/23 17:37	
Methoxychlor	ND	U	0.000423	0.00144	mg/kg	1	7/18/23 17:37	UJ, RC:SL
Toxaphene	ND	U	0.0696	0.0733	mg/kg	1	7/18/23 17:37	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	9/5/23 17:54	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	9/5/23 17:54	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	9/5/23 17:54	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	9/5/23 17:54	RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	9/5/23 17:54	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	9/5/23 17:54	
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	9/5/23 17:54	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	9/5/23 17:54	
Dieldrin [2C]	**0.0000100**	J, H	**2.71E-7**	**0.0000200**	**mg/L**	**1**	**9/5/23 17:54**	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	9/5/23 17:54	
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	9/5/23 17:54	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	9/5/23 17:54	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	9/5/23 17:54	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	9/5/23 17:54	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	9/5/23 17:54	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	9/5/23 17:54	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	9/5/23 17:54	
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	9/5/23 17:54	
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	9/5/23 17:54	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	9/5/23 17:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-202 30712** Collected: **7/12/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00418	0.0370	mg/kg	1	7/19/23 15:29	UJ, RC:6L
2,3,4,6-Tetrachlorophenol	ND	U	0.0228	0.148	mg/kg	1	7/19/23 15:29	
2,4,5-Trichlorophenol	ND	U	0.0201	0.148	mg/kg	1	7/19/23 15:29	
2,4,6-Trichlorophenol	ND	U	0.00925	0.148	mg/kg	1	7/19/23 15:29	
2,4-Dichlorophenol	ND	U	0.0149	0.148	mg/kg	1	7/19/23 15:29	
2,4-Dimethylphenol	ND	U	0.0146	0.148	mg/kg	1	7/19/23 15:29	
2,4-Dinitrophenol	ND	U	0.0213	0.741	mg/kg	1	7/19/23 15:29	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0158	0.148	mg/kg	1	7/19/23 15:29	
2,6-Dinitrotoluene	ND	U	0.0353	0.148	mg/kg	1	7/19/23 15:29	
2-Chloronaphthalene	ND	U	0.0170	0.148	mg/kg	1	7/19/23 15:29	
2-Chlorophenol	ND	U	0.0196	0.148	mg/kg	1	7/19/23 15:29	
2-Methylnaphthalene	ND	U	0.0354	0.222	mg/kg	1	7/19/23 15:29	
2-Methylphenol	ND	U	0.0292	0.148	mg/kg	1	7/19/23 15:29	
2-Nitroaniline	ND	U	0.0119	0.148	mg/kg	1	7/19/23 15:29	
2-Nitrophenol	ND	U	0.0164	0.148	mg/kg	1	7/19/23 15:29	
3,3'-Dichlorobenzidine	ND	U	0.0156	0.148	mg/kg	1	7/19/23 15:29	
3+4-Methylphenol	ND	U	0.0271	0.148	mg/kg	1	7/19/23 15:29	
3-Nitroaniline	ND	U	0.0274	0.148	mg/kg	1	7/19/23 15:29	
4,6-Dinitro-2-methylphenol	ND	U	0.0279	0.370	mg/kg	1	7/19/23 15:29	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0211	0.148	mg/kg	1	7/19/23 15:29	
4-Chloro-3-methylphenol	ND	U	0.0233	0.148	mg/kg	1	7/19/23 15:29	
4-Chloroaniline	ND	U	0.00518	0.148	mg/kg	1	7/19/23 15:29	
4-Chlorophenyl phenyl ether	ND	U	0.00799	0.148	mg/kg	1	7/19/23 15:29	
4-Nitroaniline	ND	U	0.0740	0.148	mg/kg	1	7/19/23 15:29	UJ, RC:SL
4-Nitrophenol	ND	U	0.00947	0.148	mg/kg	1	7/19/23 15:29	UJ, RC:SL
Acenaphthene	ND	U	0.00843	0.148	mg/kg	1	7/19/23 15:29	
Acenaphthylene	ND	U	0.00514	0.148	mg/kg	1	7/19/23 15:29	
Acetophenone	ND	U	0.0147	0.148	mg/kg	1	7/19/23 15:29	
Anthracene	ND	U	0.0214	0.148	mg/kg	1	7/19/23 15:29	
Atrazine	ND	U	0.0139	0.148	mg/kg	1	7/19/23 15:29	
Benzaldehyde	ND	U	0.0454	0.148	mg/kg	1	7/19/23 15:29	UJ, RC:SL,Q
Benzo(a)anthracene	ND	U	0.0149	0.148	mg/kg	1	7/19/23 15:29	
Benzo(a)pyrene	ND	U	0.0258	0.148	mg/kg	1	7/19/23 15:29	
Benzo(b)fluoranthene	ND	U	0.0208	0.148	mg/kg	1	7/19/23 15:29	
Benzo(g,h,i)perylene	ND	U	0.0120	0.148	mg/kg	1	7/19/23 15:29	
Benzo(k)fluoranthene	ND	U	0.0170	0.148	mg/kg	1	7/19/23 15:29	
Biphenyl	ND	U	0.0130	0.148	mg/kg	1	7/19/23 15:29	
bis(2-chloroethoxy)methane	ND	U	0.0204	0.148	mg/kg	1	7/19/23 15:29	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0162	0.148	mg/kg	1	7/19/23 15:29	
bis(2-chloroisopropyl)ether	ND	U	0.0532	0.148	mg/kg	1	7/19/23 15:29	UJ, RC:6L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.0296	0.148	mg/kg	1	7/19/23 15:29	
Butylbenzylphthalate	ND	U	0.0134	0.148	mg/kg	1	7/19/23 15:29	
Caprolactam	ND	U	0.0191	0.148	mg/kg	1	7/19/23 15:29	
Carbazole	ND	U	0.0284	0.370	mg/kg	1	7/19/23 15:29	
Chrysene	ND	U	0.0101	0.148	mg/kg	1	7/19/23 15:29	
Dibenzo(a,h)anthracene	ND	U	0.0147	0.148	mg/kg	1	7/19/23 15:29	
Dibenzofuran	ND	U	0.00881	0.148	mg/kg	1	7/19/23 15:29	
Diethylphthalate	ND	U	0.0287	0.148	mg/kg	1	7/19/23 15:29	
Dimethylphthalate	ND	U	0.00918	0.148	mg/kg	1	7/19/23 15:29	
Di-n-butylphthalate	ND	U	0.0604	0.148	mg/kg	1	7/19/23 15:29	
Di-n-octylphthalate	ND	U	0.0303	0.148	mg/kg	1	7/19/23 15:29	
Fluoranthene	ND	U	0.0139	0.148	mg/kg	1	7/19/23 15:29	
Fluorene	ND	U	0.0123	0.148	mg/kg	1	7/19/23 15:29	
Hexachlorobenzene	ND	U	0.0193	0.148	mg/kg	1	7/19/23 15:29	
Hexachlorobutadiene	ND	U	0.0710	0.148	mg/kg	1	7/19/23 15:29	
Hexachlorocyclopentadiene	ND	U	0.0617	0.370	mg/kg	1	7/19/23 15:29	UJ, RC:SL
Hexachloroethane	ND	U	0.0162	0.148	mg/kg	1	7/19/23 15:29	
Indeno(1,2,3-cd)pyrene	ND	U	0.0159	0.148	mg/kg	1	7/19/23 15:29	
Isophorone	ND	U	0.00969	0.148	mg/kg	1	7/19/23 15:29	
Naphthalene	ND	U	0.0110	0.148	mg/kg	1	7/19/23 15:29	
Nitrobenzene	ND	U	0.0251	0.148	mg/kg	1	7/19/23 15:29	
n-Nitroso-di-n-propylamine	ND	U	0.00792	0.148	mg/kg	1	7/19/23 15:29	
n-Nitrosodiphenylamine	ND	U	0.0316	0.148	mg/kg	1	7/19/23 15:29	
Pentachlorophenol	ND	U	0.0203	0.370	mg/kg	1	7/19/23 15:29	UJ, RC:SL
Phenanthrene	ND	U	0.0194	0.148	mg/kg	1	7/19/23 15:29	
Phenol	ND	U	0.0120	0.148	mg/kg	1	7/19/23 15:29	
Pyrene	ND	U	0.0109	0.148	mg/kg	1	7/19/23 15:29	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	7.10	11.79	J	mg/kg	1	7/19/23 15:29	
Octadecanoic acid, butyl ester	~~3.83~~	12.57	B, J	mg/kg	1	7/19/23 15:29	R, RC:2
Undecane, 4,7-dimethyl-	0.566	7.72	J	mg/kg	1	7/19/23 15:29	
TIC Total	~~11.5~~ 7.7						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-202 30712** Collected: **7/12/2023 11:05:00AM**

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SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/17/23 22:02	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 22:02	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 22:02	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 22:02	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 22:02	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 22:02	RC:6L,SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 22:02	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 22:02	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 22:02	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/17/23 22:02	RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/17/23 22:02	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000246	0.00168	mg/kg	1	7/17/23 22:35
1,1,2,2-Tetrachloroethane	ND	U	0.000232	0.00168	mg/kg	1	7/17/23 22:35
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000720	0.00168	mg/kg	1	7/17/23 22:35
1,1,2-Trichloroethane	ND	U	0.000284	0.00168	mg/kg	1	7/17/23 22:35
1,1-Dichloroethane	ND	U	0.000246	0.00168	mg/kg	1	7/17/23 22:35
1,1-Dichloroethene	ND	U	0.000311	0.00168	mg/kg	1	7/17/23 22:35
1,2,3-Trichlorobenzene	ND	U	0.000364	0.00168	mg/kg	1	7/17/23 22:35
1,2,4-Trichlorobenzene	ND	U	0.000449	0.00168	mg/kg	1	7/17/23 22:35
1,2,4-Trimethylbenzene	ND	U	0.000232	0.00168	mg/kg	1	7/17/23 22:35
1,2-Dibromo-3-chloropropane	ND	U	0.000411	0.00168	mg/kg	1	7/17/23 22:35
1,2-Dibromoethane	ND	U	0.000212	0.00168	mg/kg	1	7/17/23 22:35
1,2-Dichlorobenzene	ND	U	0.000297	0.00168	mg/kg	1	7/17/23 22:35
1,2-Dichloroethane	ND	U	0.000237	0.00168	mg/kg	1	7/17/23 22:35
1,2-Dichloropropane	ND	U	0.000276	0.00168	mg/kg	1	7/17/23 22:35
1,3-Dichlorobenzene	ND	U	0.000124	0.00168	mg/kg	1	7/17/23 22:35
1,4-Dichlorobenzene	ND	U	0.000242	0.00168	mg/kg	1	7/17/23 22:35
2-Butanone	ND	U	0.000274	0.00421	mg/kg	1	7/17/23 22:35
2-Hexanone	ND	U	0.000157	0.00168	mg/kg	1	7/17/23 22:35
4-Methyl-2-pentanone	ND	U	0.000210	0.00168	mg/kg	1	7/17/23 22:35
Acetone	ND	U	0.000510	0.00421	mg/kg	1	7/17/23 22:35
Benzene	ND	U	0.000153	0.00168	mg/kg	1	7/17/23 22:35
Bromochloromethane	ND	U	0.000311	0.00168	mg/kg	1	7/17/23 22:35
Bromodichloromethane	ND	U	0.000211	0.00168	mg/kg	1	7/17/23 22:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000295	0.00168	mg/kg	1	7/17/23 22:35
Bromomethane	ND	U	0.000486	0.00168	mg/kg	1	7/17/23 22:35
Carbon disulfide	ND	U	0.000242	0.00168	mg/kg	1	7/17/23 22:35
Carbon Tetrachloride	ND	U	0.000253	0.00168	mg/kg	1	7/17/23 22:35
Chlorobenzene	ND	U	0.000244	0.00168	mg/kg	1	7/17/23 22:35
Chlorodibromomethane	ND	U	0.000207	0.00168	mg/kg	1	7/17/23 22:35
Chloroethane	ND	U	0.000287	0.00168	mg/kg	1	7/17/23 22:35
Chloroform	ND	U	0.000283	0.00168	mg/kg	1	7/17/23 22:35
Chloromethane	ND	U	0.000648	0.00168	mg/kg	1	7/17/23 22:35
cis-1,2-Dichloroethene	ND	U	0.0000814	0.00168	mg/kg	1	7/17/23 22:35
cis-1,3-Dichloropropene	ND	U	0.000213	0.00168	mg/kg	1	7/17/23 22:35
Cyclohexane	ND	U	0.000373	0.00168	mg/kg	1	7/17/23 22:35
Dichlorodifluoromethane	ND	U	0.000568	0.00168	mg/kg	1	7/17/23 22:35
EthylBenzene	ND	U	0.000228	0.00168	mg/kg	1	7/17/23 22:35
Isopropylbenzene	ND	U	0.000264	0.00168	mg/kg	1	7/17/23 22:35
m+p-Xylenes	ND	U	0.000425	0.00337	mg/kg	1	7/17/23 22:35
Methyl Acetate	ND	U	0.000223	0.00168	mg/kg	1	7/17/23 22:35
Methyl tert-Butyl Ether	ND	U	0.000284	0.00168	mg/kg	1	7/17/23 22:35
Methylcyclohexane	**0.00398**		**0.000271**	**0.00168**	**mg/kg**	**1**	**7/17/23 22:35**
Methylene Chloride	ND	U	0.000506	0.00168	mg/kg	1	7/17/23 22:35
o-Xylene	ND	U	0.000216	0.00168	mg/kg	1	7/17/23 22:35
Styrene	ND	U	0.000241	0.00168	mg/kg	1	7/17/23 22:35
tert-Butyl alcohol	ND	U	0.00353	0.0168	mg/kg	1	7/17/23 22:35
Tetrachloroethene	ND	U	0.000167	0.00168	mg/kg	1	7/17/23 22:35
Toluene	ND	U	0.000136	0.00168	mg/kg	1	7/17/23 22:35
Total Xylenes	ND	U	0.000216	0.00168	mg/kg	1	7/17/23 22:35
trans-1,2-Dichloroethene	ND	U	0.000228	0.00168	mg/kg	1	7/17/23 22:35
trans-1,3-Dichloropropene	ND	U	0.000322	0.00168	mg/kg	1	7/17/23 22:35
Trichloroethene	**0.00131**	J	**0.000247**	**0.00168**	**mg/kg**	**1**	**7/17/23 22:35**
Trichlorofluoromethane	**0.00193**		**0.000194**	**0.00168**	**mg/kg**	**1**	**7/17/23 22:35**
Vinyl chloride	ND	U	0.000320	0.00168	mg/kg	1	7/17/23 22:35

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, propyl- (01)	0.102	17.08	J	mg/kg	1	7/17/23 22:35
Cyclohexane, propyl- (02)	0.0504	19.34	J	mg/kg	1	7/17/23 22:35
Decane	0.228	18.27	J	mg/kg	1	7/17/23 22:35
Dodecane	0.112	22.12	J	mg/kg	1	7/17/23 22:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexane, 2,2,3,3-tetramethyl-	0.0536	16.44	J	mg/kg	1	7/17/23 22:35
Nonane	0.276	16.01	J	mg/kg	1	7/17/23 22:35
Nonane, 3-methyl- (01)	0.0466	16.98	J	mg/kg	1	7/17/23 22:35
Nonane, 3-methyl- (02)	0.0573	17.68	J	mg/kg	1	7/17/23 22:35
Octane, 2,5-dimethyl- (01)	0.135	16.61	J	mg/kg	1	7/17/23 22:35
Octane, 2,5-dimethyl- (02)	0.256	17.45	J	mg/kg	1	7/17/23 22:35
Octane, 2-methyl-	0.113	15.14	J	mg/kg	1	7/17/23 22:35
Octane, 3,6-dimethyl-	0.0792	16.84	J	mg/kg	1	7/17/23 22:35
Octane, 3-methyl-	0.0603	15.33	J	mg/kg	1	7/17/23 22:35
Tridecane	0.0883	23.62	J	mg/kg	1	7/17/23 22:35
Undecane	0.0808	20.29	J	mg/kg	1	7/17/23 22:35
TIC Total	**1.74**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/26/23 4:53	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/26/23 4:53	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/26/23 4:53	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/26/23 4:53	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/26/23 4:53	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/26/23 4:53	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/26/23 4:53	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/26/23 4:53	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/26/23 4:53	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/26/23 4:53	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/26/23 4:53	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.0**				**%**	**1**	**7/19/23 10:55**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 12:56

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-02 (Soil) Sample Name: **MR-204-30.0-32.0-20230712** Collected: **7/12/2023 11:05:00AM**

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00719	0.0604	mg/kg	1	7/17/23 16:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.37**				**pH Units**	**1**	**7/17/23 17:28**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/17/23 17:58

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	7/19/23 17:36

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00512	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1221	ND	U	0.0101	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1232	ND	U	0.0128	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1242	ND	U	0.00751	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1248	ND	U	0.00785	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1254	ND	U	0.00617	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1260	ND	U	0.00478	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1262	ND	U	0.0103	0.0382	mg/kg	1	7/19/23 18:39
Aroclor-1268	ND	U	0.00462	0.0382	mg/kg	1	7/19/23 18:39
Total PCBs	ND	U	0.00357	0.0382	mg/kg	1	7/19/23 18:39

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0113	0.116	mg/kg	1	7/25/23 16:59	
2,4-D	ND	U	0.0192	0.116	mg/kg	1	7/25/23 16:59	UJ, RC:Q

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:09	R, RC:1
2,4-D	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:09	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00579	0.0232	mg/kg	1	7/26/23 15:55

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/15/23 13:04	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**10100**		**0.173**	**2.91**	**mg/kg**	**1**	**7/25/23 12:43**
Antimony	ND	U	0.158	1.45	mg/kg	1	7/25/23 12:43
Arsenic	**2.62**		**0.104**	**1.45**	**mg/kg**	**1**	**7/25/23 12:43**
Barium	**43.2**		**0.0440**	**0.582**	**mg/kg**	**1**	**7/25/23 12:43**
Beryllium	**0.653**		**0.00337**	**0.0291**	**mg/kg**	**1**	**7/25/23 12:43**
Cadmium	ND	U	0.0567	0.291	mg/kg	1	7/25/23 12:43
Calcium	**1590**		**3.27**	**29.1**	**mg/kg**	**1**	**7/25/23 12:43**
Chromium	**18.2**		**0.0328**	**0.291**	**mg/kg**	**1**	**7/25/23 12:43**
Cobalt	**6.49**		**0.0297**	**0.233**	**mg/kg**	**1**	**7/25/23 12:43**
Copper	**16.5**		**0.0814**	**0.291**	**mg/kg**	**1**	**7/25/23 12:43**
Iron	**15300**		**0.824**	**5.82**	**mg/kg**	**1**	**7/25/23 12:43**
Lead	**14.1**		**0.121**	**1.45**	**mg/kg**	**1**	**7/25/23 12:43**
Magnesium	**4030**		**10.3**	**58.2**	**mg/kg**	**1**	**7/25/23 12:43**
Manganese	**225**		**0.0362**	**0.291**	**mg/kg**	**1**	**7/25/23 12:43**
Nickel	**27.8**		**0.0256**	**0.145**	**mg/kg**	**1**	**7/25/23 12:43**
Potassium	**1550**		**34.6**	**116**	**mg/kg**	**1**	**7/25/23 12:43**
Selenium	ND	U	0.279	1.45	mg/kg	1	7/25/23 12:43
Silver	ND	U	0.0495	0.175	mg/kg	1	7/25/23 12:43
Sodium	**326**		**5.55**	**58.2**	**mg/kg**	**1**	**7/25/23 12:43**
Thallium	ND	U	0.0979	1.45	mg/kg	1	7/25/23 12:43
Vanadium	**26.8**		**0.0669**	**0.582**	**mg/kg**	**1**	**7/25/23 12:43**
Zinc	**39.9**		**0.0889**	**0.873**	**mg/kg**	**1**	**7/25/23 12:43**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 14:28	
Barium	**0.907**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 14:28**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 14:28	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 14:28	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 14:28	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 14:28	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 14:28	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000689	0.00151	mg/kg	1	7/18/23 17:55	
4,4'-DDE	ND	U	0.000823	0.00151	mg/kg	1	7/18/23 17:55	
4,4'-DDT	ND	U	0.00106	0.00151	mg/kg	1	7/18/23 17:55	
Aldrin	ND	U	0.000713	0.00151	mg/kg	1	7/18/23 17:55	
alpha-BHC	ND	U	0.000448	0.00151	mg/kg	1	7/18/23 17:55	
beta-BHC	ND	U	0.000719	0.00151	mg/kg	1	7/18/23 17:55	
Chlordane	ND	U	0.000669	0.00151	mg/kg	1	7/18/23 17:55	
delta-BHC	ND	U	0.000699	0.00151	mg/kg	1	7/18/23 17:55	
Dieldrin	ND	U	0.000787	0.00151	mg/kg	1	7/18/23 17:55	
Endosulfan I	ND	U	0.000711	0.00151	mg/kg	1	7/18/23 17:55	
Endosulfan II	ND	U	0.000684	0.00151	mg/kg	1	7/18/23 17:55	
Endosulfan sulfate	ND	U	0.000566	0.00151	mg/kg	1	7/18/23 17:55	UJ, RC:SL
Endosulfans, Total (alpha and beta)	ND	U	0.000684	0.00151	mg/kg	1	7/18/23 17:55	
Endrin	ND	U	0.000520	0.00151	mg/kg	1	7/18/23 17:55	
Endrin aldehyde	**0.000810**	J	**0.000600**	**0.00151**	**mg/kg**	**1**	**7/18/23 17:55**	J, RC:6H
Endrin ketone	ND	U	0.000530	0.00151	mg/kg	1	7/18/23 17:55	
gamma-BHC (Lindane)	ND	U	0.000477	0.00151	mg/kg	1	7/18/23 17:55	
Heptachlor	ND	U	0.000403	0.00151	mg/kg	1	7/18/23 17:55	
Heptachlor Epoxide	ND	U	0.000760	0.00151	mg/kg	1	7/18/23 17:55	
Methoxychlor	ND	U	0.000441	0.00151	mg/kg	1	7/18/23 17:55	UJ, RC:SL
Toxaphene	ND	U	0.0725	0.0764	mg/kg	1	7/18/23 17:55	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	~~ND~~	~~U, H~~	~~3.78E-7~~	~~0.0000200~~	mg/L	1	9/5/23 19:23	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	9/5/23 19:23	
4,4'-DDT	~~ND~~	~~U, H~~	~~3.19E-7~~	~~0.0000200~~	mg/L	1	9/5/23 19:23	

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	9/5/23 19:23	R, RC:1,6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	9/5/23 19:23	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	9/5/23 19:23	
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	9/5/23 19:23	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	9/5/23 19:23	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	9/5/23 19:23	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	9/5/23 19:23	
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	9/5/23 19:23	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	9/5/23 19:23	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	9/5/23 19:23	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	9/5/23 19:23	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	9/5/23 19:23	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	9/5/23 19:23	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	9/5/23 19:23	
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	9/5/23 19:23	
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	9/5/23 19:23	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	9/5/23 19:23	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00435	0.0386	mg/kg	1	7/19/23 16:00	UJ, RC:6L
2,3,4,6-Tetrachlorophenol	ND	U	0.0237	0.154	mg/kg	1	7/19/23 16:00	
2,4,5-Trichlorophenol	ND	U	0.0210	0.154	mg/kg	1	7/19/23 16:00	
2,4,6-Trichlorophenol	ND	U	0.00964	0.154	mg/kg	1	7/19/23 16:00	
2,4-Dichlorophenol	ND	U	0.0155	0.154	mg/kg	1	7/19/23 16:00	
2,4-Dimethylphenol	ND	U	0.0152	0.154	mg/kg	1	7/19/23 16:00	
2,4-Dinitrophenol	ND	U	0.0222	0.772	mg/kg	1	7/19/23 16:00	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0164	0.154	mg/kg	1	7/19/23 16:00	
2,6-Dinitrotoluene	ND	U	0.0368	0.154	mg/kg	1	7/19/23 16:00	
2-Chloronaphthalene	ND	U	0.0177	0.154	mg/kg	1	7/19/23 16:00	
2-Chlorophenol	ND	U	0.0204	0.154	mg/kg	1	7/19/23 16:00	
2-Methylnaphthalene	ND	U	0.0369	0.232	mg/kg	1	7/19/23 16:00	
2-Methylphenol	ND	U	0.0305	0.154	mg/kg	1	7/19/23 16:00	
2-Nitroaniline	ND	U	0.0124	0.154	mg/kg	1	7/19/23 16:00	
2-Nitrophenol	ND	U	0.0171	0.154	mg/kg	1	7/19/23 16:00	
3,3'-Dichlorobenzidine	ND	U	0.0162	0.154	mg/kg	1	7/19/23 16:00	
3+4-Methylphenol	ND	U	0.0283	0.154	mg/kg	1	7/19/23 16:00	
3-Nitroaniline	ND	U	0.0286	0.154	mg/kg	1	7/19/23 16:00	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,6-Dinitro-2-methylphenol	ND	U	0.0291	0.386	mg/kg	1	7/19/23 16:00	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0220	0.154	mg/kg	1	7/19/23 16:00	
4-Chloro-3-methylphenol	ND	U	0.0243	0.154	mg/kg	1	7/19/23 16:00	
4-Chloroaniline	ND	U	0.00540	0.154	mg/kg	1	7/19/23 16:00	
4-Chlorophenyl phenyl ether	ND	U	0.00832	0.154	mg/kg	1	7/19/23 16:00	
4-Nitroaniline	ND	U	0.0771	0.154	mg/kg	1	7/19/23 16:00	UJ, RC:SL
4-Nitrophenol	ND	U	0.00986	0.154	mg/kg	1	7/19/23 16:00	UJ, RC:SL
Acenaphthene	ND	U	0.00879	0.154	mg/kg	1	7/19/23 16:00	
Acenaphthylene	ND	U	0.00536	0.154	mg/kg	1	7/19/23 16:00	
Acetophenone	ND	U	0.0153	0.154	mg/kg	1	7/19/23 16:00	
Anthracene	ND	U	0.0223	0.154	mg/kg	1	7/19/23 16:00	
Atrazine	ND	U	0.0145	0.154	mg/kg	1	7/19/23 16:00	
Benzaldehyde	ND	U	0.0474	0.154	mg/kg	1	7/19/23 16:00	UJ, RC:SL,Q
Benzo(a)anthracene	ND	U	0.0155	0.154	mg/kg	1	7/19/23 16:00	
Benzo(a)pyrene	ND	U	0.0269	0.154	mg/kg	1	7/19/23 16:00	
Benzo(b)fluoranthene	ND	U	0.0217	0.154	mg/kg	1	7/19/23 16:00	
Benzo(g,h,i)perylene	ND	U	0.0125	0.154	mg/kg	1	7/19/23 16:00	
Benzo(k)fluoranthene	ND	U	0.0177	0.154	mg/kg	1	7/19/23 16:00	
Biphenyl	ND	U	0.0135	0.154	mg/kg	1	7/19/23 16:00	
bis(2-chloroethoxy)methane	ND	U	0.0213	0.154	mg/kg	1	7/19/23 16:00	
bis(2-chloroethyl)ether	ND	U	0.0169	0.154	mg/kg	1	7/19/23 16:00	
bis(2-chloroisopropyl)ether	ND	U	0.0555	0.154	mg/kg	1	7/19/23 16:00	UJ, RC:6L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.0308	0.154	mg/kg	1	7/19/23 16:00	
Butylbenzylphthalate	ND	U	0.0140	0.154	mg/kg	1	7/19/23 16:00	
Caprolactam	ND	U	0.0199	0.154	mg/kg	1	7/19/23 16:00	
Carbazole	ND	U	0.0296	0.386	mg/kg	1	7/19/23 16:00	
Chrysene	ND	U	0.0106	0.154	mg/kg	1	7/19/23 16:00	
Dibenzo(a,h)anthracene	ND	U	0.0153	0.154	mg/kg	1	7/19/23 16:00	
Dibenzofuran	ND	U	0.00918	0.154	mg/kg	1	7/19/23 16:00	
Diethylphthalate	ND	U	0.0299	0.154	mg/kg	1	7/19/23 16:00	
Dimethylphthalate	ND	U	0.00956	0.154	mg/kg	1	7/19/23 16:00	
Di-n-butylphthalate	ND	U	0.0630	0.154	mg/kg	1	7/19/23 16:00	
Di-n-octylphthalate	ND	U	0.0316	0.154	mg/kg	1	7/19/23 16:00	
Fluoranthene	ND	U	0.0145	0.154	mg/kg	1	7/19/23 16:00	
Fluorene	ND	U	0.0129	0.154	mg/kg	1	7/19/23 16:00	
Hexachlorobenzene	ND	U	0.0201	0.154	mg/kg	1	7/19/23 16:00	
Hexachlorobutadiene	ND	U	0.0740	0.154	mg/kg	1	7/19/23 16:00	
Hexachlorocyclopentadiene	ND	U	0.0643	0.386	mg/kg	1	7/19/23 16:00	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachloroethane	ND	U	0.0169	0.154	mg/kg	1	7/19/23 16:00	
Indeno(1,2,3-cd)pyrene	ND	U	0.0166	0.154	mg/kg	1	7/19/23 16:00	
Isophorone	ND	U	0.0101	0.154	mg/kg	1	7/19/23 16:00	
Naphthalene	ND	U	0.0114	0.154	mg/kg	1	7/19/23 16:00	
Nitrobenzene	ND	U	0.0262	0.154	mg/kg	1	7/19/23 16:00	
n-Nitroso-di-n-propylamine	ND	U	0.00826	0.154	mg/kg	1	7/19/23 16:00	
n-Nitrosodiphenylamine	ND	U	0.0329	0.154	mg/kg	1	7/19/23 16:00	
Pentachlorophenol	ND	U	0.0212	0.386	mg/kg	1	7/19/23 16:00	UJ, RC:SL
Phenanthrene	ND	U	0.0203	0.154	mg/kg	1	7/19/23 16:00	
Phenol	ND	U	0.0125	0.154	mg/kg	1	7/19/23 16:00	
Pyrene	ND	U	0.0113	0.154	mg/kg	1	7/19/23 16:00	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	20.4	11.79	J	mg/kg	1	7/19/23 16:00	
Octadecanoic acid, butyl ester	~~10.0~~	12.57	B, J	mg/kg	1	7/19/23 16:00	R, RC:2
TIC Total	~~30.4~~ 20.4						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	~~ND~~	~~U~~	~~0.000438~~	~~0.0200~~	mg/L	1	8/17/23 22:36	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/17/23 22:36	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/17/23 22:36	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/17/23 22:36	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/17/23 22:36	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/17/23 22:36	RC:6L,SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/17/23 22:36	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/17/23 22:36	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/17/23 22:36	
Pentachlorophenol	~~ND~~	~~U~~	0.00152	0.0200	mg/L	1	8/17/23 22:36	RC:SL
Pyridine	~~ND~~	~~U~~	~~0.000494~~	~~0.0200~~	mg/L	1	8/17/23 22:36	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000297	0.00203	mg/kg	1	7/17/23 23:07
1,1,2,2-Tetrachloroethane	ND	U	0.000280	0.00203	mg/kg	1	7/17/23 23:07
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000869	0.00203	mg/kg	1	7/17/23 23:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,2-Trichloroethane	ND	U	0.000342	0.00203	mg/kg	1	7/17/23 23:07
1,1-Dichloroethane	ND	U	0.000297	0.00203	mg/kg	1	7/17/23 23:07
1,1-Dichloroethene	ND	U	0.000376	0.00203	mg/kg	1	7/17/23 23:07
1,2,3-Trichlorobenzene	ND	U	0.000439	0.00203	mg/kg	1	7/17/23 23:07
1,2,4-Trichlorobenzene	ND	U	0.000541	0.00203	mg/kg	1	7/17/23 23:07
1,2,4-Trimethylbenzene	ND	U	0.000280	0.00203	mg/kg	1	7/17/23 23:07
1,2-Dibromo-3-chloropropane	ND	U	0.000496	0.00203	mg/kg	1	7/17/23 23:07
1,2-Dibromoethane	ND	U	0.000256	0.00203	mg/kg	1	7/17/23 23:07
1,2-Dichlorobenzene	ND	U	0.000359	0.00203	mg/kg	1	7/17/23 23:07
1,2-Dichloroethane	ND	U	0.000286	0.00203	mg/kg	1	7/17/23 23:07
1,2-Dichloropropane	ND	U	0.000333	0.00203	mg/kg	1	7/17/23 23:07
1,3-Dichlorobenzene	ND	U	0.000149	0.00203	mg/kg	1	7/17/23 23:07
1,4-Dichlorobenzene	ND	U	0.000293	0.00203	mg/kg	1	7/17/23 23:07
2-Butanone	ND	U	0.000331	0.00508	mg/kg	1	7/17/23 23:07
2-Hexanone	ND	U	0.000190	0.00203	mg/kg	1	7/17/23 23:07
4-Methyl-2-pentanone	ND	U	0.000254	0.00203	mg/kg	1	7/17/23 23:07
Acetone	ND	U	0.000615	0.00508	mg/kg	1	7/17/23 23:07
Benzene	**0.00296**		**0.000185**	**0.00203**	**mg/kg**	**1**	**7/17/23 23:07**
Bromochloromethane	ND	U	0.000375	0.00203	mg/kg	1	7/17/23 23:07
Bromodichloromethane	ND	U	0.000255	0.00203	mg/kg	1	7/17/23 23:07
Bromoform	ND	U	0.000356	0.00203	mg/kg	1	7/17/23 23:07
Bromomethane	ND	U	0.000586	0.00203	mg/kg	1	7/17/23 23:07
Carbon disulfide	ND	U	0.000291	0.00203	mg/kg	1	7/17/23 23:07
Carbon Tetrachloride	ND	U	0.000306	0.00203	mg/kg	1	7/17/23 23:07
Chlorobenzene	ND	U	0.000295	0.00203	mg/kg	1	7/17/23 23:07
Chlorodibromomethane	ND	U	0.000250	0.00203	mg/kg	1	7/17/23 23:07
Chloroethane	ND	U	0.000346	0.00203	mg/kg	1	7/17/23 23:07
Chloroform	ND	U	0.000341	0.00203	mg/kg	1	7/17/23 23:07
Chloromethane	ND	U	0.000782	0.00203	mg/kg	1	7/17/23 23:07
cis-1,2-Dichloroethene	ND	U	0.0000982	0.00203	mg/kg	1	7/17/23 23:07
cis-1,3-Dichloropropene	ND	U	0.000257	0.00203	mg/kg	1	7/17/23 23:07
Cyclohexane	ND	U	0.000450	0.00203	mg/kg	1	7/17/23 23:07
Dichlorodifluoromethane	ND	U	0.000686	0.00203	mg/kg	1	7/17/23 23:07
EthylBenzene	ND	U	0.000275	0.00203	mg/kg	1	7/17/23 23:07
Isopropylbenzene	ND	U	0.000319	0.00203	mg/kg	1	7/17/23 23:07
m+p-Xylenes	ND	U	0.000513	0.00406	mg/kg	1	7/17/23 23:07
Methyl Acetate	ND	U	0.000269	0.00203	mg/kg	1	7/17/23 23:07
Methyl tert-Butyl Ether	ND	U	0.000343	0.00203	mg/kg	1	7/17/23 23:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	ND	U	0.000327	0.00203	mg/kg	1	7/17/23 23:07
Methylene Chloride	ND	U	0.000610	0.00203	mg/kg	1	7/17/23 23:07
o-Xylene	ND	U	0.000261	0.00203	mg/kg	1	7/17/23 23:07
Styrene	ND	U	0.000290	0.00203	mg/kg	1	7/17/23 23:07
tert-Butyl alcohol	ND	U	0.00427	0.0203	mg/kg	1	7/17/23 23:07
Tetrachloroethene	ND	U	0.000201	0.00203	mg/kg	1	7/17/23 23:07
Toluene	ND	U	0.000164	0.00203	mg/kg	1	7/17/23 23:07
Total Xylenes	ND	U	0.000261	0.00203	mg/kg	1	7/17/23 23:07
trans-1,2-Dichloroethene	ND	U	0.000275	0.00203	mg/kg	1	7/17/23 23:07
trans-1,3-Dichloropropene	ND	U	0.000388	0.00203	mg/kg	1	7/17/23 23:07
Trichloroethene	ND	U	0.000299	0.00203	mg/kg	1	7/17/23 23:07
Trichlorofluoromethane	ND	U	0.000234	0.00203	mg/kg	1	7/17/23 23:07
Vinyl chloride	ND	U	0.000386	0.00203	mg/kg	1	7/17/23 23:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Decanol, 2-ethyl-	0.0813	21.32	J	mg/kg	1	7/17/23 23:07
Cycloheptane, methyl-	0.0675	22.48	J	mg/kg	1	7/17/23 23:07
Decane	0.234	18.27	J	mg/kg	1	7/17/23 23:07
Decane, 2,6,7-trimethyl-	0.138	23.24	J	mg/kg	1	7/17/23 23:07
Dodecane	0.257	22.11	J	mg/kg	1	7/17/23 23:07
Dodecane, 2,5-dimethyl-	0.0835	19.76	J	mg/kg	1	7/17/23 23:07
Hexadecane, 7,9-dimethyl-	0.0636	24.32	J	mg/kg	1	7/17/23 23:07
Octane, 1,1-oxybis-	0.0539	17.68	J	mg/kg	1	7/17/23 23:07
Tridecane	0.365	23.63	J	mg/kg	1	7/17/23 23:07
Tridecane, 4-methyl-	0.0606	23.05	J	mg/kg	1	7/17/23 23:07
Undecane	0.170	20.30	J	mg/kg	1	7/17/23 23:07
Undecane, 2,10-dimethyl-	0.111	23.10	J	mg/kg	1	7/17/23 23:07
Undecane, 2,4-dimethyl-	0.118	22.96	J	mg/kg	1	7/17/23 23:07
Undecane, 2,6-dimethyl-	0.0896	22.33	J	mg/kg	1	7/17/23 23:07
Undecane, 4,5-dimethyl-	0.0549	17.44	J	mg/kg	1	7/17/23 23:07
TIC Total	**1.95**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-03 (Soil) Sample Name: **MR-205-6.0-7.0-20230713** Collected: **7/13/2023 9:45:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/26/23 5:19
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/26/23 5:19
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/26/23 5:19
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/26/23 5:19
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/26/23 5:19
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/26/23 5:19
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/26/23 5:19
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/26/23 5:19
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/26/23 5:19
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/26/23 5:19
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/26/23 5:19

R, RC:1

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.4**				**%**	**1**	**7/19/23 10:55**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 12:56

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00722	0.0606	mg/kg	1	7/17/23 16:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.90**				**pH Units**	**1**	**7/17/23 17:28**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/17/23 17:58

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	7/19/23 17:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00542	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1221	ND	U	0.0107	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1232	ND	U	0.0136	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1242	ND	U	0.00795	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1248	ND	U	0.00831	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1254	ND	U	0.00653	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1260	ND	U	0.00506	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1262	ND	U	0.0109	0.0404	mg/kg	1	7/19/23 19:01	
Aroclor-1268	ND	U	0.00489	0.0404	mg/kg	1	7/19/23 19:01	
Total PCBs	ND	U	0.00378	0.0404	mg/kg	1	7/19/23 19:01	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0120	0.123	mg/kg	1	7/25/23 17:09	
2,4-D	ND	U	0.0203	0.123	mg/kg	1	7/25/23 17:09	UJ, RC:Q

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:19	R, RC:1
2,4-D	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:19	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.0285**		**0.00613**	**0.0245**	**mg/kg**	**1**	**7/26/23 16:05**	

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/15/23 13:12	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2630**		**0.173**	**2.92**	**mg/kg**	**1**	**7/25/23 12:45**
Antimony	ND	U	0.159	1.46	mg/kg	1	7/25/23 12:45
Arsenic	ND	U	0.104	1.46	mg/kg	1	7/25/23 12:45
Barium	**12.0**		**0.0441**	**0.584**	**mg/kg**	**1**	**7/25/23 12:45**
Beryllium	**0.172**		**0.00338**	**0.0292**	**mg/kg**	**1**	**7/25/23 12:45**
Cadmium	ND	U	0.0569	0.292	mg/kg	1	7/25/23 12:45
Calcium	**2360**		**3.28**	**29.2**	**mg/kg**	**1**	**7/25/23 12:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**4.78**		**0.0329**	**0.292**	**mg/kg**	**1**	**7/25/23 12:45**
Cobalt	**1.62**		**0.0298**	**0.233**	**mg/kg**	**1**	**7/25/23 12:45**
Copper	**4.20**		**0.0816**	**0.292**	**mg/kg**	**1**	**7/25/23 12:45**
Iron	**4030**		**0.827**	**5.84**	**mg/kg**	**1**	**7/25/23 12:45**
Lead	**4.30**		**0.122**	**1.46**	**mg/kg**	**1**	**7/25/23 12:45**
Magnesium	**2080**		**10.3**	**58.4**	**mg/kg**	**1**	**7/25/23 12:45**
Manganese	**68.1**		**0.0363**	**0.292**	**mg/kg**	**1**	**7/25/23 12:45**
Nickel	**6.42**		**0.0256**	**0.146**	**mg/kg**	**1**	**7/25/23 12:45**
Potassium	**472**		**34.7**	**117**	**mg/kg**	**1**	**7/25/23 12:45**
Selenium	ND	U	0.280	1.46	mg/kg	1	7/25/23 12:45
Silver	ND	U	0.0496	0.175	mg/kg	1	7/25/23 12:45
Sodium	**542**		**5.56**	**58.4**	**mg/kg**	**1**	**7/25/23 12:45**
Thallium	ND	U	0.0982	1.46	mg/kg	1	7/25/23 12:45
Vanadium	**7.29**		**0.0671**	**0.584**	**mg/kg**	**1**	**7/25/23 12:45**
Zinc	**10.5**		**0.0891**	**0.875**	**mg/kg**	**1**	**7/25/23 12:45**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 14:30	
Barium	**1.24**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 14:30**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 14:30	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 14:30	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 14:30	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 14:30	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 14:30	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000729	0.00159	mg/kg	1	7/18/23 18:13
4,4'-DDE	ND	U	0.000871	0.00159	mg/kg	1	7/18/23 18:13
4,4'-DDT	ND	U	0.00112	0.00159	mg/kg	1	7/18/23 18:13
Aldrin	ND	U	0.000755	0.00159	mg/kg	1	7/18/23 18:13
alpha-BHC	ND	U	0.000474	0.00159	mg/kg	1	7/18/23 18:13
beta-BHC	ND	U	0.000761	0.00159	mg/kg	1	7/18/23 18:13
Chlordane	ND	U	0.000708	0.00159	mg/kg	1	7/18/23 18:13
delta-BHC	ND	U	0.000740	0.00159	mg/kg	1	7/18/23 18:13
Dieldrin	ND	U	0.000833	0.00159	mg/kg	1	7/18/23 18:13
Endosulfan I	ND	U	0.000752	0.00159	mg/kg	1	7/18/23 18:13

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000724	0.00159	mg/kg	1	7/18/23 18:13	
Endosulfan sulfate	ND	U	0.000599	0.00159	mg/kg	1	7/18/23 18:13	UJ, RC:SL
Endosulfans, Total (alpha and beta)	ND	U	0.000724	0.00159	mg/kg	1	7/18/23 18:13	
Endrin	ND	U	0.000550	0.00159	mg/kg	1	7/18/23 18:13	
Endrin aldehyde	ND	U	0.000635	0.00159	mg/kg	1	7/18/23 18:13	
Endrin ketone	ND	U	0.000561	0.00159	mg/kg	1	7/18/23 18:13	
gamma-BHC (Lindane)	ND	U	0.000505	0.00159	mg/kg	1	7/18/23 18:13	
Heptachlor	ND	U	0.000426	0.00159	mg/kg	1	7/18/23 18:13	
Heptachlor Epoxide	ND	U	0.000804	0.00159	mg/kg	1	7/18/23 18:13	
Methoxychlor	ND	U	0.000467	0.00159	mg/kg	1	7/18/23 18:13	UJ, RC:SL
Toxaphene	ND	U	0.0767	0.0809	mg/kg	1	7/18/23 18:13	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U, H	3.78E-7	0.0000200	mg/L	1	9/5/23 19:45	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	9/5/23 19:45	
4,4'-DDT	ND	U, H	3.19E-7	0.0000200	mg/L	1	9/5/23 19:45	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	9/5/23 19:45	RC:6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	9/5/23 19:45	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	9/5/23 19:45	
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	9/5/23 19:45	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	9/5/23 19:45	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	9/5/23 19:45	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	9/5/23 19:45	
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	9/5/23 19:45	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	9/5/23 19:45	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	9/5/23 19:45	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	9/5/23 19:45	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	9/5/23 19:45	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	9/5/23 19:45	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	9/5/23 19:45	
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	9/5/23 19:45	
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	9/5/23 19:45	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	9/5/23 19:45	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00461	0.0408	mg/kg	1	7/19/23 16:30	UJ, RC:6L
2,3,4,6-Tetrachlorophenol	ND	U	0.0251	0.163	mg/kg	1	7/19/23 16:30	
2,4,5-Trichlorophenol	ND	U	0.0222	0.163	mg/kg	1	7/19/23 16:30	
2,4,6-Trichlorophenol	ND	U	0.0102	0.163	mg/kg	1	7/19/23 16:30	
2,4-Dichlorophenol	ND	U	0.0164	0.163	mg/kg	1	7/19/23 16:30	
2,4-Dimethylphenol	ND	U	0.0161	0.163	mg/kg	1	7/19/23 16:30	
2,4-Dinitrophenol	ND	U	0.0235	0.817	mg/kg	1	7/19/23 16:30	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0174	0.163	mg/kg	1	7/19/23 16:30	
2,6-Dinitrotoluene	ND	U	0.0390	0.163	mg/kg	1	7/19/23 16:30	
2-Chloronaphthalene	ND	U	0.0187	0.163	mg/kg	1	7/19/23 16:30	
2-Chlorophenol	ND	U	0.0216	0.163	mg/kg	1	7/19/23 16:30	
2-Methylnaphthalene	ND	U	0.0391	0.245	mg/kg	1	7/19/23 16:30	
2-Methylphenol	ND	U	0.0322	0.163	mg/kg	1	7/19/23 16:30	
2-Nitroaniline	ND	U	0.0131	0.163	mg/kg	1	7/19/23 16:30	
2-Nitrophenol	ND	U	0.0181	0.163	mg/kg	1	7/19/23 16:30	
3,3'-Dichlorobenzidine	ND	U	0.0172	0.163	mg/kg	1	7/19/23 16:30	
3+4-Methylphenol	ND	U	0.0299	0.163	mg/kg	1	7/19/23 16:30	
3-Nitroaniline	ND	U	0.0303	0.163	mg/kg	1	7/19/23 16:30	
4,6-Dinitro-2-methylphenol	ND	U	0.0308	0.408	mg/kg	1	7/19/23 16:30	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0233	0.163	mg/kg	1	7/19/23 16:30	
4-Chloro-3-methylphenol	ND	U	0.0257	0.163	mg/kg	1	7/19/23 16:30	
4-Chloroaniline	ND	U	0.00571	0.163	mg/kg	1	7/19/23 16:30	
4-Chlorophenyl phenyl ether	ND	U	0.00881	0.163	mg/kg	1	7/19/23 16:30	
4-Nitroaniline	ND	U	0.0816	0.163	mg/kg	1	7/19/23 16:30	UJ, RC:SL
4-Nitrophenol	ND	U	0.0104	0.163	mg/kg	1	7/19/23 16:30	UJ, RC:SL
Acenaphthene	ND	U	0.00930	0.163	mg/kg	1	7/19/23 16:30	
Acenaphthylene	ND	U	0.00567	0.163	mg/kg	1	7/19/23 16:30	
Acetophenone	ND	U	0.0162	0.163	mg/kg	1	7/19/23 16:30	
Anthracene	ND	U	0.0237	0.163	mg/kg	1	7/19/23 16:30	
Atrazine	ND	U	0.0153	0.163	mg/kg	1	7/19/23 16:30	
Benzaldehyde	ND	U	0.0501	0.163	mg/kg	1	7/19/23 16:30	UJ, RC:SL,Q
Benzo(a)anthracene	**0.0436**	J	**0.0164**	**0.163**	**mg/kg**	**1**	**7/19/23 16:30**	
Benzo(a)pyrene	**0.0336**	J	**0.0284**	**0.163**	**mg/kg**	**1**	**7/19/23 16:30**	
Benzo(b)fluoranthene	ND	U	0.0229	0.163	mg/kg	1	7/19/23 16:30	
Benzo(g,h,i)perylene	ND	U	0.0132	0.163	mg/kg	1	7/19/23 16:30	
Benzo(k)fluoranthene	ND	U	0.0187	0.163	mg/kg	1	7/19/23 16:30	
Biphenyl	ND	U	0.0143	0.163	mg/kg	1	7/19/23 16:30	
bis(2-chloroethoxy)methane	ND	U	0.0225	0.163	mg/kg	1	7/19/23 16:30	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0179	0.163	mg/kg	1	7/19/23 16:30	
bis(2-chloroisopropyl)ether	ND	U	0.0587	0.163	mg/kg	1	7/19/23 16:30	UJ, RC:6L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.0326	0.163	mg/kg	1	7/19/23 16:30	
Butylbenzylphthalate	ND	U	0.0148	0.163	mg/kg	1	7/19/23 16:30	
Caprolactam	ND	U	0.0211	0.163	mg/kg	1	7/19/23 16:30	
Carbazole	ND	U	0.0314	0.408	mg/kg	1	7/19/23 16:30	
Chrysene	**0.0334**	J	**0.0112**	**0.163**	**mg/kg**	**1**	**7/19/23 16:30**	
Dibenzo(a,h)anthracene	ND	U	0.0162	0.163	mg/kg	1	7/19/23 16:30	
Dibenzofuran	ND	U	0.00972	0.163	mg/kg	1	7/19/23 16:30	
Diethylphthalate	ND	U	0.0316	0.163	mg/kg	1	7/19/23 16:30	
Dimethylphthalate	ND	U	0.0101	0.163	mg/kg	1	7/19/23 16:30	
Di-n-butylphthalate	ND	U	0.0667	0.163	mg/kg	1	7/19/23 16:30	
Di-n-octylphthalate	ND	U	0.0335	0.163	mg/kg	1	7/19/23 16:30	
Fluoranthene	**0.0705**	J	**0.0153**	**0.163**	**mg/kg**	**1**	**7/19/23 16:30**	
Fluorene	ND	U	0.0136	0.163	mg/kg	1	7/19/23 16:30	
Hexachlorobenzene	ND	U	0.0213	0.163	mg/kg	1	7/19/23 16:30	
Hexachlorobutadiene	ND	U	0.0783	0.163	mg/kg	1	7/19/23 16:30	
Hexachlorocyclopentadiene	ND	U	0.0680	0.408	mg/kg	1	7/19/23 16:30	UJ, RC:SL
Hexachloroethane	ND	U	0.0179	0.163	mg/kg	1	7/19/23 16:30	
Indeno(1,2,3-cd)pyrene	ND	U	0.0175	0.163	mg/kg	1	7/19/23 16:30	
Isophorone	ND	U	0.0107	0.163	mg/kg	1	7/19/23 16:30	
Naphthalene	ND	U	0.0121	0.163	mg/kg	1	7/19/23 16:30	
Nitrobenzene	ND	U	0.0277	0.163	mg/kg	1	7/19/23 16:30	
n-Nitroso-di-n-propylamine	ND	U	0.00874	0.163	mg/kg	1	7/19/23 16:30	
n-Nitrosodiphenylamine	ND	U	0.0348	0.163	mg/kg	1	7/19/23 16:30	
Pentachlorophenol	ND	U	0.0224	0.408	mg/kg	1	7/19/23 16:30	UJ, RC:SL
Phenanthrene	**0.0619**	J	**0.0214**	**0.163**	**mg/kg**	**1**	**7/19/23 16:30**	
Phenol	ND	U	0.0132	0.163	mg/kg	1	7/19/23 16:30	
Pyrene	**0.0516**	J	**0.0120**	**0.163**	**mg/kg**	**1**	**7/19/23 16:30**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Dodecane	0.702	7.11	J	mg/kg	1	7/19/23 16:30	
Hexadecanoic acid, butyl ester	11.1	11.79	J	mg/kg	1	7/19/23 16:30	
Octadecanoic acid, butyl ester	~~5.60~~	12.57	J, B	mg/kg	1	7/19/23 16:30	R, RC:2
unknown (01)	1.58	7.72	J	mg/kg	1	7/19/23 16:30	
unknown (02)	0.362	14.08	J	mg/kg	1	7/19/23 16:30	
TIC Total	~~19.3~~ 13.7						

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/18/23 17:18	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/18/23 17:18	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/18/23 17:18	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/18/23 17:18	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/18/23 17:18	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/18/23 17:18	RC:6L,SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/18/23 17:18	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/18/23 17:18	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/18/23 17:18	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/18/23 17:18	RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/18/23 17:18	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000252	0.00173	mg/kg	1	7/19/23 9:17
1,1,2,2-Tetrachloroethane	ND	U	0.000238	0.00173	mg/kg	1	7/19/23 9:17
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000739	0.00173	mg/kg	1	7/19/23 9:17
1,1,2-Trichloroethane	ND	U	0.000291	0.00173	mg/kg	1	7/19/23 9:17
1,1-Dichloroethane	ND	U	0.000252	0.00173	mg/kg	1	7/19/23 9:17
1,1-Dichloroethene	ND	U	0.000319	0.00173	mg/kg	1	7/19/23 9:17
1,2,3-Trichlorobenzene	ND	U	0.000373	0.00173	mg/kg	1	7/19/23 9:17
1,2,4-Trichlorobenzene	ND	U	0.000460	0.00173	mg/kg	1	7/19/23 9:17
1,2,4-Trimethylbenzene	ND	U	0.000238	0.00173	mg/kg	1	7/19/23 9:17
1,2-Dibromo-3-chloropropane	ND	U	0.000421	0.00173	mg/kg	1	7/19/23 9:17
1,2-Dibromoethane	ND	U	0.000217	0.00173	mg/kg	1	7/19/23 9:17
1,2-Dichlorobenzene	ND	U	0.000305	0.00173	mg/kg	1	7/19/23 9:17
1,2-Dichloroethane	ND	U	0.000243	0.00173	mg/kg	1	7/19/23 9:17
1,2-Dichloropropane	ND	U	0.000283	0.00173	mg/kg	1	7/19/23 9:17
1,3-Dichlorobenzene	ND	U	0.000127	0.00173	mg/kg	1	7/19/23 9:17
1,4-Dichlorobenzene	ND	U	0.000249	0.00173	mg/kg	1	7/19/23 9:17
2-Butanone	ND	U	0.000281	0.00431	mg/kg	1	7/19/23 9:17
2-Hexanone	ND	U	0.000161	0.00173	mg/kg	1	7/19/23 9:17
4-Methyl-2-pentanone	ND	U	0.000216	0.00173	mg/kg	1	7/19/23 9:17
Acetone	ND	U	0.000523	0.00431	mg/kg	1	7/19/23 9:17
Benzene	ND	U	0.000157	0.00173	mg/kg	1	7/19/23 9:17
Bromochloromethane	ND	U	0.000318	0.00173	mg/kg	1	7/19/23 9:17
Bromodichloromethane	ND	U	0.000217	0.00173	mg/kg	1	7/19/23 9:17

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000303	0.00173	mg/kg	1	7/19/23 9:17	
Bromomethane	ND	U	0.000498	0.00173	mg/kg	1	7/19/23 9:17	
Carbon disulfide	ND	U	0.000248	0.00173	mg/kg	1	7/19/23 9:17	
Carbon Tetrachloride	ND	U	0.000260	0.00173	mg/kg	1	7/19/23 9:17	
Chlorobenzene	ND	U	0.000250	0.00173	mg/kg	1	7/19/23 9:17	
Chlorodibromomethane	ND	U	0.000212	0.00173	mg/kg	1	7/19/23 9:17	
Chloroethane	ND	U	0.000294	0.00173	mg/kg	1	7/19/23 9:17	
Chloroform	ND	U	0.000290	0.00173	mg/kg	1	7/19/23 9:17	
Chloromethane	ND	U	0.000664	0.00173	mg/kg	1	7/19/23 9:17	
cis-1,2-Dichloroethene	ND	U	0.0000834	0.00173	mg/kg	1	7/19/23 9:17	
cis-1,3-Dichloropropene	ND	U	0.000218	0.00173	mg/kg	1	7/19/23 9:17	
Cyclohexane	ND	U	0.000382	0.00173	mg/kg	1	7/19/23 9:17	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.000583	0.00173	mg/kg	1	7/19/23 9:17	UJ, RC:SL
EthylBenzene	ND	U	0.000234	0.00173	mg/kg	1	7/19/23 9:17	
Isopropylbenzene	ND	U	0.000271	0.00173	mg/kg	1	7/19/23 9:17	
m+p-Xylenes	ND	U	0.000436	0.00345	mg/kg	1	7/19/23 9:17	
Methyl Acetate	ND	U	0.000229	0.00173	mg/kg	1	7/19/23 9:17	
Methyl tert-Butyl Ether	ND	U	0.000292	0.00173	mg/kg	1	7/19/23 9:17	
Methylcyclohexane	ND	U	0.000278	0.00173	mg/kg	1	7/19/23 9:17	
Methylene Chloride	ND	U	0.000519	0.00173	mg/kg	1	7/19/23 9:17	
o-Xylene	ND	U	0.000222	0.00173	mg/kg	1	7/19/23 9:17	
Styrene	ND	U	0.000247	0.00173	mg/kg	1	7/19/23 9:17	
tert-Butyl alcohol	ND	U	0.00362	0.0173	mg/kg	1	7/19/23 9:17	
Tetrachloroethene	ND	U	0.000171	0.00173	mg/kg	1	7/19/23 9:17	
Toluene	ND	U	0.000139	0.00173	mg/kg	1	7/19/23 9:17	
Total Xylenes	ND	U	0.000222	0.00173	mg/kg	1	7/19/23 9:17	
trans-1,2-Dichloroethene	ND	U	0.000234	0.00173	mg/kg	1	7/19/23 9:17	
trans-1,3-Dichloropropene	ND	U	0.000330	0.00173	mg/kg	1	7/19/23 9:17	
Trichloroethene	ND	U	0.000254	0.00173	mg/kg	1	7/19/23 9:17	
Trichlorofluoromethane	ND	U	0.000198	0.00173	mg/kg	1	7/19/23 9:17	
Vinyl chloride	ND	U	0.000328	0.00173	mg/kg	1	7/19/23 9:17	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
(R)-(-)-(Z)-14-Methyl-8-hexadecen-1-ol	0.0121	21.30	J	mg/kg	1	7/19/23 9:17
5-Octadecene, (E)-	0.0394	16.59	J	mg/kg	1	7/19/23 9:17
Cyclohexane, 1,1-(1,4-butanediyl)bis-	0.0136	19.33	J	mg/kg	1	7/19/23 9:17

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-2023 0713** Collected: **7/13/2023 9:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, 1,2,4-trimethyl-	0.0121	15.89	J	mg/kg	1	7/19/23 9:17
Cyclohexane, propyl-	0.0378	17.07	J	mg/kg	1	7/19/23 9:17
Decane	0.0539	18.26	J	mg/kg	1	7/19/23 9:17
Decane, 5-methyl-	0.0155	17.35	J	mg/kg	1	7/19/23 9:17
Heptane, 5-ethyl-2-methyl-	0.0130	16.96	J	mg/kg	1	7/19/23 9:17
Naphthalene, decahydro-, trans-	0.0103	20.19	J	mg/kg	1	7/19/23 9:17
Nonane	0.0628	16.00	J	mg/kg	1	7/19/23 9:17
Nonane, 4-methyl-	0.0275	17.42	J	mg/kg	1	7/19/23 9:17
Octane, 1,1-oxybis-	0.0225	17.66	J	mg/kg	1	7/19/23 9:17
Octane, 2,6-dimethyl-	0.0178	16.83	J	mg/kg	1	7/19/23 9:17
Octane, 2-methyl-	0.0256	15.12	J	mg/kg	1	7/19/23 9:17
Octane, 3-methyl-	0.0122	15.31	J	mg/kg	1	7/19/23 9:17
TIC Total	**0.376**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/26/23 5:45 R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/26/23 5:45
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/26/23 5:45
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/26/23 5:45
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/26/23 5:45
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/26/23 5:45
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/26/23 5:45
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/26/23 5:45
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/26/23 5:45
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/26/23 5:45
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/26/23 5:45

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.6**				**%**	**1**	**7/19/23 10:55**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 12:56

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-04 (Soil) Sample Name: **MR-205-8.0-10.0-20230713** Collected: **7/13/2023 9:50:00AM**

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00914	0.0767	mg/kg	1	7/17/23 16:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.17**				**pH Units**	**1**	**7/17/23 17:28**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/17/23 17:58

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	ND	0.00	U	mg/kg	1	7/19/23 17:36

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0196	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1221	ND	U	0.0385	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1232	ND	U	0.0490	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1242	ND	U	0.0287	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1248	ND	U	0.0300	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1254	ND	U	0.0236	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1260	ND	U	0.0183	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1262	ND	U	0.0393	0.146	mg/kg	1	7/19/23 19:23
Aroclor-1268	ND	U	0.0177	0.146	mg/kg	1	7/19/23 19:23
Total PCBs	ND	U	0.0136	0.146	mg/kg	1	7/19/23 19:23

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0434	0.443	mg/kg	1	7/25/23 17:18	
2,4-D	ND	U	0.0735	0.443	mg/kg	1	7/25/23 17:18	UJ, RC:Q

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:28	R, RC:1
2,4-D	~~ND~~	~~U, H~~	~~0.00900~~	~~0.0200~~	mg/L	1	9/5/23 11:28	R, RC:1

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.183**		**0.0221**	**0.0886**	**mg/kg**	**1**	**7/26/23 16:15**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/15/23 13:14	UJ, RC:1

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5050**		**0.674**	**11.4**	**mg/kg**	**1**	**7/25/23 12:47**
Antimony	ND	U	0.618	5.68	mg/kg	1	7/25/23 12:47
Arsenic	ND	U	0.405	5.68	mg/kg	1	7/25/23 12:47
Barium	**596**		**0.172**	**2.27**	**mg/kg**	**1**	**7/25/23 12:47**
Beryllium	**0.243**		**0.0131**	**0.114**	**mg/kg**	**1**	**7/25/23 12:47**
Cadmium	**1.61**		**0.221**	**1.14**	**mg/kg**	**1**	**7/25/23 12:47**
Calcium	**37300**		**12.8**	**114**	**mg/kg**	**1**	**7/25/23 12:47**
Chromium	**33.9**		**0.128**	**1.14**	**mg/kg**	**1**	**7/25/23 12:47**
Cobalt	**4.35**		**0.116**	**0.908**	**mg/kg**	**1**	**7/25/23 12:47**
Copper	**913**		**0.318**	**1.14**	**mg/kg**	**1**	**7/25/23 12:47**
Iron	**22000**		**3.22**	**22.7**	**mg/kg**	**1**	**7/25/23 12:47**
Lead	**64.1**		**0.474**	**5.68**	**mg/kg**	**1**	**7/25/23 12:47**
Magnesium	**5080**		**40.1**	**227**	**mg/kg**	**1**	**7/25/23 12:47**
Manganese	**1710**		**0.141**	**1.14**	**mg/kg**	**1**	**7/25/23 12:47**
Nickel	**23.5**		**0.0997**	**0.568**	**mg/kg**	**1**	**7/25/23 12:47**
Potassium	**1940**		**135**	**454**	**mg/kg**	**1**	**7/25/23 12:47**
Selenium	**7.25**		**1.09**	**5.68**	**mg/kg**	**1**	**7/25/23 12:47**
Silver	**5.30**		**0.193**	**0.681**	**mg/kg**	**1**	**7/25/23 12:47**
Sodium	**2200**		**21.6**	**227**	**mg/kg**	**1**	**7/25/23 12:47**
Thallium	ND	U	0.382	5.68	mg/kg	1	7/25/23 12:47
Vanadium	**17.6**		**0.261**	**2.27**	**mg/kg**	**1**	**7/25/23 12:47**
Zinc	**2370**	D	**3.47**	**34.1**	**mg/kg**	**10**	**7/25/23 14:07**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/17/23 14:33	
Barium	**0.864**		**0.00279**	**0.100**	**mg/L**	**1**	**8/17/23 14:33**	J, RC:6H
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/17/23 14:33	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/17/23 14:33	
Lead	ND	U	0.0255	0.250	mg/L	1	8/17/23 14:33	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/17/23 14:33	
Silver	ND	U	0.0232	0.100	mg/L	1	8/17/23 14:33	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.00263	0.00576	mg/kg	1	7/18/23 18:32	
4,4'-DDE	ND	U	0.00315	0.00576	mg/kg	1	7/18/23 18:32	
4,4'-DDT	ND	U	0.00406	0.00576	mg/kg	1	7/18/23 18:32	
Aldrin	ND	U	0.00273	0.00576	mg/kg	1	7/18/23 18:32	
alpha-BHC	ND	U	0.00171	0.00576	mg/kg	1	7/18/23 18:32	
beta-BHC	ND	U	0.00275	0.00576	mg/kg	1	7/18/23 18:32	
Chlordane	ND	U	0.00256	0.00576	mg/kg	1	7/18/23 18:32	
delta-BHC	ND	U	0.00267	0.00576	mg/kg	1	7/18/23 18:32	
Dieldrin	ND	U	0.00301	0.00576	mg/kg	1	7/18/23 18:32	
Endosulfan I	ND	U	0.00272	0.00576	mg/kg	1	7/18/23 18:32	
Endosulfan II	ND	U	0.00262	0.00576	mg/kg	1	7/18/23 18:32	
Endosulfan sulfate	ND	U	0.00217	0.00576	mg/kg	1	7/18/23 18:32	UJ, RC:SL
Endosulfans, Total (alpha and beta)	ND	U	0.00262	0.00576	mg/kg	1	7/18/23 18:32	
Endrin	ND	U	0.00199	0.00576	mg/kg	1	7/18/23 18:32	
Endrin aldehyde	ND	U	0.00229	0.00576	mg/kg	1	7/18/23 18:32	
Endrin ketone	ND	U	0.00203	0.00576	mg/kg	1	7/18/23 18:32	
gamma-BHC (Lindane)	ND	U	0.00182	0.00576	mg/kg	1	7/18/23 18:32	
Heptachlor	ND	U	0.00154	0.00576	mg/kg	1	7/18/23 18:32	
Heptachlor Epoxide	ND	U	0.00290	0.00576	mg/kg	1	7/18/23 18:32	
Methoxychlor	ND	U	0.00169	0.00576	mg/kg	1	7/18/23 18:32	UJ, RC:SL
Toxaphene	ND	U	0.277	0.292	mg/kg	1	7/18/23 18:32	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	~~ND~~	~~U, H~~	~~3.78E-7~~	~~0.0000200~~	mg/L	1	9/5/23 20:08	R, RC:1
4,4'-DDE	ND	U, H	2.34E-7	0.0000200	mg/L	1	9/5/23 20:08	
4,4'-DDT	~~ND~~	~~U, H~~	~~3.19E-7~~	~~0.0000200~~	mg/L	1	9/5/23 20:08	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U, H	5.27E-7	0.0000200	mg/L	1	9/5/23 20:08	R, RC:1,6L
alpha-BHC	ND	U, H	2.55E-7	0.0000200	mg/L	1	9/5/23 20:08	
beta-BHC	ND	U, H	3.71E-7	0.0000200	mg/L	1	9/5/23 20:08	
Chlordane	ND	U, H	3.27E-7	0.0000500	mg/L	1	9/5/23 20:08	
delta-BHC	ND	U, H	3.20E-7	0.0000200	mg/L	1	9/5/23 20:08	
Dieldrin	ND	U, H	2.71E-7	0.0000200	mg/L	1	9/5/23 20:08	
Endosulfan I	ND	U, H	3.80E-7	0.0000200	mg/L	1	9/5/23 20:08	
Endosulfan II	ND	U, H	2.54E-7	0.0000200	mg/L	1	9/5/23 20:08	
Endosulfan sulfate	ND	U, H	1.38E-7	0.0000200	mg/L	1	9/5/23 20:08	RC:6L
Endrin	ND	U, H	2.29E-7	0.0000200	mg/L	1	9/5/23 20:08	RC:6L
Endrin aldehyde	ND	U, H	3.18E-7	0.0000200	mg/L	1	9/5/23 20:08	
Endrin ketone	ND	U, H	2.03E-7	0.0000200	mg/L	1	9/5/23 20:08	
gamma-BHC (Lindane)	ND	U, H	2.41E-7	0.0000200	mg/L	1	9/5/23 20:08	
Heptachlor	ND	U, H	5.63E-7	0.0000200	mg/L	1	9/5/23 20:08	
Heptachlor Epoxide	ND	U, H	3.02E-7	0.0000200	mg/L	1	9/5/23 20:08	
Methoxychlor	ND	U, H	3.43E-7	0.0000200	mg/L	1	9/5/23 20:08	
Toxaphene	ND	U, H	0.0000237	0.000200	mg/L	1	9/5/23 20:08	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0166	0.147	mg/kg	1	7/19/23 17:01	UJ, RC:6L
2,3,4,6-Tetrachlorophenol	ND	U	0.0908	0.589	mg/kg	1	7/19/23 17:01	
2,4,5-Trichlorophenol	ND	U	0.0801	0.589	mg/kg	1	7/19/23 17:01	
2,4,6-Trichlorophenol	ND	U	0.0369	0.589	mg/kg	1	7/19/23 17:01	
2,4-Dichlorophenol	ND	U	0.0593	0.589	mg/kg	1	7/19/23 17:01	
2,4-Dimethylphenol	ND	U	0.0580	0.589	mg/kg	1	7/19/23 17:01	
2,4-Dinitrophenol	ND	U	0.0850	2.95	mg/kg	1	7/19/23 17:01	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0629	0.589	mg/kg	1	7/19/23 17:01	
2,6-Dinitrotoluene	ND	U	0.141	0.589	mg/kg	1	7/19/23 17:01	
2-Chloronaphthalene	ND	U	0.0677	0.589	mg/kg	1	7/19/23 17:01	
2-Chlorophenol	ND	U	0.0779	0.589	mg/kg	1	7/19/23 17:01	
2-Methylnaphthalene	ND	U	0.141	0.886	mg/kg	1	7/19/23 17:01	
2-Methylphenol	ND	U	0.116	0.589	mg/kg	1	7/19/23 17:01	
2-Nitroaniline	ND	U	0.0474	0.589	mg/kg	1	7/19/23 17:01	
2-Nitrophenol	ND	U	0.0655	0.589	mg/kg	1	7/19/23 17:01	
3,3'-Dichlorobenzidine	ND	U	0.0620	0.589	mg/kg	1	7/19/23 17:01	
3+4-Methylphenol	ND	U	0.108	0.589	mg/kg	1	7/19/23 17:01	
3-Nitroaniline	ND	U	0.109	0.589	mg/kg	1	7/19/23 17:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,6-Dinitro-2-methylphenol	ND	U	0.111	1.47	mg/kg	1	7/19/23 17:01	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0841	0.589	mg/kg	1	7/19/23 17:01	
4-Chloro-3-methylphenol	ND	U	0.0930	0.589	mg/kg	1	7/19/23 17:01	
4-Chloroaniline	ND	U	0.0206	0.589	mg/kg	1	7/19/23 17:01	
4-Chlorophenyl phenyl ether	ND	U	0.0318	0.589	mg/kg	1	7/19/23 17:01	
4-Nitroaniline	ND	U	0.295	0.589	mg/kg	1	7/19/23 17:01	UJ, RC:SL
4-Nitrophenol	ND	U	0.0377	0.589	mg/kg	1	7/19/23 17:01	UJ, RC:SL
Acenaphthene	ND	U	0.0336	0.589	mg/kg	1	7/19/23 17:01	
Acenaphthylene	ND	U	0.0205	0.589	mg/kg	1	7/19/23 17:01	
Acetophenone	ND	U	0.0584	0.589	mg/kg	1	7/19/23 17:01	
Anthracene	ND	U	0.0855	0.589	mg/kg	1	7/19/23 17:01	
Atrazine	ND	U	0.0553	0.589	mg/kg	1	7/19/23 17:01	
Benzaldehyde	ND	U	0.181	0.589	mg/kg	1	7/19/23 17:01	UJ, RC:SL,Q
Benzo(a)anthracene	ND	U	0.0593	0.589	mg/kg	1	7/19/23 17:01	
Benzo(a)pyrene	ND	U	0.103	0.589	mg/kg	1	7/19/23 17:01	
Benzo(b)fluoranthene	ND	U	0.0828	0.589	mg/kg	1	7/19/23 17:01	
Benzo(g,h,i)perylene	ND	U	0.0478	0.589	mg/kg	1	7/19/23 17:01	
Benzo(k)fluoranthene	ND	U	0.0677	0.589	mg/kg	1	7/19/23 17:01	
Biphenyl	ND	U	0.0518	0.589	mg/kg	1	7/19/23 17:01	
bis(2-chloroethoxy)methane	ND	U	0.0815	0.589	mg/kg	1	7/19/23 17:01	
bis(2-chloroethyl)ether	ND	U	0.0646	0.589	mg/kg	1	7/19/23 17:01	
bis(2-chloroisopropyl)ether	ND	U	0.212	0.589	mg/kg	1	7/19/23 17:01	UJ, RC:6L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.118	0.589	mg/kg	1	7/19/23 17:01	
Butylbenzylphthalate	ND	U	0.0536	0.589	mg/kg	1	7/19/23 17:01	
Caprolactam	ND	U	0.0762	0.589	mg/kg	1	7/19/23 17:01	
Carbazole	ND	U	0.113	1.47	mg/kg	1	7/19/23 17:01	
Chrysene	ND	U	0.0404	0.589	mg/kg	1	7/19/23 17:01	
Dibenzo(a,h)anthracene	ND	U	0.0584	0.589	mg/kg	1	7/19/23 17:01	
Dibenzofuran	ND	U	0.0351	0.589	mg/kg	1	7/19/23 17:01	
Diethylphthalate	ND	U	0.114	0.589	mg/kg	1	7/19/23 17:01	
Dimethylphthalate	ND	U	0.0366	0.589	mg/kg	1	7/19/23 17:01	
Di-n-butylphthalate	ND	U	0.241	0.589	mg/kg	1	7/19/23 17:01	
Di-n-octylphthalate	ND	U	0.121	0.589	mg/kg	1	7/19/23 17:01	
Fluoranthene	ND	U	0.0553	0.589	mg/kg	1	7/19/23 17:01	
Fluorene	ND	U	0.0491	0.589	mg/kg	1	7/19/23 17:01	
Hexachlorobenzene	ND	U	0.0770	0.589	mg/kg	1	7/19/23 17:01	
Hexachlorobutadiene	ND	U	0.283	0.589	mg/kg	1	7/19/23 17:01	
Hexachlorocyclopentadiene	ND	U	0.246	1.47	mg/kg	1	7/19/23 17:01	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachloroethane	ND	U	0.0646	0.589	mg/kg	1	7/19/23 17:01	
Indeno(1,2,3-cd)pyrene	ND	U	0.0633	0.589	mg/kg	1	7/19/23 17:01	
Isophorone	ND	U	0.0386	0.589	mg/kg	1	7/19/23 17:01	
Naphthalene	ND	U	0.0437	0.589	mg/kg	1	7/19/23 17:01	
Nitrobenzene	ND	U	0.100	0.589	mg/kg	1	7/19/23 17:01	
n-Nitroso-di-n-propylamine	ND	U	0.0316	0.589	mg/kg	1	7/19/23 17:01	
n-Nitrosodiphenylamine	ND	U	0.126	0.589	mg/kg	1	7/19/23 17:01	
Pentachlorophenol	ND	U	0.0810	1.47	mg/kg	1	7/19/23 17:01	UJ, RC:SL
Phenanthrene	**0.160**	J	**0.0775**	**0.589**	**mg/kg**	**1**	**7/19/23 17:01**	
Phenol	ND	U	0.0478	0.589	mg/kg	1	7/19/23 17:01	
Pyrene	ND	U	0.0433	0.589	mg/kg	1	7/19/23 17:01	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
17-Octadecenal	7.12	12.77	J	mg/kg	1	7/19/23 17:01
2-Nonadecanone	1.30	13.08	J	mg/kg	1	7/19/23 17:01
Cyclohexane, 1,2,3,5-tetraisopropyl-	1.19	13.05	J	mg/kg	1	7/19/23 17:01
Hexadecanal	2.97	13.59	J	mg/kg	1	7/19/23 17:01
Hexadecanoic acid, butyl ester	63.4	11.79	J	mg/kg	1	7/19/23 17:01
Octadecanoic acid, butyl ester	17.6	12.57	J, B	mg/kg	1	7/19/23 17:01
unknown (01)	1.99	13.91	J	mg/kg	1	7/19/23 17:01
unknown (02)	2.11	14.27	J	mg/kg	1	7/19/23 17:01
unknown (03)	4.27	15.31	J	mg/kg	1	7/19/23 17:01
unknown (04)	6.22	16.67	J	mg/kg	1	7/19/23 17:01
TIC Total	**108**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/18/23 17:50	R, RC:1
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/18/23 17:50	
2,4-Dinitrotoluene	ND	U	0.00106	0.0200	mg/L	1	8/18/23 17:50	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/18/23 17:50	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/18/23 17:50	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/18/23 17:50	RC:6L,SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/18/23 17:50	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/18/23 17:50	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/18/23 17:50	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/18/23 17:50	R, RC:1,SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/18/23 17:50	R, RC:1

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.00166	0.0114	mg/kg	1	7/19/23 9:49
1,1,2,2-Tetrachloroethane	ND	U	0.00157	0.0114	mg/kg	1	7/19/23 9:49
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00486	0.0114	mg/kg	1	7/19/23 9:49
1,1,2-Trichloroethane	ND	U	0.00191	0.0114	mg/kg	1	7/19/23 9:49
1,1-Dichloroethane	ND	U	0.00166	0.0114	mg/kg	1	7/19/23 9:49
1,1-Dichloroethene	ND	U	0.00210	0.0114	mg/kg	1	7/19/23 9:49
1,2,3-Trichlorobenzene	ND	U	0.00245	0.0114	mg/kg	1	7/19/23 9:49
1,2,4-Trichlorobenzene	ND	U	0.00303	0.0114	mg/kg	1	7/19/23 9:49
1,2,4-Trimethylbenzene	ND	U	0.00157	0.0114	mg/kg	1	7/19/23 9:49
1,2-Dibromo-3-chloropropane	ND	U	0.00277	0.0114	mg/kg	1	7/19/23 9:49
1,2-Dibromoethane	ND	U	0.00143	0.0114	mg/kg	1	7/19/23 9:49
1,2-Dichlorobenzene	ND	U	0.00200	0.0114	mg/kg	1	7/19/23 9:49
1,2-Dichloroethane	ND	U	0.00160	0.0114	mg/kg	1	7/19/23 9:49
1,2-Dichloropropane	ND	U	0.00186	0.0114	mg/kg	1	7/19/23 9:49
1,3-Dichlorobenzene	ND	U	0.000834	0.0114	mg/kg	1	7/19/23 9:49
1,4-Dichlorobenzene	ND	U	0.00163	0.0114	mg/kg	1	7/19/23 9:49
2-Butanone	ND	U	0.00185	0.0284	mg/kg	1	7/19/23 9:49
2-Hexanone	ND	U	0.00106	0.0114	mg/kg	1	7/19/23 9:49
4-Methyl-2-pentanone	ND	U	0.00142	0.0114	mg/kg	1	7/19/23 9:49
Acetone	**0.676**		**0.00344**	**0.0284**	**mg/kg**	**1**	**7/19/23 9:49**
Benzene	ND	U	0.00103	0.0114	mg/kg	1	7/19/23 9:49
Bromochloromethane	ND	U	0.00209	0.0114	mg/kg	1	7/19/23 9:49
Bromodichloromethane	ND	U	0.00142	0.0114	mg/kg	1	7/19/23 9:49
Bromoform	ND	U	0.00199	0.0114	mg/kg	1	7/19/23 9:49
Bromomethane	**0.120**		**0.00328**	**0.0114**	**mg/kg**	**1**	**7/19/23 9:49**
Carbon disulfide	ND	U	0.00163	0.0114	mg/kg	1	7/19/23 9:49
Carbon Tetrachloride	ND	U	0.00171	0.0114	mg/kg	1	7/19/23 9:49
Chlorobenzene	ND	U	0.00165	0.0114	mg/kg	1	7/19/23 9:49
Chlorodibromomethane	ND	U	0.00140	0.0114	mg/kg	1	7/19/23 9:49
Chloroethane	ND	U	0.00194	0.0114	mg/kg	1	7/19/23 9:49
Chloroform	ND	U	0.00191	0.0114	mg/kg	1	7/19/23 9:49
Chloromethane	**0.966**		**0.00437**	**0.0114**	**mg/kg**	**1**	**7/19/23 9:49**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G0678
Date to Lab: 7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
cis-1,2-Dichloroethene	ND	U	0.000549	0.0114	mg/kg	1	7/19/23 9:49	
cis-1,3-Dichloropropene	ND	U	0.00144	0.0114	mg/kg	1	7/19/23 9:49	
Cyclohexane	ND	U	0.00251	0.0114	mg/kg	1	7/19/23 9:49	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.00383	0.0114	mg/kg	1	7/19/23 9:49	UJ, RC:SL
EthylBenzene	ND	U	0.00154	0.0114	mg/kg	1	7/19/23 9:49	
Isopropylbenzene	ND	U	0.00178	0.0114	mg/kg	1	7/19/23 9:49	
m+p-Xylenes	ND	U	0.00287	0.0227	mg/kg	1	7/19/23 9:49	
Methyl Acetate	ND	U	0.00150	0.0114	mg/kg	1	7/19/23 9:49	
Methyl tert-Butyl Ether	ND	U	0.00192	0.0114	mg/kg	1	7/19/23 9:49	
Methylcyclohexane	ND	U	0.00183	0.0114	mg/kg	1	7/19/23 9:49	
Methylene Chloride	ND	U	0.00341	0.0114	mg/kg	1	7/19/23 9:49	
o-Xylene	ND	U	0.00146	0.0114	mg/kg	1	7/19/23 9:49	
Styrene	ND	U	0.00162	0.0114	mg/kg	1	7/19/23 9:49	
tert-Butyl alcohol	ND	U	0.0238	0.114	mg/kg	1	7/19/23 9:49	
Tetrachloroethene	ND	U	0.00112	0.0114	mg/kg	1	7/19/23 9:49	
Toluene	ND	U	0.000914	0.0114	mg/kg	1	7/19/23 9:49	
Total Xylenes	ND	U	0.00146	0.0114	mg/kg	1	7/19/23 9:49	
trans-1,2-Dichloroethene	ND	U	0.00154	0.0114	mg/kg	1	7/19/23 9:49	
trans-1,3-Dichloropropene	ND	U	0.00217	0.0114	mg/kg	1	7/19/23 9:49	
Trichloroethene	ND	U	0.00167	0.0114	mg/kg	1	7/19/23 9:49	
Trichlorofluoromethane	ND	U	0.00131	0.0114	mg/kg	1	7/19/23 9:49	
Vinyl chloride	ND	U	0.00216	0.0114	mg/kg	1	7/19/23 9:49	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Octane	0.0622	18.26	J	mg/kg	1	7/19/23 9:49
TIC Total	**0.062**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/26/23 6:10	R, RC:1
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/26/23 6:10	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/26/23 6:10	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/26/23 6:10	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/26/23 6:10	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/26/23 6:10	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/26/23 6:10	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/26/23 6:10	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G0678
Project:	Red Hook-Gowanus	**Date to Lab:**	7/13/2023 4:05:00PM

23G0678-05 (Soil) Sample Name: **MR-205-15.0-17.0-20230713** Collected: **7/13/2023 10:20:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/26/23 6:10	R, RC:1
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/26/23 6:10	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/26/23 6:10	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**22.6**				**%**	**1**	**7/19/23 10:55**

SW 846 1010B+ASTM D8175-18 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 12:56

SW 846 9010C+9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0310	0.260	mg/kg	1	7/17/23 16:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.51**				**pH Units**	**1**	**7/17/23 17:28**

SW 846 9010C+9014 - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Cyanide	ND	0.00	U	mg/kg	1	7/17/23 17:58

SW 846 9030B - Reactivity (Reported as Totals) - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Reactive Sulfide	4.29	0.00		mg/kg	1	7/19/23 17:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23G1092
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: June 21, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-209-5.0-7.0-20230720	23G1092-01	7/20/2023	Soil
MR-209-15.0-17.0-20230720	23G1092-02	7/20/2023	Soil
MR-209-30.0-32.0-20230720	23G1092-03	7/20/2023	Soil

Data validation was performed on the analytical data for three (3) samples collected July 20, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOCs 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were qualified as rejected due to major deviations associated with matrix spike samples and laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibrations, holding times, surrogates, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	4-Bromobenzene	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8260D-TCLP	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	Bromoform	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
		Vinyl chloride	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester and Octadecanoic acid, butyl ester. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	2,4-Dinitrophenol	10% > %R < CL	J (detects) R (non-detects)	6L
		1,4-Dioxane	> CL	J (Detects) No action	6H

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Butylbenzylphthalate		(NDs)	

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS and/or MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-209-5.0-7.0-20230720	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol	10% > %R < CL	J (Detects) No action (NDs)	4L

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	2,4-Dinitrotoluene Hexachlorobutadiene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8270E		2,4-Dimethylphenol 2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol 4-Nitrophenol bis(2-chloroisopropyl)ether Hexachlorobutadiene Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		bis(2-chloroethyl)ether Butylbenzylphthalate bis(2-ethylhexyl)phthalate Di-n-octylphthalate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	Endrin aldehyde	> CL	J (Detects) No action (NDs)	6H
		Endosulfan sulfate	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	Aldrin Chlordane Endosulfan sulfate Endrin Heptachlor	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- MS and/or MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B-TCLP	MR-209-5.0-7.0-20230720	4,4-DDT 4,4-DDE Aldrin alpha-BHC Dieldrin Endosulfan sulfate Endrin Endrin ketone gamma-BHC Heptachlor Methoxychlor	10% < %R < CL	J (detects) UJ (non-detects)	4L

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A 8151A-TCLP	MR-209-5.0-7.0-20230720 MR-209-15.0-17.0-20230720 MR-209-30.0-32.0-20230720	2,4-D 2,4,5-TP	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses except for reactive sulfide by method 9030B. Since the analysis occurred within 1.5 times the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as estimated, UJ, reason code 1.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis was not performed on a sample location within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: June 21, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23G1092

Yu & Associates

Project: Red Hook-Gowanus

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 12, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23G1092

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-209-5.0-7.0-20230720	23G1092-01	Soil	07/20/2023 09:50	07/20/2023 15:45
MR-209-15.0-17.0-20230720	23G1092-02	Soil	07/20/2023 10:15	07/20/2023 15:45
MR-209-30.0-32.0-20230720	23G1092-03	Soil	07/20/2023 10:50	07/20/2023 15:45

PN: 23G1092

APL 23G1092

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CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: YU & ASSOCIATES	SEND REPORT TO:
ADDRESS: 611 RIVER DR	ADDRESS:
ELMWOOD PARK, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: SWANG@YU-ASSOCIATES.COM	FAX:
PROJECT NAME: GOWANUS PID INVESTIGATION	SEND INVOICE TO:
PROJECT MGR: SIXUAN WANG	ADDRESS:
PROJECT or PO #: 168541	SAMPLED BY: MK

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

[x] NYS CAT B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
	MR-209-5.0-7.0-20230720	7/20/23	09:50	X		S	5		VOCs, SVOCs, TAL METALS, PESTICIDES/ HERBICIDES, PCB, TCN, RCRA CHARACTER TCLP-VOA, PEST, HERB, METALS
	MR-209-15.0-17.0-20230720	7/20/23	10:15	X		S	5		
	MR-209-30.0-32.0-20230720	7/20/23	10:50	X		S	5		

RELINQUISHED BY (Print) MARLENA KOZYRA	DATE 7/20/23	RECEIVED BY (Print) Alfonso Rivera (AAL)	7/20/23
Signature	Time 1333	Signature	1333
RELINQUISHED BY (Print) Alfonso Rivera AAL	DATE 7-20-23	RECEIVED BY (Print)	7/20/23
Signature	Time 1545	Signature	1547
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.2°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / General Chemistry]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 1311/6010D / 7473 / 1311/7470A / General Chemistry:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]

Batch BAG1110:
The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).

Batch BAG0205:
The percent recoveries for several compounds were outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for 2,4-Dinitrophenol was outside of the QC limits for the blank spike (low).
The percent recoveries for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAG0370-CCV1) was outside of the QC limits for Acetone (high).

Samples 23G1092-01, -02 and -03 have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

Reviewed By: _____ (SK) 10/17/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6710		0.154	2.59	mg/kg dry	1	8/2/23 12:28
Barium	36.1		0.0392	0.519	mg/kg dry	1	8/2/23 12:28
Beryllium	0.629		0.00300	0.0259	mg/kg dry	1	8/2/23 12:28
Calcium	1540		2.92	25.9	mg/kg dry	1	8/2/23 12:28
Chromium	14.8		0.0293	0.259	mg/kg dry	1	8/2/23 12:28
Cobalt	4.85		0.0265	0.207	mg/kg dry	1	8/2/23 12:28
Copper	13.2		0.0725	0.259	mg/kg dry	1	8/2/23 12:28
Iron	12100		0.735	5.19	mg/kg dry	1	8/2/23 12:28
Lead	8.65		0.108	1.30	mg/kg dry	1	8/2/23 12:28
Magnesium	2640		9.16	51.9	mg/kg dry	1	8/2/23 12:28
Manganese	244		0.0323	0.259	mg/kg dry	1	8/2/23 12:28
Nickel	19.0		0.0228	0.130	mg/kg dry	1	8/2/23 12:28
Potassium	1710		30.8	104	mg/kg dry	1	8/2/23 12:28
Sodium	487		4.94	51.9	mg/kg dry	1	8/2/23 12:28
Vanadium	22.0		0.0596	0.519	mg/kg dry	1	8/2/23 12:28
Zinc	33.7		0.0792	0.778	mg/kg dry	1	8/2/23 12:28

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.14		0.00279	0.100	mg/L	1	7/31/23 13:09

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	6.07	J, B			mg/kg dry	1	8/1/23 21:41
TIC_Octadecanoic acid, butyl ester	3.87	J, B			mg/kg dry	1	8/1/23 21:41

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexane, propyl-	0.00482	J			mg/kg dry	1	7/21/23 22:53
TIC_Decane	0.0158	J			mg/kg dry	1	7/21/23 22:53
TIC_Nonane	0.00836	J			mg/kg dry	1	7/21/23 22:53
TIC_Nonane, 3-methyl-	0.00509	J			mg/kg dry	1	7/21/23 22:53
TIC_Undecane	0.00455	J			mg/kg dry	1	7/21/23 22:53

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0201	D	0.00365	0.0100	mg/L	10	8/2/23 21:38

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1092-01 (Soil) Sample Name: MR-209-5.0-7.0-20230720

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0754		0.00719	0.0603	mg/kg dry	1	7/21/23 12:40

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.01				pH Units	1	7/21/23 13:05

23G1092-02 (Soil) Sample Name: MR-209-15.0-17.0-20230720

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0741		0.00598	0.0239	mg/kg dry	1	7/28/23 15:26

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12000		0.175	2.95	mg/kg dry	1	8/2/23 12:30
Arsenic	2.01		0.105	1.47	mg/kg dry	1	8/2/23 12:30
Barium	26.9		0.0445	0.589	mg/kg dry	1	8/2/23 12:30
Beryllium	0.662		0.00341	0.0295	mg/kg dry	1	8/2/23 12:30
Calcium	996		3.31	29.5	mg/kg dry	1	8/2/23 12:30
Chromium	24.4		0.0333	0.295	mg/kg dry	1	8/2/23 12:30
Cobalt	5.98		0.0301	0.236	mg/kg dry	1	8/2/23 12:30
Copper	14.8		0.0824	0.295	mg/kg dry	1	8/2/23 12:30
Iron	22300		0.835	5.89	mg/kg dry	1	8/2/23 12:30
Lead	7.52		0.123	1.47	mg/kg dry	1	8/2/23 12:30
Magnesium	5850		10.4	58.9	mg/kg dry	1	8/2/23 12:30
Manganese	321		0.0367	0.295	mg/kg dry	1	8/2/23 12:30
Nickel	20.4		0.0259	0.147	mg/kg dry	1	8/2/23 12:30
Potassium	1400		35.0	118	mg/kg dry	1	8/2/23 12:30
Sodium	343		5.62	58.9	mg/kg dry	1	8/2/23 12:30
Vanadium	37.1		0.0678	0.589	mg/kg dry	1	8/2/23 12:30
Zinc	36.2		0.0900	0.884	mg/kg dry	1	8/2/23 12:30

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.884		0.00279	0.100	mg/L	1	7/31/23 13:12

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	9.76	J, B			mg/kg dry	1	8/1/23 22:11

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Octadecanoic acid, butyl ester	5.66	J, B			mg/kg dry	1	8/1/23 22:11

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexane, (1-methylpropyl)-	0.0104	J			mg/kg dry	1	7/21/23 23:22
TIC_Cyclohexane, propyl-	0.00717	J			mg/kg dry	1	7/21/23 23:22
TIC_Decane	0.0291	J			mg/kg dry	1	7/21/23 23:22
TIC_Decane, 2-methyl-	0.00513	J			mg/kg dry	1	7/21/23 23:22
TIC_Dodecane	0.0199	J			mg/kg dry	1	7/21/23 23:22
TIC_Dotriacontane	0.00549	J			mg/kg dry	1	7/21/23 23:22
TIC_Hydroxylamine, O-decyl-	0.00703	J			mg/kg dry	1	7/21/23 23:22
TIC_Nonane	0.0131	J			mg/kg dry	1	7/21/23 23:22
TIC_Nonane, 3-methyl- (01)	0.00527	J			mg/kg dry	1	7/21/23 23:22
TIC_Nonane, 3-methyl- (02)	0.00801	J			mg/kg dry	1	7/21/23 23:22
TIC_Octane, 2,6-dimethyl-	0.0121	J			mg/kg dry	1	7/21/23 23:22
TIC_Tridecane	0.0129	J			mg/kg dry	1	7/21/23 23:22
TIC_Undecane	0.0183	J			mg/kg dry	1	7/21/23 23:22
TIC_Undecane, 2,10-dimethyl-	0.00523	J			mg/kg dry	1	7/21/23 23:22
TIC_Undecane, 2,6-dimethyl-	0.0100	J			mg/kg dry	1	7/21/23 23:22

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0172	D	0.00365	0.0100	mg/L	10	8/2/23 22:04

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.105		0.00855	0.0718	mg/kg dry	1	7/21/23 12:40

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.47				pH Units	1	7/21/23 13:05

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8940		0.173	2.92	mg/kg dry	1	8/2/23 12:32
Barium	55.1		0.0441	0.583	mg/kg dry	1	8/2/23 12:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.712		0.00338	0.0292	mg/kg dry	1	8/2/23 12:32
Calcium	6290		3.28	29.2	mg/kg dry	1	8/2/23 12:32
Chromium	17.3		0.0329	0.292	mg/kg dry	1	8/2/23 12:32
Cobalt	5.34		0.0298	0.233	mg/kg dry	1	8/2/23 12:32
Copper	12.8		0.0816	0.292	mg/kg dry	1	8/2/23 12:32
Iron	16100		0.826	5.83	mg/kg dry	1	8/2/23 12:32
Lead	7.06		0.122	1.46	mg/kg dry	1	8/2/23 12:32
Magnesium	4910		10.3	58.3	mg/kg dry	1	8/2/23 12:32
Manganese	273		0.0363	0.292	mg/kg dry	1	8/2/23 12:32
Nickel	12.9		0.0256	0.146	mg/kg dry	1	8/2/23 12:32
Potassium	2480		34.7	117	mg/kg dry	1	8/2/23 12:32
Sodium	428		5.56	58.3	mg/kg dry	1	8/2/23 12:32
Vanadium	25.5		0.0671	0.583	mg/kg dry	1	8/2/23 12:32
Zinc	28.7		0.0891	0.875	mg/kg dry	1	8/2/23 12:32

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.59		0.00279	0.100	mg/L	1	7/31/23 13:25

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	8.37	J, B			mg/kg dry	1	8/1/23 22:41
TIC_Octadecanoic acid, butyl ester	5.09	B, J			mg/kg dry	1	8/1/23 22:41

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichloroethene	0.00109	J	0.000243	0.00165	mg/kg dry	1	7/21/23 23:51

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0190	D	0.00365	0.0100	mg/L	10	8/2/23 22:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0739		0.00846	0.0710	mg/kg dry	1	7/21/23 12:40

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.41				pH Units	1	7/21/23 13:05

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720**

SW 846 9045D - General Chemistry (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00482	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1221	ND	U	0.00948	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1232	ND	U	0.0121	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1242	ND	U	0.00706	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1248	ND	U	0.00739	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1254	ND	U	0.00580	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1260	ND	U	0.00450	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1262	ND	U	0.00967	0.0359	mg/kg	1	8/1/23 15:32
Aroclor-1268	ND	U	0.00435	0.0359	mg/kg	1	8/1/23 15:32
Total PCBs	ND	U	0.00336	0.0359	mg/kg	1	8/1/23 15:32

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0107	0.109	mg/kg	1	8/4/23 12:05
2,4-D	ND	U	0.0181	0.109	mg/kg	1	8/4/23 12:05

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	7/31/23 8:22
2,4-D	ND	U	0.00900	0.0200	mg/L	1	7/31/23 8:22

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00545	0.0218	mg/kg	1	7/28/23 15:17

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	7/26/23 14:39

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6710**		**0.154**	**2.59**	**mg/kg**	**1**	**8/2/23 12:28**
Antimony	ND	U	0.141	1.30	mg/kg	1	8/2/23 12:28
Arsenic	ND	U	0.0925	1.30	mg/kg	1	8/2/23 12:28
Barium	**36.1**		**0.0392**	**0.519**	**mg/kg**	**1**	**8/2/23 12:28**
Beryllium	**0.629**		**0.00300**	**0.0259**	**mg/kg**	**1**	**8/2/23 12:28**
Cadmium	ND	U	0.0506	0.259	mg/kg	1	8/2/23 12:28
Calcium	**1540**		**2.92**	**25.9**	**mg/kg**	**1**	**8/2/23 12:28**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**14.8**		**0.0293**	**0.259**	**mg/kg**	**1**	**8/2/23 12:28**
Cobalt	**4.85**		**0.0265**	**0.207**	**mg/kg**	**1**	**8/2/23 12:28**
Copper	**13.2**		**0.0725**	**0.259**	**mg/kg**	**1**	**8/2/23 12:28**
Iron	**12100**		**0.735**	**5.19**	**mg/kg**	**1**	**8/2/23 12:28**
Lead	**8.65**		**0.108**	**1.30**	**mg/kg**	**1**	**8/2/23 12:28**
Magnesium	**2640**		**9.16**	**51.9**	**mg/kg**	**1**	**8/2/23 12:28**
Manganese	**244**		**0.0323**	**0.259**	**mg/kg**	**1**	**8/2/23 12:28**
Nickel	**19.0**		**0.0228**	**0.130**	**mg/kg**	**1**	**8/2/23 12:28**
Potassium	**1710**		**30.8**	**104**	**mg/kg**	**1**	**8/2/23 12:28**
Selenium	ND	U	0.249	1.30	mg/kg	1	8/2/23 12:28
Silver	ND	U	0.0441	0.156	mg/kg	1	8/2/23 12:28
Sodium	**487**		**4.94**	**51.9**	**mg/kg**	**1**	**8/2/23 12:28**
Thallium	ND	U	0.0872	1.30	mg/kg	1	8/2/23 12:28
Vanadium	**22.0**		**0.0596**	**0.519**	**mg/kg**	**1**	**8/2/23 12:28**
Zinc	**33.7**		**0.0792**	**0.778**	**mg/kg**	**1**	**8/2/23 12:28**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	7/31/23 13:09
Barium	**1.14**		**0.00279**	**0.100**	**mg/L**	**1**	**7/31/23 13:09**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	7/31/23 13:09
Chromium	ND	U	0.00240	0.0500	mg/L	1	7/31/23 13:09
Lead	ND	U	0.0255	0.250	mg/L	1	7/31/23 13:09
Selenium	ND	U	0.0760	0.250	mg/L	1	7/31/23 13:09
Silver	ND	U	0.0232	0.100	mg/L	1	7/31/23 13:09

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000648	0.00142	mg/kg	1	8/1/23 18:48
4,4'-DDE	ND	U	0.000774	0.00142	mg/kg	1	8/1/23 18:48
4,4'-DDT	ND	U	0.00100	0.00142	mg/kg	1	8/1/23 18:48
Aldrin	ND	U	0.000671	0.00142	mg/kg	1	8/1/23 18:48
alpha-BHC	ND	U	0.000421	0.00142	mg/kg	1	8/1/23 18:48
beta-BHC	ND	U	0.000676	0.00142	mg/kg	1	8/1/23 18:48
Chlordane	ND	U	0.000629	0.00142	mg/kg	1	8/1/23 18:48
delta-BHC	ND	U	0.000658	0.00142	mg/kg	1	8/1/23 18:48
Dieldrin	ND	U	0.000741	0.00142	mg/kg	1	8/1/23 18:48
Endosulfan I	ND	U	0.000669	0.00142	mg/kg	1	8/1/23 18:48

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000644	0.00142	mg/kg	1	8/1/23 18:48	
Endosulfan sulfate	ND	U	0.000533	0.00142	mg/kg	1	8/1/23 18:48	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000644	0.00142	mg/kg	1	8/1/23 18:48	
Endrin	ND	U	0.000489	0.00142	mg/kg	1	8/1/23 18:48	
Endrin aldehyde	ND	U	0.000564	0.00142	mg/kg	1	8/1/23 18:48	
Endrin ketone	ND	U	0.000499	0.00142	mg/kg	1	8/1/23 18:48	
gamma-BHC (Lindane)	ND	U	0.000449	0.00142	mg/kg	1	8/1/23 18:48	
Heptachlor	ND	U	0.000379	0.00142	mg/kg	1	8/1/23 18:48	
Heptachlor Epoxide	ND	U	0.000714	0.00142	mg/kg	1	8/1/23 18:48	
Methoxychlor	ND	U	0.000415	0.00142	mg/kg	1	8/1/23 18:48	
Toxaphene	ND	U	0.0682	0.0719	mg/kg	1	8/1/23 18:48	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	7/28/23 18:36	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L,6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	7/28/23 18:36	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	7/28/23 18:36	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	7/28/23 18:36	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	7/28/23 18:36	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	7/28/23 18:36	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L,6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	7/28/23 18:36	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	7/28/23 18:36	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L,6L
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	7/28/23 18:36	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	7/28/23 18:36	UJ, RC:4L
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	7/28/23 18:36	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00409	0.0363	mg/kg	1	8/1/23 21:41	
2,3,4,6-Tetrachlorophenol	ND	U	0.0223	0.145	mg/kg	1	8/1/23 21:41	
2,4,5-Trichlorophenol	ND	U	0.0197	0.145	mg/kg	1	8/1/23 21:41	
2,4,6-Trichlorophenol	ND	U	0.00907	0.145	mg/kg	1	8/1/23 21:41	
2,4-Dichlorophenol	ND	U	0.0146	0.145	mg/kg	1	8/1/23 21:41	
2,4-Dimethylphenol	ND	U	0.0143	0.145	mg/kg	1	8/1/23 21:41	UJ, RC:SL
2,4-Dinitrophenol	~~ND~~	~~U~~	0.0209	0.726	mg/kg	1	8/1/23 21:41	R, RC:4L,6L,SL
2,4-Dinitrotoluene	ND	U	0.0155	0.145	mg/kg	1	8/1/23 21:41	
2,6-Dinitrotoluene	ND	U	0.0346	0.145	mg/kg	1	8/1/23 21:41	
2-Chloronaphthalene	ND	U	0.0167	0.145	mg/kg	1	8/1/23 21:41	
2-Chlorophenol	ND	U	0.0192	0.145	mg/kg	1	8/1/23 21:41	
2-Methylnaphthalene	ND	U	0.0347	0.218	mg/kg	1	8/1/23 21:41	
2-Methylphenol	ND	U	0.0286	0.145	mg/kg	1	8/1/23 21:41	
2-Nitroaniline	ND	U	0.0117	0.145	mg/kg	1	8/1/23 21:41	
2-Nitrophenol	ND	U	0.0161	0.145	mg/kg	1	8/1/23 21:41	
3,3'-Dichlorobenzidine	ND	U	0.0152	0.145	mg/kg	1	8/1/23 21:41	
3+4-Methylphenol	ND	U	0.0266	0.145	mg/kg	1	8/1/23 21:41	
3-Nitroaniline	ND	U	0.0269	0.145	mg/kg	1	8/1/23 21:41	
4,6-Dinitro-2-methylphenol	ND	U	0.0273	0.363	mg/kg	1	8/1/23 21:41	R, RC:4L,SL
4-Bromophenyl-phenyl ether	ND	U	0.0207	0.145	mg/kg	1	8/1/23 21:41	
4-Chloro-3-methylphenol	ND	U	0.0229	0.145	mg/kg	1	8/1/23 21:41	
4-Chloroaniline	ND	U	0.00507	0.145	mg/kg	1	8/1/23 21:41	
4-Chlorophenyl phenyl ether	ND	U	0.00783	0.145	mg/kg	1	8/1/23 21:41	
4-Nitroaniline	ND	U	0.0725	0.145	mg/kg	1	8/1/23 21:41	
4-Nitrophenol	ND	U	0.00928	0.145	mg/kg	1	8/1/23 21:41	UJ, RC:SL
Acenaphthene	ND	U	0.00827	0.145	mg/kg	1	8/1/23 21:41	
Acenaphthylene	ND	U	0.00504	0.145	mg/kg	1	8/1/23 21:41	
Acetophenone	ND	U	0.0144	0.145	mg/kg	1	8/1/23 21:41	
Anthracene	ND	U	0.0210	0.145	mg/kg	1	8/1/23 21:41	
Atrazine	ND	U	0.0136	0.145	mg/kg	1	8/1/23 21:41	
Benzaldehyde	ND	U	0.0445	0.145	mg/kg	1	8/1/23 21:41	
Benzo(a)anthracene	ND	U	0.0146	0.145	mg/kg	1	8/1/23 21:41	
Benzo(a)pyrene	ND	U	0.0253	0.145	mg/kg	1	8/1/23 21:41	
Benzo(b)fluoranthene	ND	U	0.0204	0.145	mg/kg	1	8/1/23 21:41	
Benzo(g,h,i)perylene	ND	U	0.0118	0.145	mg/kg	1	8/1/23 21:41	
Benzo(k)fluoranthene	ND	U	0.0167	0.145	mg/kg	1	8/1/23 21:41	
Biphenyl	ND	U	0.0127	0.145	mg/kg	1	8/1/23 21:41	
bis(2-chloroethoxy)methane	ND	U	0.0200	0.145	mg/kg	1	8/1/23 21:41	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0159	0.145	mg/kg	1	8/1/23 21:41	
bis(2-chloroisopropyl)ether	ND	U	0.0522	0.145	mg/kg	1	8/1/23 21:41	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0290	0.145	mg/kg	1	8/1/23 21:41	
Butylbenzylphthalate	ND	U	0.0132	0.145	mg/kg	1	8/1/23 21:41	
Caprolactam	ND	U	0.0187	0.145	mg/kg	1	8/1/23 21:41	
Carbazole	ND	U	0.0279	0.363	mg/kg	1	8/1/23 21:41	
Chrysene	ND	U	0.00993	0.145	mg/kg	1	8/1/23 21:41	
Dibenzo(a,h)anthracene	ND	U	0.0144	0.145	mg/kg	1	8/1/23 21:41	
Dibenzofuran	ND	U	0.00864	0.145	mg/kg	1	8/1/23 21:41	
Diethylphthalate	ND	U	0.0281	0.145	mg/kg	1	8/1/23 21:41	
Dimethylphthalate	ND	U	0.00900	0.145	mg/kg	1	8/1/23 21:41	
Di-n-butylphthalate	ND	U	0.0592	0.145	mg/kg	1	8/1/23 21:41	
Di-n-octylphthalate	ND	U	0.0297	0.145	mg/kg	1	8/1/23 21:41	
Fluoranthene	ND	U	0.0136	0.145	mg/kg	1	8/1/23 21:41	
Fluorene	ND	U	0.0121	0.145	mg/kg	1	8/1/23 21:41	
Hexachlorobenzene	ND	U	0.0189	0.145	mg/kg	1	8/1/23 21:41	
Hexachlorobutadiene	ND	U	0.0696	0.145	mg/kg	1	8/1/23 21:41	UJ, RC:SL
Hexachlorocyclopentadiene	ND	U	0.0604	0.363	mg/kg	1	8/1/23 21:41	UJ, RC:SL
Hexachloroethane	ND	U	0.0159	0.145	mg/kg	1	8/1/23 21:41	
Indeno(1,2,3-cd)pyrene	ND	U	0.0156	0.145	mg/kg	1	8/1/23 21:41	
Isophorone	ND	U	0.00950	0.145	mg/kg	1	8/1/23 21:41	
Naphthalene	ND	U	0.0107	0.145	mg/kg	1	8/1/23 21:41	
Nitrobenzene	ND	U	0.0246	0.145	mg/kg	1	8/1/23 21:41	
n-Nitroso-di-n-propylamine	ND	U	0.00776	0.145	mg/kg	1	8/1/23 21:41	
n-Nitrosodiphenylamine	ND	U	0.0309	0.145	mg/kg	1	8/1/23 21:41	
Pentachlorophenol	ND	U	0.0199	0.363	mg/kg	1	8/1/23 21:41	UJ, RC:SL
Phenanthrene	ND	U	0.0191	0.145	mg/kg	1	8/1/23 21:41	
Phenol	ND	U	0.0118	0.145	mg/kg	1	8/1/23 21:41	
Pyrene	ND	U	0.0107	0.145	mg/kg	1	8/1/23 21:41	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~6.07~~	11.80	J, B	mg/kg	1	8/1/23 21:41	R, RC:2
Octadecanoic acid, butyl ester	~~3.87~~	12.58	J, B	mg/kg	1	8/1/23 21:41	R, RC:2
TIC Total	~~9.94~~						

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	7/28/23 15:32	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	7/28/23 15:32	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	7/28/23 15:32	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	7/28/23 15:32	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	7/28/23 15:32	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	7/28/23 15:32	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	7/28/23 15:32	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	7/28/23 15:32	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	7/28/23 15:32	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	7/28/23 15:32	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	7/28/23 15:32	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000230	0.00158	mg/kg	1	7/21/23 22:53
1,1,2,2-Tetrachloroethane	ND	U	0.000218	0.00158	mg/kg	1	7/21/23 22:53
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000675	0.00158	mg/kg	1	7/21/23 22:53
1,1,2-Trichloroethane	ND	U	0.000266	0.00158	mg/kg	1	7/21/23 22:53
1,1-Dichloroethane	ND	U	0.000230	0.00158	mg/kg	1	7/21/23 22:53
1,1-Dichloroethene	ND	U	0.000292	0.00158	mg/kg	1	7/21/23 22:53
1,2,3-Trichlorobenzene	ND	U	0.000341	0.00158	mg/kg	1	7/21/23 22:53
1,2,4-Trichlorobenzene	ND	U	0.000421	0.00158	mg/kg	1	7/21/23 22:53
1,2,4-Trimethylbenzene	ND	U	0.000218	0.00158	mg/kg	1	7/21/23 22:53
1,2-Dibromo-3-chloropropane	ND	U	0.000385	0.00395	mg/kg	1	7/21/23 22:53
1,2-Dibromoethane	ND	U	0.000199	0.00158	mg/kg	1	7/21/23 22:53
1,2-Dichlorobenzene	ND	U	0.000279	0.00158	mg/kg	1	7/21/23 22:53
1,2-Dichloroethane	ND	U	0.000223	0.00158	mg/kg	1	7/21/23 22:53
1,2-Dichloropropane	ND	U	0.000259	0.00158	mg/kg	1	7/21/23 22:53
1,3-Dichlorobenzene	ND	U	0.000116	0.00158	mg/kg	1	7/21/23 22:53
1,4-Dichlorobenzene	ND	U	0.000227	0.00158	mg/kg	1	7/21/23 22:53
2-Butanone	ND	U	0.000257	0.00789	mg/kg	1	7/21/23 22:53
2-Hexanone	ND	U	0.000148	0.00158	mg/kg	1	7/21/23 22:53
4-Methyl-2-pentanone	ND	U	0.000197	0.00158	mg/kg	1	7/21/23 22:53
Acetone	ND	U	0.000478	0.0395	mg/kg	1	7/21/23 22:53
Benzene	ND	U	0.000144	0.00158	mg/kg	1	7/21/23 22:53
Bromochloromethane	ND	U	0.000291	0.00158	mg/kg	1	7/21/23 22:53
Bromodichloromethane	ND	U	0.000198	0.00158	mg/kg	1	7/21/23 22:53

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000277	0.00158	mg/kg	1	7/21/23 22:53	UJ, RC:SL
Bromomethane	ND	U	0.000455	0.00158	mg/kg	1	7/21/23 22:53	
Carbon disulfide	ND	U	0.000226	0.00158	mg/kg	1	7/21/23 22:53	
Carbon Tetrachloride	ND	U	0.000238	0.00158	mg/kg	1	7/21/23 22:53	
Chlorobenzene	ND	U	0.000229	0.00158	mg/kg	1	7/21/23 22:53	
Chlorodibromomethane	ND	U	0.000194	0.00158	mg/kg	1	7/21/23 22:53	
Chloroethane	ND	U	0.000269	0.00158	mg/kg	1	7/21/23 22:53	
Chloroform	ND	U	0.000265	0.00158	mg/kg	1	7/21/23 22:53	
Chloromethane	ND	U	0.000608	0.00158	mg/kg	1	7/21/23 22:53	
cis-1,2-Dichloroethene	ND	U	0.0000763	0.00158	mg/kg	1	7/21/23 22:53	
cis-1,3-Dichloropropene	ND	U	0.000200	0.00158	mg/kg	1	7/21/23 22:53	
Cyclohexane	ND	U	0.000350	0.00158	mg/kg	1	7/21/23 22:53	
Dichlorodifluoromethane	ND	U	0.000533	0.00158	mg/kg	1	7/21/23 22:53	
EthylBenzene	ND	U	0.000214	0.00158	mg/kg	1	7/21/23 22:53	
Isopropylbenzene	ND	U	0.000248	0.00158	mg/kg	1	7/21/23 22:53	
m+p-Xylenes	ND	U	0.000399	0.00316	mg/kg	1	7/21/23 22:53	
Methyl Acetate	ND	U	0.000209	0.00158	mg/kg	1	7/21/23 22:53	
Methyl tert-Butyl Ether	ND	U	0.000267	0.00158	mg/kg	1	7/21/23 22:53	
Methylcyclohexane	ND	U	0.000254	0.00158	mg/kg	1	7/21/23 22:53	
Methylene Chloride	ND	U	0.000474	0.00395	mg/kg	1	7/21/23 22:53	
o-Xylene	ND	U	0.000203	0.00158	mg/kg	1	7/21/23 22:53	
Styrene	ND	U	0.000226	0.00158	mg/kg	1	7/21/23 22:53	
tert-Butyl alcohol	ND	U	0.00331	0.0158	mg/kg	1	7/21/23 22:53	
Tetrachloroethene	ND	U	0.000156	0.00158	mg/kg	1	7/21/23 22:53	
Toluene	ND	U	0.000127	0.00158	mg/kg	1	7/21/23 22:53	
Total Xylenes	ND	U	0.000203	0.00158	mg/kg	1	7/21/23 22:53	
trans-1,2-Dichloroethene	ND	U	0.000214	0.00158	mg/kg	1	7/21/23 22:53	
trans-1,3-Dichloropropene	ND	U	0.000301	0.00158	mg/kg	1	7/21/23 22:53	
Trichloroethene	ND	U	0.000232	0.00158	mg/kg	1	7/21/23 22:53	
Trichlorofluoromethane	ND	U	0.000182	0.00158	mg/kg	1	7/21/23 22:53	
Vinyl chloride	ND	U	0.000300	0.00158	mg/kg	1	7/21/23 22:53	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, propyl-	0.00482	15.43	J	mg/kg	1	7/21/23 22:53
Decane	0.0158	16.71	J	mg/kg	1	7/21/23 22:53
Nonane	0.00836	14.43	J	mg/kg	1	7/21/23 22:53
Nonane, 3-methyl-	0.00509	16.12	J	mg/kg	1	7/21/23 22:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Undecane	0.00455	18.71	J	mg/kg	1	7/21/23 22:53
TIC Total	**0.039**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/2/23 21:38
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/2/23 21:38
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/2/23 21:38
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/2/23 21:38
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/2/23 21:38
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/2/23 21:38
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/2/23 21:38
Chloroform	**0.0201**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/2/23 21:38**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/2/23 21:38
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/2/23 21:38
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/2/23 21:38

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.8**				**%**	**1**	**7/21/23 16:10**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 17:46

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.0754**		**0.00719**	**0.0603**	**mg/kg**	**1**	**7/21/23 12:40**
Reactive Cyanide	ND	U	0.11	0.11	mg/kg	1	7/21/23 19:02

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U, H	0.109	0.109	mg/kg	1	7/28/23 18:14 UJ, RC:1

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1092
Project:	Red Hook-Gowanus	**Date to Lab:**	7/20/2023 3:45:00PM

23G1092-01 (Soil) Sample Name: **MR-209-5.0-7.0-20230720** Collected: **7/20/2023 9:50:00AM**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.01**				**pH Units**	**1**	**7/21/23 13:05**

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00529	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1221	ND	U	0.0104	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1232	ND	U	0.0132	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1242	ND	U	0.00776	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1248	ND	U	0.00811	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1254	ND	U	0.00637	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1260	ND	U	0.00494	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1262	ND	U	0.0106	0.0395	mg/kg	1	8/1/23 15:54
Aroclor-1268	ND	U	0.00478	0.0395	mg/kg	1	8/1/23 15:54
Total PCBs	ND	U	0.00369	0.0395	mg/kg	1	8/1/23 15:54

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0117	0.120	mg/kg	1	8/4/23 12:15
2,4-D	ND	U	0.0199	0.120	mg/kg	1	8/4/23 12:15

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	7/31/23 8:31
2,4-D	ND	U	0.00900	0.0200	mg/L	1	7/31/23 8:31

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0741**		**0.00598**	**0.0239**	**mg/kg**	**1**	**7/28/23 15:26**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	7/26/23 15:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12000**		**0.175**	**2.95**	**mg/kg**	**1**	**8/2/23 12:30**
Antimony	ND	U	0.161	1.47	mg/kg	1	8/2/23 12:30
Arsenic	**2.01**		**0.105**	**1.47**	**mg/kg**	**1**	**8/2/23 12:30**
Barium	**26.9**		**0.0445**	**0.589**	**mg/kg**	**1**	**8/2/23 12:30**
Beryllium	**0.662**		**0.00341**	**0.0295**	**mg/kg**	**1**	**8/2/23 12:30**
Cadmium	ND	U	0.0574	0.295	mg/kg	1	8/2/23 12:30
Calcium	**996**		**3.31**	**29.5**	**mg/kg**	**1**	**8/2/23 12:30**
Chromium	**24.4**		**0.0333**	**0.295**	**mg/kg**	**1**	**8/2/23 12:30**
Cobalt	**5.98**		**0.0301**	**0.236**	**mg/kg**	**1**	**8/2/23 12:30**
Copper	**14.8**		**0.0824**	**0.295**	**mg/kg**	**1**	**8/2/23 12:30**
Iron	**22300**		**0.835**	**5.89**	**mg/kg**	**1**	**8/2/23 12:30**
Lead	**7.52**		**0.123**	**1.47**	**mg/kg**	**1**	**8/2/23 12:30**
Magnesium	**5850**		**10.4**	**58.9**	**mg/kg**	**1**	**8/2/23 12:30**
Manganese	**321**		**0.0367**	**0.295**	**mg/kg**	**1**	**8/2/23 12:30**
Nickel	**20.4**		**0.0259**	**0.147**	**mg/kg**	**1**	**8/2/23 12:30**
Potassium	**1400**		**35.0**	**118**	**mg/kg**	**1**	**8/2/23 12:30**
Selenium	ND	U	0.283	1.47	mg/kg	1	8/2/23 12:30
Silver	ND	U	0.0501	0.177	mg/kg	1	8/2/23 12:30
Sodium	**343**		**5.62**	**58.9**	**mg/kg**	**1**	**8/2/23 12:30**
Thallium	ND	U	0.0991	1.47	mg/kg	1	8/2/23 12:30
Vanadium	**37.1**		**0.0678**	**0.589**	**mg/kg**	**1**	**8/2/23 12:30**
Zinc	**36.2**		**0.0900**	**0.884**	**mg/kg**	**1**	**8/2/23 12:30**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	7/31/23 13:12
Barium	**0.884**		**0.00279**	**0.100**	**mg/L**	**1**	**7/31/23 13:12**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	7/31/23 13:12
Chromium	ND	U	0.00240	0.0500	mg/L	1	7/31/23 13:12
Lead	ND	U	0.0255	0.250	mg/L	1	7/31/23 13:12
Selenium	ND	U	0.0760	0.250	mg/L	1	7/31/23 13:12
Silver	ND	U	0.0232	0.100	mg/L	1	7/31/23 13:12

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000712	0.00156	mg/kg	1	8/1/23 19:11
4,4'-DDE	ND	U	0.000851	0.00156	mg/kg	1	8/1/23 19:11
4,4'-DDT	ND	U	0.00110	0.00156	mg/kg	1	8/1/23 19:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U	0.000737	0.00156	mg/kg	1	8/1/23 19:11	
alpha-BHC	ND	U	0.000463	0.00156	mg/kg	1	8/1/23 19:11	
beta-BHC	ND	U	0.000743	0.00156	mg/kg	1	8/1/23 19:11	
Chlordane	ND	U	0.000691	0.00156	mg/kg	1	8/1/23 19:11	
delta-BHC	ND	U	0.000723	0.00156	mg/kg	1	8/1/23 19:11	
Dieldrin	ND	U	0.000813	0.00156	mg/kg	1	8/1/23 19:11	
Endosulfan I	ND	U	0.000734	0.00156	mg/kg	1	8/1/23 19:11	
Endosulfan II	ND	U	0.000707	0.00156	mg/kg	1	8/1/23 19:11	
Endosulfan sulfate	ND	U	0.000585	0.00156	mg/kg	1	8/1/23 19:11	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000707	0.00156	mg/kg	1	8/1/23 19:11	
Endrin	ND	U	0.000537	0.00156	mg/kg	1	8/1/23 19:11	
Endrin aldehyde	ND	U	0.000620	0.00156	mg/kg	1	8/1/23 19:11	
Endrin ketone	ND	U	0.000548	0.00156	mg/kg	1	8/1/23 19:11	
gamma-BHC (Lindane)	ND	U	0.000493	0.00156	mg/kg	1	8/1/23 19:11	
Heptachlor	ND	U	0.000416	0.00156	mg/kg	1	8/1/23 19:11	
Heptachlor Epoxide	ND	U	0.000785	0.00156	mg/kg	1	8/1/23 19:11	
Methoxychlor	ND	U	0.000456	0.00156	mg/kg	1	8/1/23 19:11	
Toxaphene	ND	U	0.0749	0.0790	mg/kg	1	8/1/23 19:11	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	7/28/23 17:51	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	7/28/23 17:51	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	7/28/23 17:51	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	7/28/23 17:51	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	7/28/23 17:51	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	7/28/23 17:51	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	7/28/23 17:51	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	7/28/23 17:51	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	7/28/23 17:51	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	7/28/23 17:51	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	7/28/23 17:51	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	7/28/23 17:51	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	7/28/23 17:51	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	7/28/23 17:51	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	7/28/23 17:51	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	7/28/23 17:51	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	7/28/23 17:51	UJ, RC:6L
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	7/28/23 17:51	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	7/28/23 17:51	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	7/28/23 17:51	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00450	0.0398	mg/kg	1	8/1/23 22:11	
2,3,4,6-Tetrachlorophenol	ND	U	0.0245	0.159	mg/kg	1	8/1/23 22:11	
2,4,5-Trichlorophenol	ND	U	0.0217	0.159	mg/kg	1	8/1/23 22:11	
2,4,6-Trichlorophenol	ND	U	0.00996	0.159	mg/kg	1	8/1/23 22:11	
2,4-Dichlorophenol	ND	U	0.0160	0.159	mg/kg	1	8/1/23 22:11	
2,4-Dimethylphenol	ND	U	0.0157	0.159	mg/kg	1	8/1/23 22:11	UJ, RC:SL
2,4-Dinitrophenol	~~ND~~	~~U~~	0.0230	0.798	mg/kg	1	8/1/23 22:11	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0170	0.159	mg/kg	1	8/1/23 22:11	
2,6-Dinitrotoluene	ND	U	0.0380	0.159	mg/kg	1	8/1/23 22:11	
2-Chloronaphthalene	ND	U	0.0183	0.159	mg/kg	1	8/1/23 22:11	
2-Chlorophenol	ND	U	0.0211	0.159	mg/kg	1	8/1/23 22:11	
2-Methylnaphthalene	ND	U	0.0382	0.239	mg/kg	1	8/1/23 22:11	
2-Methylphenol	ND	U	0.0315	0.159	mg/kg	1	8/1/23 22:11	
2-Nitroaniline	ND	U	0.0128	0.159	mg/kg	1	8/1/23 22:11	
2-Nitrophenol	ND	U	0.0177	0.159	mg/kg	1	8/1/23 22:11	
3,3'-Dichlorobenzidine	ND	U	0.0167	0.159	mg/kg	1	8/1/23 22:11	
3+4-Methylphenol	ND	U	0.0292	0.159	mg/kg	1	8/1/23 22:11	
3-Nitroaniline	ND	U	0.0295	0.159	mg/kg	1	8/1/23 22:11	
4,6-Dinitro-2-methylphenol	ND	U	0.0300	0.398	mg/kg	1	8/1/23 22:11	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0227	0.159	mg/kg	1	8/1/23 22:11	
4-Chloro-3-methylphenol	ND	U	0.0251	0.159	mg/kg	1	8/1/23 22:11	
4-Chloroaniline	ND	U	0.00557	0.159	mg/kg	1	8/1/23 22:11	
4-Chlorophenyl phenyl ether	ND	U	0.00860	0.159	mg/kg	1	8/1/23 22:11	
4-Nitroaniline	ND	U	0.0797	0.159	mg/kg	1	8/1/23 22:11	
4-Nitrophenol	ND	U	0.0102	0.159	mg/kg	1	8/1/23 22:11	UJ, RC:SL
Acenaphthene	ND	U	0.00908	0.159	mg/kg	1	8/1/23 22:11	
Acenaphthylene	ND	U	0.00554	0.159	mg/kg	1	8/1/23 22:11	
Acetophenone	ND	U	0.0158	0.159	mg/kg	1	8/1/23 22:11	
Anthracene	ND	U	0.0231	0.159	mg/kg	1	8/1/23 22:11	
Atrazine	ND	U	0.0150	0.159	mg/kg	1	8/1/23 22:11	
Benzaldehyde	ND	U	0.0489	0.159	mg/kg	1	8/1/23 22:11	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	ND	U	0.0160	0.159	mg/kg	1	8/1/23 22:11	
Benzo(a)pyrene	ND	U	0.0278	0.159	mg/kg	1	8/1/23 22:11	
Benzo(b)fluoranthene	ND	U	0.0224	0.159	mg/kg	1	8/1/23 22:11	
Benzo(g,h,i)perylene	ND	U	0.0129	0.159	mg/kg	1	8/1/23 22:11	
Benzo(k)fluoranthene	ND	U	0.0183	0.159	mg/kg	1	8/1/23 22:11	
Biphenyl	ND	U	0.0140	0.159	mg/kg	1	8/1/23 22:11	
bis(2-chloroethoxy)methane	ND	U	0.0220	0.159	mg/kg	1	8/1/23 22:11	
bis(2-chloroethyl)ether	ND	U	0.0175	0.159	mg/kg	1	8/1/23 22:11	
bis(2-chloroisopropyl)ether	ND	U	0.0573	0.159	mg/kg	1	8/1/23 22:11	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0318	0.159	mg/kg	1	8/1/23 22:11	
Butylbenzylphthalate	ND	U	0.0145	0.159	mg/kg	1	8/1/23 22:11	
Caprolactam	ND	U	0.0206	0.159	mg/kg	1	8/1/23 22:11	
Carbazole	ND	U	0.0306	0.398	mg/kg	1	8/1/23 22:11	
Chrysene	ND	U	0.0109	0.159	mg/kg	1	8/1/23 22:11	
Dibenzo(a,h)anthracene	ND	U	0.0158	0.159	mg/kg	1	8/1/23 22:11	
Dibenzofuran	ND	U	0.00949	0.159	mg/kg	1	8/1/23 22:11	
Diethylphthalate	ND	U	0.0309	0.159	mg/kg	1	8/1/23 22:11	
Dimethylphthalate	ND	U	0.00988	0.159	mg/kg	1	8/1/23 22:11	
Di-n-butylphthalate	ND	U	0.0651	0.159	mg/kg	1	8/1/23 22:11	
Di-n-octylphthalate	ND	U	0.0327	0.159	mg/kg	1	8/1/23 22:11	
Fluoranthene	ND	U	0.0150	0.159	mg/kg	1	8/1/23 22:11	
Fluorene	ND	U	0.0133	0.159	mg/kg	1	8/1/23 22:11	
Hexachlorobenzene	ND	U	0.0208	0.159	mg/kg	1	8/1/23 22:11	
Hexachlorobutadiene	ND	U	0.0764	0.159	mg/kg	1	8/1/23 22:11	UJ, RC:SL
Hexachlorocyclopentadiene	ND	U	0.0664	0.398	mg/kg	1	8/1/23 22:11	UJ, RC:SL
Hexachloroethane	ND	U	0.0175	0.159	mg/kg	1	8/1/23 22:11	
Indeno(1,2,3-cd)pyrene	ND	U	0.0171	0.159	mg/kg	1	8/1/23 22:11	
Isophorone	ND	U	0.0104	0.159	mg/kg	1	8/1/23 22:11	
Naphthalene	ND	U	0.0118	0.159	mg/kg	1	8/1/23 22:11	
Nitrobenzene	ND	U	0.0270	0.159	mg/kg	1	8/1/23 22:11	
n-Nitroso-di-n-propylamine	ND	U	0.00853	0.159	mg/kg	1	8/1/23 22:11	
n-Nitrosodiphenylamine	ND	U	0.0340	0.159	mg/kg	1	8/1/23 22:11	
Pentachlorophenol	ND	U	0.0219	0.398	mg/kg	1	8/1/23 22:11	UJ, RC:SL
Phenanthrene	ND	U	0.0209	0.159	mg/kg	1	8/1/23 22:11	
Phenol	ND	U	0.0129	0.159	mg/kg	1	8/1/23 22:11	
Pyrene	ND	U	0.0117	0.159	mg/kg	1	8/1/23 22:11	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1092
Project:	Red Hook-Gowanus	**Date to Lab:**	7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	9.76	11.80	J, B	mg/kg	1	8/1/23 22:11	R, RC:2
Octadecanoic acid, butyl ester	5.66	12.58	J, B	mg/kg	1	8/1/23 22:11	R, RC:2
TIC Total	15.4						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	7/28/23 16:06
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	7/28/23 16:06
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	7/28/23 16:06
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	7/28/23 16:06
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	7/28/23 16:06
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	7/28/23 16:06
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	7/28/23 16:06
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	7/28/23 16:06
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	7/28/23 16:06
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	7/28/23 16:06
Pyridine	ND	U	0.000494	0.0200	mg/L	1	7/28/23 16:06

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000239	0.00164	mg/kg	1	7/21/23 23:22
1,1,2,2-Tetrachloroethane	ND	U	0.000226	0.00164	mg/kg	1	7/21/23 23:22
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000701	0.00164	mg/kg	1	7/21/23 23:22
1,1,2-Trichloroethane	ND	U	0.000276	0.00164	mg/kg	1	7/21/23 23:22
1,1-Dichloroethane	ND	U	0.000239	0.00164	mg/kg	1	7/21/23 23:22
1,1-Dichloroethene	ND	U	0.000303	0.00164	mg/kg	1	7/21/23 23:22
1,2,3-Trichlorobenzene	ND	U	0.000354	0.00164	mg/kg	1	7/21/23 23:22
1,2,4-Trichlorobenzene	ND	U	0.000437	0.00164	mg/kg	1	7/21/23 23:22
1,2,4-Trimethylbenzene	ND	U	0.000226	0.00164	mg/kg	1	7/21/23 23:22
1,2-Dibromo-3-chloropropane	ND	U	0.000400	0.00410	mg/kg	1	7/21/23 23:22
1,2-Dibromoethane	ND	U	0.000206	0.00164	mg/kg	1	7/21/23 23:22
1,2-Dichlorobenzene	ND	U	0.000289	0.00164	mg/kg	1	7/21/23 23:22
1,2-Dichloroethane	ND	U	0.000231	0.00164	mg/kg	1	7/21/23 23:22
1,2-Dichloropropane	ND	U	0.000269	0.00164	mg/kg	1	7/21/23 23:22
1,3-Dichlorobenzene	ND	U	0.000120	0.00164	mg/kg	1	7/21/23 23:22
1,4-Dichlorobenzene	ND	U	0.000236	0.00164	mg/kg	1	7/21/23 23:22
2-Butanone	ND	U	0.000267	0.00819	mg/kg	1	7/21/23 23:22

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Hexanone	ND	U	0.000153	0.00164	mg/kg	1	7/21/23 23:22	
4-Methyl-2-pentanone	ND	U	0.000205	0.00164	mg/kg	1	7/21/23 23:22	
Acetone	ND	U	0.000497	0.0410	mg/kg	1	7/21/23 23:22	
Benzene	ND	U	0.000149	0.00164	mg/kg	1	7/21/23 23:22	
Bromochloromethane	ND	U	0.000302	0.00164	mg/kg	1	7/21/23 23:22	
Bromodichloromethane	ND	U	0.000206	0.00164	mg/kg	1	7/21/23 23:22	
Bromoform	ND	U	0.000288	0.00164	mg/kg	1	7/21/23 23:22	UJ, RC:SL
Bromomethane	ND	U	0.000473	0.00164	mg/kg	1	7/21/23 23:22	
Carbon disulfide	ND	U	0.000235	0.00164	mg/kg	1	7/21/23 23:22	
Carbon Tetrachloride	ND	U	0.000247	0.00164	mg/kg	1	7/21/23 23:22	
Chlorobenzene	ND	U	0.000238	0.00164	mg/kg	1	7/21/23 23:22	
Chlorodibromomethane	ND	U	0.000202	0.00164	mg/kg	1	7/21/23 23:22	
Chloroethane	ND	U	0.000279	0.00164	mg/kg	1	7/21/23 23:22	
Chloroform	ND	U	0.000275	0.00164	mg/kg	1	7/21/23 23:22	
Chloromethane	ND	U	0.000631	0.00164	mg/kg	1	7/21/23 23:22	
cis-1,2-Dichloroethene	ND	U	0.0000792	0.00164	mg/kg	1	7/21/23 23:22	
cis-1,3-Dichloropropene	ND	U	0.000207	0.00164	mg/kg	1	7/21/23 23:22	
Cyclohexane	ND	U	0.000363	0.00164	mg/kg	1	7/21/23 23:22	
Dichlorodifluoromethane	ND	U	0.000553	0.00164	mg/kg	1	7/21/23 23:22	
EthylBenzene	ND	U	0.000222	0.00164	mg/kg	1	7/21/23 23:22	
Isopropylbenzene	ND	U	0.000257	0.00164	mg/kg	1	7/21/23 23:22	
m+p-Xylenes	ND	U	0.000414	0.00328	mg/kg	1	7/21/23 23:22	
Methyl Acetate	ND	U	0.000217	0.00164	mg/kg	1	7/21/23 23:22	
Methyl tert-Butyl Ether	ND	U	0.000277	0.00164	mg/kg	1	7/21/23 23:22	
Methylcyclohexane	ND	U	0.000264	0.00164	mg/kg	1	7/21/23 23:22	
Methylene Chloride	ND	U	0.000492	0.00410	mg/kg	1	7/21/23 23:22	
o-Xylene	ND	U	0.000211	0.00164	mg/kg	1	7/21/23 23:22	
Styrene	ND	U	0.000234	0.00164	mg/kg	1	7/21/23 23:22	
tert-Butyl alcohol	ND	U	0.00344	0.0164	mg/kg	1	7/21/23 23:22	
Tetrachloroethene	ND	U	0.000162	0.00164	mg/kg	1	7/21/23 23:22	
Toluene	ND	U	0.000132	0.00164	mg/kg	1	7/21/23 23:22	
Total Xylenes	ND	U	0.000211	0.00164	mg/kg	1	7/21/23 23:22	
trans-1,2-Dichloroethene	ND	U	0.000222	0.00164	mg/kg	1	7/21/23 23:22	
trans-1,3-Dichloropropene	ND	U	0.000313	0.00164	mg/kg	1	7/21/23 23:22	
Trichloroethene	ND	U	0.000241	0.00164	mg/kg	1	7/21/23 23:22	
Trichlorofluoromethane	ND	U	0.000188	0.00164	mg/kg	1	7/21/23 23:22	
Vinyl chloride	ND	U	0.000311	0.00164	mg/kg	1	7/21/23 23:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1092

Project: Red Hook-Gowanus **Date to Lab:** 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, (1-methylpropyl)-	0.0104	21.54	J	mg/kg	1	7/21/23 23:22
Cyclohexane, propyl-	0.00717	15.44	J	mg/kg	1	7/21/23 23:22
Decane	0.0291	16.71	J	mg/kg	1	7/21/23 23:22
Decane, 2-methyl-	0.00513	18.02	J	mg/kg	1	7/21/23 23:22
Dodecane	0.0199	20.52	J	mg/kg	1	7/21/23 23:22
Dotriacontane	0.00549	19.90	J	mg/kg	1	7/21/23 23:22
Hydroxylamine, O-decyl-	0.00703	19.73	J	mg/kg	1	7/21/23 23:22
Nonane	0.0131	14.43	J	mg/kg	1	7/21/23 23:22
Nonane, 3-methyl- (01)	0.00527	15.28	J	mg/kg	1	7/21/23 23:22
Nonane, 3-methyl- (02)	0.00801	16.12	J	mg/kg	1	7/21/23 23:22
Octane, 2,6-dimethyl-	0.0121	21.76	J	mg/kg	1	7/21/23 23:22
Tridecane	0.0129	22.16	J	mg/kg	1	7/21/23 23:22
Undecane	0.0183	18.71	J	mg/kg	1	7/21/23 23:22
Undecane, 2,10-dimethyl-	0.00523	21.61	J	mg/kg	1	7/21/23 23:22
Undecane, 2,6-dimethyl-	0.0100	21.42	J	mg/kg	1	7/21/23 23:22
TIC Total	**0.169**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/2/23 22:04	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/2/23 22:04	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/2/23 22:04	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/2/23 22:04	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/2/23 22:04	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/2/23 22:04	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/2/23 22:04	
Chloroform	**0.0172**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/2/23 22:04**	J, RC:3L
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/2/23 22:04	UJ, RC:3L
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/2/23 22:04	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/2/23 22:04	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**83.6**				**%**	**1**	**7/21/23 16:10**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-02 (Soil) Sample Name: **MR-209-15.0-17.0-20230720** Collected: **7/20/2023 10:15:00AM**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/27/23 17:46

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.105**		**0.00855**	**0.0718**	**mg/kg**	**1**	**7/21/23 12:40**
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	7/21/23 19:02

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U, H	0.120	0.120	mg/kg	1	7/28/23 18:14 UJ, RC:1

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.47**				**pH Units**	**1**	**7/21/23 13:05**

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00534	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1221	ND	U	0.0105	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1232	ND	U	0.0134	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1242	ND	U	0.00783	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1248	ND	U	0.00819	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1254	ND	U	0.00643	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1260	ND	U	0.00499	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1262	ND	U	0.0107	0.0398	mg/kg	1	8/1/23 16:17
Aroclor-1268	ND	U	0.00482	0.0398	mg/kg	1	8/1/23 16:17
Total PCBs	ND	U	0.00372	0.0398	mg/kg	1	8/1/23 16:17

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0118	0.121	mg/kg	1	8/4/23 12:24
2,4-D	ND	U	0.0200	0.121	mg/kg	1	8/4/23 12:24

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	7/31/23 8:41
2,4-D	ND	U	0.00900	0.0200	mg/L	1	7/31/23 8:41

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00604	0.0241	mg/kg	1	7/28/23 15:36

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	7/26/23 15:07

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8940**		**0.173**	**2.92**	**mg/kg**	**1**	**8/2/23 12:32**
Antimony	ND	U	0.159	1.46	mg/kg	1	8/2/23 12:32
Arsenic	ND	U	0.104	1.46	mg/kg	1	8/2/23 12:32
Barium	**55.1**		**0.0441**	**0.583**	**mg/kg**	**1**	**8/2/23 12:32**
Beryllium	**0.712**		**0.00338**	**0.0292**	**mg/kg**	**1**	**8/2/23 12:32**
Cadmium	ND	U	0.0569	0.292	mg/kg	1	8/2/23 12:32
Calcium	**6290**		**3.28**	**29.2**	**mg/kg**	**1**	**8/2/23 12:32**
Chromium	**17.3**		**0.0329**	**0.292**	**mg/kg**	**1**	**8/2/23 12:32**
Cobalt	**5.34**		**0.0298**	**0.233**	**mg/kg**	**1**	**8/2/23 12:32**
Copper	**12.8**		**0.0816**	**0.292**	**mg/kg**	**1**	**8/2/23 12:32**
Iron	**16100**		**0.826**	**5.83**	**mg/kg**	**1**	**8/2/23 12:32**
Lead	**7.06**		**0.122**	**1.46**	**mg/kg**	**1**	**8/2/23 12:32**
Magnesium	**4910**		**10.3**	**58.3**	**mg/kg**	**1**	**8/2/23 12:32**
Manganese	**273**		**0.0363**	**0.292**	**mg/kg**	**1**	**8/2/23 12:32**
Nickel	**12.9**		**0.0256**	**0.146**	**mg/kg**	**1**	**8/2/23 12:32**
Potassium	**2480**		**34.7**	**117**	**mg/kg**	**1**	**8/2/23 12:32**
Selenium	ND	U	0.280	1.46	mg/kg	1	8/2/23 12:32
Silver	ND	U	0.0496	0.175	mg/kg	1	8/2/23 12:32
Sodium	**428**		**5.56**	**58.3**	**mg/kg**	**1**	**8/2/23 12:32**
Thallium	ND	U	0.0981	1.46	mg/kg	1	8/2/23 12:32
Vanadium	**25.5**		**0.0671**	**0.583**	**mg/kg**	**1**	**8/2/23 12:32**
Zinc	**28.7**		**0.0891**	**0.875**	**mg/kg**	**1**	**8/2/23 12:32**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1092
Project:	Red Hook-Gowanus	**Date to Lab:**	7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	7/31/23 13:25
Barium	**1.59**		**0.00279**	**0.100**	**mg/L**	**1**	**7/31/23 13:25**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	7/31/23 13:25
Chromium	ND	U	0.00240	0.0500	mg/L	1	7/31/23 13:25
Lead	ND	U	0.0255	0.250	mg/L	1	7/31/23 13:25
Selenium	ND	U	0.0760	0.250	mg/L	1	7/31/23 13:25
Silver	ND	U	0.0232	0.100	mg/L	1	7/31/23 13:25

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000718	0.00157	mg/kg	1	8/1/23 19:33	
4,4'-DDE	ND	U	0.000858	0.00157	mg/kg	1	8/1/23 19:33	
4,4'-DDT	ND	U	0.00111	0.00157	mg/kg	1	8/1/23 19:33	
Aldrin	ND	U	0.000744	0.00157	mg/kg	1	8/1/23 19:33	
alpha-BHC	ND	U	0.000467	0.00157	mg/kg	1	8/1/23 19:33	
beta-BHC	ND	U	0.000750	0.00157	mg/kg	1	8/1/23 19:33	
Chlordane	ND	U	0.000698	0.00157	mg/kg	1	8/1/23 19:33	
delta-BHC	ND	U	0.000729	0.00157	mg/kg	1	8/1/23 19:33	
Dieldrin	ND	U	0.000821	0.00157	mg/kg	1	8/1/23 19:33	
Endosulfan I	ND	U	0.000741	0.00157	mg/kg	1	8/1/23 19:33	
Endosulfan II	ND	U	0.000713	0.00157	mg/kg	1	8/1/23 19:33	
Endosulfan sulfate	ND	U	0.000590	0.00157	mg/kg	1	8/1/23 19:33	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000713	0.00157	mg/kg	1	8/1/23 19:33	
Endrin	ND	U	0.000542	0.00157	mg/kg	1	8/1/23 19:33	
Endrin aldehyde	ND	U	0.000625	0.00157	mg/kg	1	8/1/23 19:33	
Endrin ketone	ND	U	0.000553	0.00157	mg/kg	1	8/1/23 19:33	
gamma-BHC (Lindane)	ND	U	0.000497	0.00157	mg/kg	1	8/1/23 19:33	
Heptachlor	ND	U	0.000420	0.00157	mg/kg	1	8/1/23 19:33	
Heptachlor Epoxide	ND	U	0.000792	0.00157	mg/kg	1	8/1/23 19:33	
Methoxychlor	ND	U	0.000460	0.00157	mg/kg	1	8/1/23 19:33	
Toxaphene	ND	U	0.0756	0.0797	mg/kg	1	8/1/23 19:33	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	7/28/23 18:13
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	7/28/23 18:13
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	7/28/23 18:13

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	7/28/23 18:13	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	7/28/23 18:13	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	7/28/23 18:13	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	7/28/23 18:13	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	7/28/23 18:13	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	7/28/23 18:13	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	7/28/23 18:13	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	7/28/23 18:13	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	7/28/23 18:13	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	7/28/23 18:13	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	7/28/23 18:13	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	7/28/23 18:13	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	7/28/23 18:13	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	7/28/23 18:13	UJ, RC:6L
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	7/28/23 18:13	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	7/28/23 18:13	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	7/28/23 18:13	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00454	0.0402	mg/kg	1	8/1/23 22:41	
2,3,4,6-Tetrachlorophenol	ND	U	0.0247	0.161	mg/kg	1	8/1/23 22:41	
2,4,5-Trichlorophenol	ND	U	0.0219	0.161	mg/kg	1	8/1/23 22:41	
2,4,6-Trichlorophenol	ND	U	0.0101	0.161	mg/kg	1	8/1/23 22:41	
2,4-Dichlorophenol	ND	U	0.0162	0.161	mg/kg	1	8/1/23 22:41	
2,4-Dimethylphenol	ND	U	0.0158	0.161	mg/kg	1	8/1/23 22:41	UJ, RC:SL
2,4-Dinitrophenol	~~ND~~	~~U~~	0.0232	0.805	mg/kg	1	8/1/23 22:41	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0171	0.161	mg/kg	1	8/1/23 22:41	
2,6-Dinitrotoluene	ND	U	0.0384	0.161	mg/kg	1	8/1/23 22:41	
2-Chloronaphthalene	ND	U	0.0185	0.161	mg/kg	1	8/1/23 22:41	
2-Chlorophenol	ND	U	0.0212	0.161	mg/kg	1	8/1/23 22:41	
2-Methylnaphthalene	ND	U	0.0385	0.241	mg/kg	1	8/1/23 22:41	
2-Methylphenol	ND	U	0.0318	0.161	mg/kg	1	8/1/23 22:41	
2-Nitroaniline	ND	U	0.0129	0.161	mg/kg	1	8/1/23 22:41	
2-Nitrophenol	ND	U	0.0179	0.161	mg/kg	1	8/1/23 22:41	
3,3'-Dichlorobenzidine	ND	U	0.0169	0.161	mg/kg	1	8/1/23 22:41	
3+4-Methylphenol	ND	U	0.0295	0.161	mg/kg	1	8/1/23 22:41	
3-Nitroaniline	ND	U	0.0298	0.161	mg/kg	1	8/1/23 22:41	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,6-Dinitro-2-methylphenol	ND	U	0.0303	0.402	mg/kg	1	8/1/23 22:41	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0229	0.161	mg/kg	1	8/1/23 22:41	
4-Chloro-3-methylphenol	ND	U	0.0254	0.161	mg/kg	1	8/1/23 22:41	
4-Chloroaniline	ND	U	0.00563	0.161	mg/kg	1	8/1/23 22:41	
4-Chlorophenyl phenyl ether	ND	U	0.00868	0.161	mg/kg	1	8/1/23 22:41	
4-Nitroaniline	ND	U	0.0804	0.161	mg/kg	1	8/1/23 22:41	
4-Nitrophenol	ND	U	0.0103	0.161	mg/kg	1	8/1/23 22:41	UJ, RC:SL
Acenaphthene	ND	U	0.00916	0.161	mg/kg	1	8/1/23 22:41	
Acenaphthylene	ND	U	0.00559	0.161	mg/kg	1	8/1/23 22:41	
Acetophenone	ND	U	0.0159	0.161	mg/kg	1	8/1/23 22:41	
Anthracene	ND	U	0.0233	0.161	mg/kg	1	8/1/23 22:41	
Atrazine	ND	U	0.0151	0.161	mg/kg	1	8/1/23 22:41	
Benzaldehyde	ND	U	0.0494	0.161	mg/kg	1	8/1/23 22:41	
Benzo(a)anthracene	ND	U	0.0162	0.161	mg/kg	1	8/1/23 22:41	
Benzo(a)pyrene	ND	U	0.0280	0.161	mg/kg	1	8/1/23 22:41	
Benzo(b)fluoranthene	ND	U	0.0226	0.161	mg/kg	1	8/1/23 22:41	
Benzo(g,h,i)perylene	ND	U	0.0130	0.161	mg/kg	1	8/1/23 22:41	
Benzo(k)fluoranthene	ND	U	0.0185	0.161	mg/kg	1	8/1/23 22:41	
Biphenyl	ND	U	0.0141	0.161	mg/kg	1	8/1/23 22:41	
bis(2-chloroethoxy)methane	ND	U	0.0222	0.161	mg/kg	1	8/1/23 22:41	
bis(2-chloroethyl)ether	ND	U	0.0176	0.161	mg/kg	1	8/1/23 22:41	
bis(2-chloroisopropyl)ether	ND	U	0.0578	0.161	mg/kg	1	8/1/23 22:41	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0321	0.161	mg/kg	1	8/1/23 22:41	
Butylbenzylphthalate	ND	U	0.0146	0.161	mg/kg	1	8/1/23 22:41	
Caprolactam	ND	U	0.0208	0.161	mg/kg	1	8/1/23 22:41	
Carbazole	ND	U	0.0309	0.402	mg/kg	1	8/1/23 22:41	
Chrysene	ND	U	0.0110	0.161	mg/kg	1	8/1/23 22:41	
Dibenzo(a,h)anthracene	ND	U	0.0159	0.161	mg/kg	1	8/1/23 22:41	
Dibenzofuran	ND	U	0.00957	0.161	mg/kg	1	8/1/23 22:41	
Diethylphthalate	ND	U	0.0311	0.161	mg/kg	1	8/1/23 22:41	
Dimethylphthalate	ND	U	0.00997	0.161	mg/kg	1	8/1/23 22:41	
Di-n-butylphthalate	ND	U	0.0657	0.161	mg/kg	1	8/1/23 22:41	
Di-n-octylphthalate	ND	U	0.0330	0.161	mg/kg	1	8/1/23 22:41	
Fluoranthene	ND	U	0.0151	0.161	mg/kg	1	8/1/23 22:41	
Fluorene	ND	U	0.0134	0.161	mg/kg	1	8/1/23 22:41	
Hexachlorobenzene	ND	U	0.0210	0.161	mg/kg	1	8/1/23 22:41	
Hexachlorobutadiene	ND	U	0.0771	0.161	mg/kg	1	8/1/23 22:41	UJ, RC:SL
Hexachlorocyclopentadiene	ND	U	0.0670	0.402	mg/kg	1	8/1/23 22:41	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachloroethane	ND	U	0.0176	0.161	mg/kg	1	8/1/23 22:41	
Indeno(1,2,3-cd)pyrene	ND	U	0.0173	0.161	mg/kg	1	8/1/23 22:41	
Isophorone	ND	U	0.0105	0.161	mg/kg	1	8/1/23 22:41	
Naphthalene	ND	U	0.0119	0.161	mg/kg	1	8/1/23 22:41	
Nitrobenzene	ND	U	0.0273	0.161	mg/kg	1	8/1/23 22:41	
n-Nitroso-di-n-propylamine	ND	U	0.00861	0.161	mg/kg	1	8/1/23 22:41	
n-Nitrosodiphenylamine	ND	U	0.0343	0.161	mg/kg	1	8/1/23 22:41	
Pentachlorophenol	ND	U	0.0221	0.402	mg/kg	1	8/1/23 22:41	UJ, RC:SL
Phenanthrene	ND	U	0.0211	0.161	mg/kg	1	8/1/23 22:41	
Phenol	ND	U	0.0130	0.161	mg/kg	1	8/1/23 22:41	
Pyrene	ND	U	0.0118	0.161	mg/kg	1	8/1/23 22:41	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~8.37~~	11.80	J, B	mg/kg	1	8/1/23 22:41	R, RC:2
Octadecanoic acid, butyl ester	~~5.09~~	12.58	B, J	mg/kg	1	8/1/23 22:41	R, RC:2
TIC Total	~~13.5~~						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	7/28/23 16:40
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	7/28/23 16:40
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	7/28/23 16:40
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	7/28/23 16:40
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	7/28/23 16:40
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	7/28/23 16:40
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	7/28/23 16:40
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	7/28/23 16:40
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	7/28/23 16:40
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	7/28/23 16:40
Pyridine	ND	U	0.000494	0.0200	mg/L	1	7/28/23 16:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000241	0.00165	mg/kg	1	7/21/23 23:51
1,1,2,2-Tetrachloroethane	ND	U	0.000228	0.00165	mg/kg	1	7/21/23 23:51
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000708	0.00165	mg/kg	1	7/21/23 23:51

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,2-Trichloroethane	ND	U	0.000279	0.00165	mg/kg	1	7/21/23 23:51	
1,1-Dichloroethane	ND	U	0.000241	0.00165	mg/kg	1	7/21/23 23:51	
1,1-Dichloroethene	ND	U	0.000306	0.00165	mg/kg	1	7/21/23 23:51	
1,2,3-Trichlorobenzene	ND	U	0.000357	0.00165	mg/kg	1	7/21/23 23:51	
1,2,4-Trichlorobenzene	ND	U	0.000441	0.00165	mg/kg	1	7/21/23 23:51	
1,2,4-Trimethylbenzene	ND	U	0.000228	0.00165	mg/kg	1	7/21/23 23:51	
1,2-Dibromo-3-chloropropane	ND	U	0.000404	0.00413	mg/kg	1	7/21/23 23:51	
1,2-Dibromoethane	ND	U	0.000208	0.00165	mg/kg	1	7/21/23 23:51	
1,2-Dichlorobenzene	ND	U	0.000292	0.00165	mg/kg	1	7/21/23 23:51	
1,2-Dichloroethane	ND	U	0.000233	0.00165	mg/kg	1	7/21/23 23:51	
1,2-Dichloropropane	ND	U	0.000271	0.00165	mg/kg	1	7/21/23 23:51	
1,3-Dichlorobenzene	ND	U	0.000122	0.00165	mg/kg	1	7/21/23 23:51	
1,4-Dichlorobenzene	ND	U	0.000238	0.00165	mg/kg	1	7/21/23 23:51	
2-Butanone	ND	U	0.000270	0.00827	mg/kg	1	7/21/23 23:51	
2-Hexanone	ND	U	0.000155	0.00165	mg/kg	1	7/21/23 23:51	
4-Methyl-2-pentanone	ND	U	0.000207	0.00165	mg/kg	1	7/21/23 23:51	
Acetone	ND	U	0.000501	0.0413	mg/kg	1	7/21/23 23:51	
Benzene	ND	U	0.000150	0.00165	mg/kg	1	7/21/23 23:51	
Bromochloromethane	ND	U	0.000305	0.00165	mg/kg	1	7/21/23 23:51	
Bromodichloromethane	ND	U	0.000208	0.00165	mg/kg	1	7/21/23 23:51	
Bromoform	ND	U	0.000290	0.00165	mg/kg	1	7/21/23 23:51	UJ, RC:SL
Bromomethane	ND	U	0.000477	0.00165	mg/kg	1	7/21/23 23:51	
Carbon disulfide	ND	U	0.000237	0.00165	mg/kg	1	7/21/23 23:51	
Carbon Tetrachloride	ND	U	0.000249	0.00165	mg/kg	1	7/21/23 23:51	
Chlorobenzene	ND	U	0.000240	0.00165	mg/kg	1	7/21/23 23:51	
Chlorodibromomethane	ND	U	0.000203	0.00165	mg/kg	1	7/21/23 23:51	
Chloroethane	ND	U	0.000282	0.00165	mg/kg	1	7/21/23 23:51	
Chloroform	ND	U	0.000278	0.00165	mg/kg	1	7/21/23 23:51	
Chloromethane	ND	U	0.000637	0.00165	mg/kg	1	7/21/23 23:51	
cis-1,2-Dichloroethene	ND	U	0.0000800	0.00165	mg/kg	1	7/21/23 23:51	
cis-1,3-Dichloropropene	ND	U	0.000209	0.00165	mg/kg	1	7/21/23 23:51	
Cyclohexane	ND	U	0.000366	0.00165	mg/kg	1	7/21/23 23:51	
Dichlorodifluoromethane	ND	U	0.000558	0.00165	mg/kg	1	7/21/23 23:51	
EthylBenzene	ND	U	0.000224	0.00165	mg/kg	1	7/21/23 23:51	
Isopropylbenzene	ND	U	0.000260	0.00165	mg/kg	1	7/21/23 23:51	
m+p-Xylenes	ND	U	0.000418	0.00331	mg/kg	1	7/21/23 23:51	
Methyl Acetate	ND	U	0.000219	0.00165	mg/kg	1	7/21/23 23:51	
Methyl tert-Butyl Ether	ND	U	0.000279	0.00165	mg/kg	1	7/21/23 23:51	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1092
Date to Lab: 7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	ND	U	0.000266	0.00165	mg/kg	1	7/21/23 23:51
Methylene Chloride	ND	U	0.000497	0.00413	mg/kg	1	7/21/23 23:51
o-Xylene	ND	U	0.000213	0.00165	mg/kg	1	7/21/23 23:51
Styrene	ND	U	0.000236	0.00165	mg/kg	1	7/21/23 23:51
tert-Butyl alcohol	ND	U	0.00347	0.0165	mg/kg	1	7/21/23 23:51
Tetrachloroethene	ND	U	0.000164	0.00165	mg/kg	1	7/21/23 23:51
Toluene	ND	U	0.000133	0.00165	mg/kg	1	7/21/23 23:51
Total Xylenes	ND	U	0.000213	0.00165	mg/kg	1	7/21/23 23:51
trans-1,2-Dichloroethene	ND	U	0.000224	0.00165	mg/kg	1	7/21/23 23:51
trans-1,3-Dichloropropene	ND	U	0.000316	0.00165	mg/kg	1	7/21/23 23:51
Trichloroethene	**0.00109**	J	**0.000243**	**0.00165**	**mg/kg**	**1**	**7/21/23 23:51**
Trichlorofluoromethane	ND	U	0.000190	0.00165	mg/kg	1	7/21/23 23:51
Vinyl chloride	ND	U	0.000314	0.00165	mg/kg	1	7/21/23 23:51

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/2/23 22:30	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/2/23 22:30	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/2/23 22:30	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/2/23 22:30	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/2/23 22:30	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/2/23 22:30	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/2/23 22:30	
Chloroform	**0.0190**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/2/23 22:30**	J, RC:3L
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/2/23 22:30	UJ, RC:3L
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/2/23 22:30	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/2/23 22:30	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.8**				**%**	**1**	**7/21/23 16:10**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1092
Project:	Red Hook-Gowanus	**Date to Lab:**	7/20/2023 3:45:00PM

23G1092-03 (Soil) Sample Name: **MR-209-30.0-32.0-20230720** Collected: **7/20/2023 10:50:00AM**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Ignitability	> 60			20.0	°C	1	7/27/23 17:46	

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyanide	**0.0739**		**0.00846**	**0.0710**	**mg/kg**	**1**	**7/21/23 12:40**	
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	7/21/23 19:02	

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Sulfide	ND	U, H	0.121	0.121	mg/kg	1	7/28/23 18:14	UJ, RC:1

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.41**				**pH Units**	**1**	**7/21/23 13:05**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23G1341
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 26, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-208-6.0-8.0-20230724	23G1341-01	7/24/2024	Soil
MR-208-15.0-17.0-20230724	23G1341-02	7/24/2024	Soil
MR-208-30.0-32.0-20230724	23G1341-03	7/24/2024	Soil
MR-202-2.0-4.0-20230725	23G1341-04	7/25/2024	Soil
MR-202-8.0-10.0-20230725	23G1341-05	7/25/2024	Soil
MR-202-15.0-17.0-20230725	23G1341-06	7/25/2024	Soil
MR-202-30.0-32.0-20230725	23G1341-07	7/25/2024	Soil

Data validation was performed on the analytical data for seven (7) samples collected July 24 and 25, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020

- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Multiple SVOCs associated with sample MR-202-2.0-4.0-20230725 were qualified as rejected due to major deviations associated with matrix spike samples. Additionally, Methoxychlor associated with sample MR-208-6.0-8.0-20230724 was qualified as rejected due to major deviations associated with matrix spike samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibrations, internal standards, holding times, surrogates, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	Dibromofluoromethane	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-202-15.0-17.0-20230725	Acetone	> CL	J (detects) No Action (non-detects)	4H

- Additionally, RPDs were outside control limit except for Bromomethane. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Internal standard	Exceedance	Qualification	Reason Code
8260D	MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725	1,4-Dichlorobenzene-d4	25% < %R < CL	J (detects) UJ (non-detects)	XH

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725	Acetone	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
	MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	Acetone 2-Butanone	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
8260D-TCLP	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	Vinyl chloride	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester and "unknown." Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	MR-202-2.0-4.0-20230725	2,4,6-Tribromophenol	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-208-6.0-8.0-20230724	Butylbenzylphthalate	> CL	J (detects) No Action (non-detects)	4H
8270E	MR-202-2.0-4.0-20230725	2,4-Dimethylphenol 3-Nitroaniline 4-Chloroaniline Acenaphthylene bis(2-chloroethoxy)methane Caprolactam Hexachloroethane Naphthalene Nitrobenzene n-Nitroso-di-n-propylamine n-Nitrosodiphenylamine Benzo(b)fluoranthene	> CL	J (detects) No Action (non-detects)	4H
		2,4-Dinitrotoluene Dibenzofuran Fluorene	10% < %R < CL	J (detects) UJ (non-detects)	4L
		4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Hexachlorocyclopentadiene Pentachlorophenol 2,4-Dinitrophenol bis(2-chloroethoxy)methane	10% > %R < CL	J (detects) R (non-detects)	4L

- Additionally, RPDs associated with MR-202-2.0-4.0-20230725 were outside control limit except for 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2-Methylphenol, 4-Chlorophenyl phenyl ether, Biphenyl, bis(2-chloroethoxy)methane and n-Nitroso-di-n-propylamine. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit for samples MR-208-6.0-8.0-20230724, MR-208-15.0-17.0-20230724 and MR-208-30.0-32.0-20230724. Non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724	1,4-Dioxane bis(2-chloroethyl)ether bis(2-ethylhexyl)phthalate Di-n-octylphthalate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-202-8.0-10.0-20230725	2,3,4,6-Tetrachlorophenol 2,4,6-Trichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 3-Nitroaniline 4,6-Dinitro-2-methylphenol 4-Chloro-3-methylphenol Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-202-2.0-4.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	1,4-Dioxane 2,4-Dinitrotoluene 2-Nitrophenol Acetophenone Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		2,4-Dinitrophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	2,4,6-Trichlorophenol 2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	MR-202-2.0-4.0-20230725	DCB (column 2)	%R > CL	J (detects) No Action (non-detects)	3H
8151A	MR-208-30.0-32.0-20230724	DCAA	10% < %R < CL	J (detects) UJ (non-detects)	3L
8081B	MR-202-2.0-4.0-20230725	DCB (column 1&2)	%R > CL	J (detects) No Action (non-detects)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	4,4'-DDT Aldrin Chlordane Endosulfan sulfate Endrin Endrin aldehyde	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-208-6.0-8.0-20230724	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	4L
		Methoxychlor	10% > %R < CL	J (detects) R (non-detects)	4L

- Additionally, RPDs were outside control limit for Dieldrin. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce

quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A and 8151A-TCLP	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	2,4-D 2,4,5-TP (Silvex)	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and method holding times were achieved except for the samples/analytes listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5X the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
Reactive Cyanide by SW-846 9010C+9014	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	14 Days	HT < 1.5X HT Criteria	J (Detects) UJ (NDs)	1

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MR-208-6.0-8.0-20230724 MR-208-15.0-17.0-20230724 MR-208-30.0-32.0-20230724 MR-202-2.0-4.0-20230725 MR-202-8.0-10.0-20230725 MR-202-15.0-17.0-20230725 MR-202-30.0-32.0-20230725	Selenium	30% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
Reactive Sulfide by SW-846 9030B	MR-202-2.0-4.0-20230725	Reactive Sulfide	30% < %R < CL	J (detects) UJ (non-detects)	4L

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 26, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23G1341

Yu & Associates

Project: Red Hook-Gowanus



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 16, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23G1341

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-208-6.0-8.0-20230724	23G1341-01	Soil	07/24/2023 09:27	07/25/2023 15:08
MR-208-15.0-17.0-20230724	23G1341-02	Soil	07/24/2023 10:01	07/25/2023 15:08
MR-208-30.0-32.0-20230724	23G1341-03	Soil	07/24/2023 10:48	07/25/2023 15:08
MR-202-2.0-4.0-20230725	23G1341-04	Soil	07/25/2023 08:35	07/25/2023 15:08
MR-202-8.0-10.0-20230725	23G1341-05	Soil	07/25/2023 09:03	07/25/2023 15:08
MR-202-15.0-17.0-20230725	23G1341-06	Soil	07/25/2023 09:40	07/25/2023 15:08
MR-202-30.0-32.0-20230725	23G1341-07	Soil	07/25/2023 10:38	07/25/2023 15:08

PN: 23G1341

APL 23G1341

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CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: YU & ASSOCIATES	SEND REPORT TO:
ADDRESS: 611 RIVER DR	ADDRESS:
ELMWOOD PARK, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: SWANG@YU-ASSOCIATES.COM	FAX:
PROJECT NAME: GOWANUS PID INVESTIGATION	SEND INVOICE TO:
PROJECT MGR: SIKUAN WANG	ADDRESS:
PROJECT or PO #: 168541	SAMPLED BY: MK

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

PWSID#

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

- [X] NYS CAT B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23G1341-01	MR-208-6.0-8.0-20230724	7/24/23	0927	X		S	5		VOCs, SVOCs, TAL METALS, PESTICIDES/HERBICIDES, PCB, TCN, RCRA CHAR., TCLP - VOA, PEST., HERB., METALS
-02	MR-208-15.0-17.0-20230724	7/24/23	1001	X		S	5		
-03	MR-208-30.0-32.0-20230724	7/24/23	1048	X		S	5		
-04	MR-202-2.0-4.0-20230725	7/25/23	0835	X		S	5		
-05	MR-202-8.0-10.0-20230725	7/25/23	0903	X		S	5		
-06	MR-202-15.0-17.0-20230725	7/25/23	0940	X		S	5		
-07	MR-202-30.0-32.0-20230725	7/25/23	1038	X		S	5		

RELINQUISHED BY (Print) MARLENA KOZYRA	DATE 7/25/23	RECEIVED BY (Print)	
Signature	Time 1210	Signature	
RELINQUISHED BY (Print)	DATE 7/25	RECEIVED BY (Print)	
Signature	Time 1530	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
COMMENTS/SPECIAL INSTRUCTIONS		Cooler Temp. upon receipt at lab	

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spikes (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Methods 1311/6010D / 7473 / 1311/7470A / 1010A / 9014 / 9045D:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23G1341-03 has one surrogate (2,4-DCAA) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PCBs [8082A]

Sample 23G1341-04 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

Sample 23G1341-04 has surrogates outside of the QC limits (high), due to matrix interference.

Batch BAH0152:
The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).
The percent recoveries for Endosulfan II and Methoxychlor were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
Batch BAG0205:
The percent recoveries for several compounds were outside of the QC limits for the blank spike (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for 2,4-Dinitrophenol was outside of the QC limits for the blank spike (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high).

Sample 23G1341-04 has one surrogate (2,4,6-Tribromophenol) outside of the QC limits (high), due to matrix interference.
Sample 23G1341-04RE1 has one surrogate (Nitrobenzene-d5) outside of the QC limits (high), due to matrix interference.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high). The blank spike met all QC criteria.

Samples 23G1341-01 through -07 have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

Samples 23G1341-04 and -05 have one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interferences.

Reviewed By: _____ (SK) 10/16/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6900		0.157	2.65	mg/kg dry	1	8/8/23 10:00
Arsenic	3.80		0.0945	1.32	mg/kg dry	1	8/8/23 10:00
Barium	19.5		0.0400	0.530	mg/kg dry	1	8/8/23 10:00
Beryllium	0.323		0.00307	0.0265	mg/kg dry	1	8/8/23 10:00
Calcium	471		2.98	26.5	mg/kg dry	1	8/8/23 10:00
Chromium	9.16		0.0299	0.265	mg/kg dry	1	8/8/23 10:00
Cobalt	4.56		0.0271	0.212	mg/kg dry	1	8/8/23 10:00
Copper	6.06		0.0741	0.265	mg/kg dry	1	8/8/23 10:00
Iron	13100		0.750	5.30	mg/kg dry	1	8/8/23 10:00
Lead	7.79		0.110	1.32	mg/kg dry	1	8/8/23 10:00
Magnesium	1590		9.36	53.0	mg/kg dry	1	8/8/23 10:00
Manganese	190		0.0329	0.265	mg/kg dry	1	8/8/23 10:00
Nickel	9.72		0.0233	0.132	mg/kg dry	1	8/8/23 10:00
Potassium	622		31.5	106	mg/kg dry	1	8/8/23 10:00
Sodium	269		5.05	53.0	mg/kg dry	1	8/8/23 10:00
Vanadium	14.3		0.0609	0.530	mg/kg dry	1	8/8/23 10:00
Zinc	28.6		0.0809	0.795	mg/kg dry	1	8/8/23 10:00

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.51		0.00279	0.100	mg/L	1	8/8/23 14:15

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	3.01	J			mg/kg dry	1	8/2/23 19:05
TIC_Octadecanoic acid, butyl ester	1.93	J, B			mg/kg dry	1	8/2/23 19:05
TIC_unknown	0.542	J, B			mg/kg dry	1	8/2/23 19:05

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0127	D	0.00365	0.0100	mg/L	10	8/2/23 19:29

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.90				pH Units	1	7/26/23 18:49

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8840		0.166	2.79	mg/kg dry	1	8/8/23 10:02
Arsenic	2.88		0.0996	1.40	mg/kg dry	1	8/8/23 10:02
Barium	38.6		0.0422	0.558	mg/kg dry	1	8/8/23 10:02
Beryllium	0.638		0.00323	0.0279	mg/kg dry	1	8/8/23 10:02
Calcium	919		3.14	27.9	mg/kg dry	1	8/8/23 10:02
Chromium	16.0		0.0315	0.279	mg/kg dry	1	8/8/23 10:02
Cobalt	5.33		0.0285	0.223	mg/kg dry	1	8/8/23 10:02
Copper	14.1		0.0781	0.279	mg/kg dry	1	8/8/23 10:02
Iron	14400		0.791	5.58	mg/kg dry	1	8/8/23 10:02
Lead	6.97		0.116	1.40	mg/kg dry	1	8/8/23 10:02
Magnesium	3940		9.86	55.8	mg/kg dry	1	8/8/23 10:02
Manganese	205		0.0347	0.279	mg/kg dry	1	8/8/23 10:02
Nickel	15.5		0.0245	0.140	mg/kg dry	1	8/8/23 10:02
Potassium	1970		33.2	112	mg/kg dry	1	8/8/23 10:02
Sodium	206		5.32	55.8	mg/kg dry	1	8/8/23 10:02
Vanadium	20.9		0.0642	0.558	mg/kg dry	1	8/8/23 10:02
Zinc	32.9		0.0853	0.837	mg/kg dry	1	8/8/23 10:02

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.850		0.00279	0.100	mg/L	1	8/8/23 14:17

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.0000390	J	3.27E-7	0.0000500	mg/L	1	8/4/23 22:38

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	13.3	J			mg/kg dry	1	8/2/23 19:35
TIC_Octadecanoic acid, butyl ester	7.67	J, B			mg/kg dry	1	8/2/23 19:35

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methyl tert-Butyl Ether	0.00220		0.000264	0.00156	mg/kg dry	1	7/26/23 18:49

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0191	D	0.00365	0.0100	mg/L	10	8/2/23 19:55

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.61				pH Units	1	7/26/23 18:49

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3430		0.168	2.84	mg/kg dry	1	8/8/23 10:04
Arsenic	1.78		0.101	1.42	mg/kg dry	1	8/8/23 10:04
Barium	23.5		0.0429	0.567	mg/kg dry	1	8/8/23 10:04
Beryllium	0.340		0.00328	0.0284	mg/kg dry	1	8/8/23 10:04
Calcium	7550		3.19	28.4	mg/kg dry	1	8/8/23 10:04
Chromium	7.46		0.0320	0.284	mg/kg dry	1	8/8/23 10:04
Cobalt	3.46		0.0290	0.227	mg/kg dry	1	8/8/23 10:04
Copper	17.2		0.0794	0.284	mg/kg dry	1	8/8/23 10:04
Iron	9420		0.804	5.67	mg/kg dry	1	8/8/23 10:04
Lead	44.3		0.118	1.42	mg/kg dry	1	8/8/23 10:04
Magnesium	1840		10.0	56.7	mg/kg dry	1	8/8/23 10:04
Manganese	191		0.0353	0.284	mg/kg dry	1	8/8/23 10:04
Nickel	9.93		0.0249	0.142	mg/kg dry	1	8/8/23 10:04
Potassium	747		33.7	113	mg/kg dry	1	8/8/23 10:04
Sodium	194		5.41	56.7	mg/kg dry	1	8/8/23 10:04
Vanadium	13.3		0.0652	0.567	mg/kg dry	1	8/8/23 10:04
Zinc	30.6		0.0867	0.851	mg/kg dry	1	8/8/23 10:04

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.18		0.00279	0.100	mg/L	1	8/8/23 14:19

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	6.21	J			mg/kg dry	1	8/2/23 20:05
TIC_Octadecanoic acid, butyl ester	3.35	J, B			mg/kg dry	1	8/2/23 20:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichloroethene	0.000672	J	0.000211	0.00144	mg/kg dry	1	7/26/23 19:18

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Positive Results Only Summary

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0192	D	0.00365	0.0100	mg/L	10	8/2/23 20:21

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.73				pH Units	1	7/26/23 18:49

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.217		0.00550	0.0220	mg/kg dry	1	7/28/23 16:48

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2750		0.159	2.67	mg/kg dry	1	8/8/23 10:06
Arsenic	1.74		0.0953	1.34	mg/kg dry	1	8/8/23 10:06
Barium	22.6		0.0404	0.534	mg/kg dry	1	8/8/23 10:06
Beryllium	0.313		0.00309	0.0267	mg/kg dry	1	8/8/23 10:06
Calcium	7060		3.00	26.7	mg/kg dry	1	8/8/23 10:06
Chromium	6.84		0.0302	0.267	mg/kg dry	1	8/8/23 10:06
Cobalt	3.34		0.0273	0.214	mg/kg dry	1	8/8/23 10:06
Copper	19.2		0.0747	0.267	mg/kg dry	1	8/8/23 10:06
Iron	8250		0.756	5.34	mg/kg dry	1	8/8/23 10:06
Lead	51.0		0.111	1.34	mg/kg dry	1	8/8/23 10:06
Magnesium	1410		9.43	53.4	mg/kg dry	1	8/8/23 10:06
Manganese	183		0.0332	0.267	mg/kg dry	1	8/8/23 10:06
Nickel	9.56		0.0235	0.134	mg/kg dry	1	8/8/23 10:06
Potassium	573		31.8	107	mg/kg dry	1	8/8/23 10:06
Sodium	182		5.09	53.4	mg/kg dry	1	8/8/23 10:06
Vanadium	12.3		0.0614	0.534	mg/kg dry	1	8/8/23 10:06
Zinc	28.0		0.0816	0.801	mg/kg dry	1	8/8/23 10:06

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.761		0.00279	0.100	mg/L	1	8/8/23 14:21

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	26.0	D	0.351	2.20	mg/kg dry	10	8/4/23 20:41

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	3.53		0.00835	0.146	mg/kg dry	1	8/3/23 15:20
Anthracene	5.84		0.0212	0.146	mg/kg dry	1	8/3/23 15:20
Benzo(a)anthracene	5.71		0.0147	0.146	mg/kg dry	1	8/3/23 15:20
Benzo(a)pyrene	6.81		0.0255	0.146	mg/kg dry	1	8/3/23 15:20
Benzo(b)fluoranthene	7.68		0.0206	0.146	mg/kg dry	1	8/3/23 15:20
Benzo(g,h,i)perylene	5.92		0.0119	0.146	mg/kg dry	1	8/3/23 15:20
Benzo(k)fluoranthene	2.86		0.0168	0.146	mg/kg dry	1	8/3/23 15:20
Carbazole	1.07		0.0282	0.366	mg/kg dry	1	8/3/23 15:20
Chrysene	5.62		0.0100	0.146	mg/kg dry	1	8/3/23 15:20
Dibenzo(a,h)anthracene	1.17		0.0145	0.146	mg/kg dry	1	8/3/23 15:20
Dibenzofuran	3.78		0.00872	0.146	mg/kg dry	1	8/3/23 15:20
Fluoranthene	13.9	D	0.138	1.46	mg/kg dry	10	8/4/23 20:41
Fluorene	4.90		0.0122	0.146	mg/kg dry	1	8/3/23 15:20
Indeno(1,2,3-cd)pyrene	4.14		0.0157	0.146	mg/kg dry	1	8/3/23 15:20
Naphthalene	1.94		0.0108	0.146	mg/kg dry	1	8/3/23 15:20
Phenanthrene	18.4	D	0.193	1.46	mg/kg dry	10	8/4/23 20:41
Pyrene	11.3	D	0.108	1.46	mg/kg dry	10	8/4/23 20:41
TIC_Benzene, 1,2-diethyl-	2.88	J			mg/kg dry	1	8/3/23 15:20
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	2.49	J			mg/kg dry	1	8/3/23 15:20
TIC_Cyclohexane, butyl-	3.72	J			mg/kg dry	1	8/3/23 15:20
TIC_Cyclopentane, (2-methylpropyl)-	2.51	J			mg/kg dry	1	8/3/23 15:20
TIC_Heptadecane, 9-octyl-	2.81	J			mg/kg dry	1	8/3/23 15:20
TIC_Naphthalene, decahydro-, trans-	5.95	J			mg/kg dry	1	8/3/23 15:20
TIC_Octane, 3,6-dimethyl-	2.92	J			mg/kg dry	1	8/3/23 15:20
TIC_Tetradecane	2.53	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (01)	2.93	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (02)	6.73	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (03)	5.65	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (04)	4.13	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (05)	2.93	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (06)	2.72	J			mg/kg dry	1	8/3/23 15:20
TIC_unknown (07)	9.12	J			mg/kg dry	1	8/3/23 15:20

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00198		0.000262	0.00190	mg/kg dry	1	7/26/23 19:48
Benzene	0.00250		0.000173	0.00190	mg/kg dry	1	7/26/23 19:48

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0231		0.000272	0.00190	mg/kg dry	1	7/26/23 19:48
Cyclohexane	0.0519		0.000420	0.00190	mg/kg dry	1	7/26/23 19:48
EthylBenzene	0.00674		0.000257	0.00190	mg/kg dry	1	7/26/23 19:48
Isopropylbenzene	0.0585		0.000298	0.00190	mg/kg dry	1	7/26/23 19:48
m+p-Xylenes	0.00394		0.000479	0.00379	mg/kg dry	1	7/26/23 19:48
Methylcyclohexane	0.367		0.000305	0.00190	mg/kg dry	1	7/26/23 19:48
o-Xylene	0.00963		0.000244	0.00190	mg/kg dry	1	7/26/23 19:48
Toluene	0.00472		0.000153	0.00190	mg/kg dry	1	7/26/23 19:48
Total Xylenes	0.0136		0.000244	0.00190	mg/kg dry	1	7/26/23 19:48
TIC_1-Methyl-4-(1-methylethyl)-cyclohexane	0.0961	J			mg/kg dry	1	7/26/23 19:48
TIC_4-Nonene	0.103	J			mg/kg dry	1	7/26/23 19:48
TIC_Benzene, 4-ethyl-1,2-dimethyl-	0.0943	J			mg/kg dry	1	7/26/23 19:48
TIC_Cyclohexane, 1,1,2,3-tetramethyl-	0.201	J			mg/kg dry	1	7/26/23 19:48
TIC_Cyclohexane, 1-methyl-2-propyl-	0.131	J			mg/kg dry	1	7/26/23 19:48
TIC_Cyclohexane, butyl-	0.103	J			mg/kg dry	1	7/26/23 19:48
TIC_Cyclohexane, propyl-	0.182	J			mg/kg dry	1	7/26/23 19:48
TIC_Cyclohexaneethanol, .beta.,4-dimethyl-,	0.120	J			mg/kg dry	1	7/26/23 19:48
TIC_Cyclohexene,3-propyl-	0.126	J			mg/kg dry	1	7/26/23 19:48
TIC_Decane, 3-methyl-	0.0817	J			mg/kg dry	1	7/26/23 19:48
TIC_Dodecane, 2,6,10-trimethyl-	0.0830	J			mg/kg dry	1	7/26/23 19:48
TIC_Naphthalene, decahydro-, trans-	0.126	J			mg/kg dry	1	7/26/23 19:48
TIC_Nonane, 3-methyl-	0.0814	J			mg/kg dry	1	7/26/23 19:48
TIC_Octane, 2,6-dimethyl-	0.134	J			mg/kg dry	1	7/26/23 19:48
TIC_Propanedinitrile, cyclohexyl(2-methylcyc	0.120	J			mg/kg dry	1	7/26/23 19:48

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.70				pH Units	1	7/26/23 18:49

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-20230725**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0272		0.00608	0.0243	mg/kg dry	1	7/28/23 16:58

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-20230725**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	11500		0.177	2.98	mg/kg dry	1	8/8/23 10:09
Arsenic	2.26		0.106	1.49	mg/kg dry	1	8/8/23 10:09
Barium	39.5		0.0451	0.596	mg/kg dry	1	8/8/23 10:09
Beryllium	0.756		0.00345	0.0298	mg/kg dry	1	8/8/23 10:09
Calcium	1600		3.35	29.8	mg/kg dry	1	8/8/23 10:09
Chromium	16.1		0.0337	0.298	mg/kg dry	1	8/8/23 10:09
Cobalt	4.98		0.0305	0.239	mg/kg dry	1	8/8/23 10:09
Copper	18.3		0.0834	0.298	mg/kg dry	1	8/8/23 10:09
Iron	13300		0.845	5.96	mg/kg dry	1	8/8/23 10:09
Lead	16.2		0.124	1.49	mg/kg dry	1	8/8/23 10:09
Magnesium	2970		10.5	59.6	mg/kg dry	1	8/8/23 10:09
Manganese	226		0.0371	0.298	mg/kg dry	1	8/8/23 10:09
Nickel	20.5		0.0262	0.149	mg/kg dry	1	8/8/23 10:09
Potassium	965		35.5	119	mg/kg dry	1	8/8/23 10:09
Sodium	285		5.69	59.6	mg/kg dry	1	8/8/23 10:09
Vanadium	23.8		0.0686	0.596	mg/kg dry	1	8/8/23 10:09
Zinc	42.3		0.0911	0.894	mg/kg dry	1	8/8/23 10:09

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.28		0.00279	0.100	mg/L	1	8/8/23 14:24

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	0.0749	J	0.0209	0.162	mg/kg dry	1	8/3/23 21:36
TIC_1-Docosene	0.587	J			mg/kg dry	1	8/3/23 21:36
TIC_2-Pentanone, 4-hydroxy-4-methyl-	12.3	J			mg/kg dry	1	8/3/23 21:36
TIC_Hexadecanoic acid, butyl ester	29.0	J, B			mg/kg dry	1	8/3/23 21:36
TIC_Octadecanoic acid, butyl ester	17.3	J, B			mg/kg dry	1	8/3/23 21:36

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dichlorobenzene	0.0169		0.000275	0.00156	mg/kg dry	1	7/26/23 20:18
1,3-Dichlorobenzene	0.00607		0.000115	0.00156	mg/kg dry	1	7/26/23 20:18
1,4-Dichlorobenzene	0.0187		0.000225	0.00156	mg/kg dry	1	7/26/23 20:18
Cyclohexane	0.0400		0.000345	0.00156	mg/kg dry	1	7/26/23 20:18
Isopropylbenzene	0.0430		0.000245	0.00156	mg/kg dry	1	7/26/23 20:18

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-20230725**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	0.268		0.000251	0.00156	mg/kg dry	1	7/26/23 20:18
o-Xylene	0.00375		0.000200	0.00156	mg/kg dry	1	7/26/23 20:18
Total Xylenes	0.00375		0.000200	0.00156	mg/kg dry	1	7/26/23 20:18
TIC_1-Ethyl-4-methylcyclohexane	0.211	J			mg/kg dry	1	7/26/23 20:18
TIC_2,3-Dimethyl-3-heptene	0.182	J			mg/kg dry	1	7/26/23 20:18
TIC_2-Octene, 2,6-dimethyl-	0.204	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, 1,1,3-trimethyl-	0.216	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, 1,2,3-trimethyl-, (1.alpha.	0.483	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, 1,2,4-trimethyl-	0.267	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, 1,2-dimethyl-	0.197	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, 1-ethyl-4-methyl-, cis-	0.187	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, ethyl-	0.156	J			mg/kg dry	1	7/26/23 20:18
TIC_Cyclohexane, propyl-	0.755	J			mg/kg dry	1	7/26/23 20:18
TIC_Decane, 4-methyl-	0.160	J			mg/kg dry	1	7/26/23 20:18
TIC_Heptane, 2,6-dimethyl-	0.180	J			mg/kg dry	1	7/26/23 20:18
TIC_Nonane, 4-methyl-	0.179	J			mg/kg dry	1	7/26/23 20:18
TIC_Octane, 3,6-dimethyl-	0.574	J			mg/kg dry	1	7/26/23 20:18
TIC_Undecane, 5,6-dimethyl-	0.343	J			mg/kg dry	1	7/26/23 20:18

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	0.35	H	0.12	0.12	mg/kg dry	1	8/9/23 14:44

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.60				pH Units	1	7/26/23 18:49

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	17300		0.309	5.20	mg/kg dry	1	8/8/23 10:11
Arsenic	4.73		0.186	2.60	mg/kg dry	1	8/8/23 10:11
Barium	37.3		0.0787	1.04	mg/kg dry	1	8/8/23 10:11
Beryllium	1.03		0.00602	0.0520	mg/kg dry	1	8/8/23 10:11

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	2370		5.85	52.0	mg/kg dry	1	8/8/23 10:11
Chromium	28.4		0.0587	0.520	mg/kg dry	1	8/8/23 10:11
Cobalt	7.59		0.0532	0.416	mg/kg dry	1	8/8/23 10:11
Copper	15.7		0.146	0.520	mg/kg dry	1	8/8/23 10:11
Iron	25900		1.47	10.4	mg/kg dry	1	8/8/23 10:11
Lead	14.9		0.217	2.60	mg/kg dry	1	8/8/23 10:11
Magnesium	7170		18.4	104	mg/kg dry	1	8/8/23 10:11
Manganese	271		0.0647	0.520	mg/kg dry	1	8/8/23 10:11
Nickel	28.3		0.0457	0.260	mg/kg dry	1	8/8/23 10:11
Potassium	3240		61.9	208	mg/kg dry	1	8/8/23 10:11
Sodium	2840		9.92	104	mg/kg dry	1	8/8/23 10:11
Vanadium	42.8		0.120	1.04	mg/kg dry	1	8/8/23 10:11
Zinc	65.5		0.159	1.56	mg/kg dry	1	8/8/23 10:11

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.15		0.00279	0.100	mg/L	1	8/8/23 14:26

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT [2C]	0.000110		3.19E-7	0.0000200	mg/L	1	8/5/23 0:07
Endosulfan I	0.000488		3.80E-7	0.0000200	mg/L	1	8/5/23 0:07

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1-Octadecene	5.64	J, D			mg/kg dry	2	8/3/23 15:53
TIC_Ethanone, 1-(3-methoxyphenyl)-	2.60	J, D			mg/kg dry	2	8/3/23 15:53
TIC_Heneicosane	1.45	J, D			mg/kg dry	2	8/3/23 15:53
TIC_Hexadecanoic acid, butyl ester	27.3	J, D, B			mg/kg dry	2	8/3/23 15:53
TIC_Octadecanoic acid, butyl ester	15.7	J, D, B			mg/kg dry	2	8/3/23 15:53
TIC_Tetradecanal	2.81	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (01)	1.31	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (02)	2.45	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (03)	2.86	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (04)	1.58	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (05)	2.01	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (06)	2.80	J, D			mg/kg dry	2	8/3/23 15:53

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (07)	1.22	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (08)	2.65	J, D			mg/kg dry	2	8/3/23 15:53
TIC_unknown (09)	29.6	J, D			mg/kg dry	2	8/3/23 15:53

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0222		0.000615	0.00429	mg/kg dry	1	7/27/23 14:21
TIC_Cyclohexane, propyl-	0.0110	J			mg/kg dry	1	7/27/23 14:21
TIC_Nonane, 3-methyl-	0.0128	J			mg/kg dry	1	7/27/23 14:21

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	0.28	H	0.21	0.21	mg/kg dry	1	8/9/23 14:44

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.57				pH Units	1	7/26/23 18:49

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5220		0.180	3.03	mg/kg dry	1	8/8/23 10:35
Arsenic	6.02		0.108	1.51	mg/kg dry	1	8/8/23 10:35
Barium	34.0		0.0458	0.605	mg/kg dry	1	8/8/23 10:35
Beryllium	0.453		0.00351	0.0303	mg/kg dry	1	8/8/23 10:35
Calcium	1460		3.41	30.3	mg/kg dry	1	8/8/23 10:35
Chromium	10.5		0.0342	0.303	mg/kg dry	1	8/8/23 10:35
Cobalt	4.03		0.0309	0.242	mg/kg dry	1	8/8/23 10:35
Copper	8.26		0.0847	0.303	mg/kg dry	1	8/8/23 10:35
Iron	11900		0.858	6.05	mg/kg dry	1	8/8/23 10:35
Lead	5.03		0.126	1.51	mg/kg dry	1	8/8/23 10:35
Magnesium	2780		10.7	60.5	mg/kg dry	1	8/8/23 10:35
Manganese	162		0.0377	0.303	mg/kg dry	1	8/8/23 10:35
Nickel	11.4		0.0266	0.151	mg/kg dry	1	8/8/23 10:35
Potassium	1070		36.0	121	mg/kg dry	1	8/8/23 10:35
Sodium	688		5.77	60.5	mg/kg dry	1	8/8/23 10:35
Vanadium	17.3		0.0696	0.605	mg/kg dry	1	8/8/23 10:35
Zinc	30.9		0.0925	0.908	mg/kg dry	1	8/8/23 10:35

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.62		0.00279	0.100	mg/L	1	8/8/23 14:28

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1-Nonadecene	1.69	J			mg/kg dry	1	8/3/23 16:25
TIC_Cyclohexane, 1,2-dimethyl-3-pentyl-4-pro	3.43	J			mg/kg dry	1	8/3/23 16:25
TIC_Heneicosane	1.19	J			mg/kg dry	1	8/3/23 16:25
TIC_Heptacosane	0.824	J			mg/kg dry	1	8/3/23 16:25
TIC_Hexadecanoic acid, butyl ester	13.2	J, B			mg/kg dry	1	8/3/23 16:25
TIC_Octadecanoic acid, 2-methylpropyl ester	6.98	J			mg/kg dry	1	8/3/23 16:25
TIC_unknown (01)	0.653	J			mg/kg dry	1	8/3/23 16:25
TIC_unknown (02)	0.382	J			mg/kg dry	1	8/3/23 16:25
TIC_unknown (03)	0.563	J			mg/kg dry	1	8/3/23 16:25
TIC_unknown (04)	0.776	J			mg/kg dry	1	8/3/23 16:25
TIC_unknown (05)	1.57	J			mg/kg dry	1	8/3/23 16:25

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Butanone	0.0282		0.000288	0.00882	mg/kg dry	1	7/27/23 14:51
Acetone	0.109		0.000535	0.0441	mg/kg dry	1	7/27/23 14:51
Carbon disulfide	0.00423		0.000253	0.00176	mg/kg dry	1	7/27/23 14:51

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.27				pH Units	1	7/26/23 18:49

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00490	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1221	ND	U	0.00964	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1232	ND	U	0.0123	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1242	ND	U	0.00718	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1248	ND	U	0.00751	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1254	ND	U	0.00590	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1260	ND	U	0.00457	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1262	ND	U	0.00983	0.0365	mg/kg	1	8/4/23 15:46
Aroclor-1268	ND	U	0.00442	0.0365	mg/kg	1	8/4/23 15:46
Total PCBs	ND	U	0.00341	0.0365	mg/kg	1	8/4/23 15:46

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0108	0.111	mg/kg	1	8/9/23 10:41
2,4-D	ND	U	0.0184	0.111	mg/kg	1	8/9/23 10:41

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:15
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:15

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00554	0.0221	mg/kg	1	7/28/23 15:56

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 14:51

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6900**		**0.157**	**2.65**	**mg/kg**	**1**	**8/8/23 10:00**
Antimony	ND	U	0.144	1.32	mg/kg	1	8/8/23 10:00
Arsenic	**3.80**		**0.0945**	**1.32**	**mg/kg**	**1**	**8/8/23 10:00**
Barium	**19.5**		**0.0400**	**0.530**	**mg/kg**	**1**	**8/8/23 10:00**
Beryllium	**0.323**		**0.00307**	**0.0265**	**mg/kg**	**1**	**8/8/23 10:00**
Cadmium	ND	U	0.0516	0.265	mg/kg	1	8/8/23 10:00
Calcium	**471**		**2.98**	**26.5**	**mg/kg**	**1**	**8/8/23 10:00**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**9.16**		**0.0299**	**0.265**	**mg/kg**	**1**	**8/8/23 10:00**
Cobalt	**4.56**		**0.0271**	**0.212**	**mg/kg**	**1**	**8/8/23 10:00**
Copper	**6.06**		**0.0741**	**0.265**	**mg/kg**	**1**	**8/8/23 10:00**
Iron	**13100**		**0.750**	**5.30**	**mg/kg**	**1**	**8/8/23 10:00**
Lead	**7.79**		**0.110**	**1.32**	**mg/kg**	**1**	**8/8/23 10:00**
Magnesium	**1590**		**9.36**	**53.0**	**mg/kg**	**1**	**8/8/23 10:00**
Manganese	**190**		**0.0329**	**0.265**	**mg/kg**	**1**	**8/8/23 10:00**
Nickel	**9.72**		**0.0233**	**0.132**	**mg/kg**	**1**	**8/8/23 10:00**
Potassium	**622**		**31.5**	**106**	**mg/kg**	**1**	**8/8/23 10:00**
Selenium	ND	U	0.254	1.32	mg/kg	1	8/8/23 10:00 UJ, RC:6L
Silver	ND	U	0.0450	0.159	mg/kg	1	8/8/23 10:00
Sodium	**269**		**5.05**	**53.0**	**mg/kg**	**1**	**8/8/23 10:00**
Thallium	ND	U	0.0891	1.32	mg/kg	1	8/8/23 10:00
Vanadium	**14.3**		**0.0609**	**0.530**	**mg/kg**	**1**	**8/8/23 10:00**
Zinc	**28.6**		**0.0809**	**0.795**	**mg/kg**	**1**	**8/8/23 10:00**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:15
Barium	**1.51**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:15**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:15
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:15
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:15
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:15
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:15

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000659	0.00144	mg/kg	1	8/7/23 20:59
4,4'-DDE	ND	U	0.000787	0.00144	mg/kg	1	8/7/23 20:59
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	8/7/23 20:59
Aldrin	ND	U	0.000682	0.00144	mg/kg	1	8/7/23 20:59
alpha-BHC	ND	U	0.000428	0.00144	mg/kg	1	8/7/23 20:59
beta-BHC	ND	U	0.000687	0.00144	mg/kg	1	8/7/23 20:59
Chlordane	ND	U	0.000640	0.00144	mg/kg	1	8/7/23 20:59
delta-BHC	ND	U	0.000669	0.00144	mg/kg	1	8/7/23 20:59
Dieldrin	ND	U	0.000753	0.00144	mg/kg	1	8/7/23 20:59
Endosulfan I	ND	U	0.000680	0.00144	mg/kg	1	8/7/23 20:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

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SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000654	0.00144	mg/kg	1	8/7/23 20:59	UJ, RC:4L,6L
Endosulfan sulfate	ND	U	0.000541	0.00144	mg/kg	1	8/7/23 20:59	
Endosulfans, Total (alpha and beta)	ND	U	0.000654	0.00144	mg/kg	1	8/7/23 20:59	
Endrin	ND	U	0.000497	0.00144	mg/kg	1	8/7/23 20:59	
Endrin aldehyde	ND	U	0.000573	0.00144	mg/kg	1	8/7/23 20:59	
Endrin ketone	ND	U	0.000507	0.00144	mg/kg	1	8/7/23 20:59	
gamma-BHC (Lindane)	ND	U	0.000456	0.00144	mg/kg	1	8/7/23 20:59	
Heptachlor	ND	U	0.000385	0.00144	mg/kg	1	8/7/23 20:59	
Heptachlor Epoxide	ND	U	0.000726	0.00144	mg/kg	1	8/7/23 20:59	
Methoxychlor	~~ND~~	~~U~~	0.000422	0.00144	mg/kg	1	8/7/23 20:59	R, RC:4L
Toxaphene	ND	U	0.0693	0.0731	mg/kg	1	8/7/23 20:59	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/4/23 22:16	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/4/23 22:16	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/4/23 22:16	UJ, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/4/23 22:16	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/4/23 22:16	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/4/23 22:16	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/4/23 22:16	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/4/23 22:16	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/4/23 22:16	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/4/23 22:16	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/4/23 22:16	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/4/23 22:16	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/4/23 22:16	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/4/23 22:16	UJ, RC:6L
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/4/23 22:16	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/4/23 22:16	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/4/23 22:16	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/4/23 22:16	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/4/23 22:16	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/4/23 22:16	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00416	0.0369	mg/kg	1	8/2/23 19:05
2,3,4,6-Tetrachlorophenol	ND	U	0.0227	0.147	mg/kg	1	8/2/23 19:05
2,4,5-Trichlorophenol	ND	U	0.0200	0.147	mg/kg	1	8/2/23 19:05
2,4,6-Trichlorophenol	ND	U	0.00922	0.147	mg/kg	1	8/2/23 19:05
2,4-Dichlorophenol	ND	U	0.0148	0.147	mg/kg	1	8/2/23 19:05
2,4-Dimethylphenol	ND	U	0.0145	0.147	mg/kg	1	8/2/23 19:05
2,4-Dinitrophenol	ND	U	0.0213	0.738	mg/kg	1	8/2/23 19:05
2,4-Dinitrotoluene	ND	U	0.0157	0.147	mg/kg	1	8/2/23 19:05
2,6-Dinitrotoluene	ND	U	0.0352	0.147	mg/kg	1	8/2/23 19:05
2-Chloronaphthalene	ND	U	0.0169	0.147	mg/kg	1	8/2/23 19:05
2-Chlorophenol	ND	U	0.0195	0.147	mg/kg	1	8/2/23 19:05
2-Methylnaphthalene	ND	U	0.0353	0.221	mg/kg	1	8/2/23 19:05
2-Methylphenol	ND	U	0.0291	0.147	mg/kg	1	8/2/23 19:05
2-Nitroaniline	ND	U	0.0118	0.147	mg/kg	1	8/2/23 19:05
2-Nitrophenol	ND	U	0.0164	0.147	mg/kg	1	8/2/23 19:05
3,3'-Dichlorobenzidine	ND	U	0.0155	0.147	mg/kg	1	8/2/23 19:05
3+4-Methylphenol	ND	U	0.0270	0.147	mg/kg	1	8/2/23 19:05
3-Nitroaniline	ND	U	0.0273	0.147	mg/kg	1	8/2/23 19:05
4,6-Dinitro-2-methylphenol	ND	U	0.0278	0.369	mg/kg	1	8/2/23 19:05
4-Bromophenyl-phenyl ether	ND	U	0.0210	0.147	mg/kg	1	8/2/23 19:05
4-Chloro-3-methylphenol	ND	U	0.0232	0.147	mg/kg	1	8/2/23 19:05
4-Chloroaniline	ND	U	0.00516	0.147	mg/kg	1	8/2/23 19:05
4-Chlorophenyl phenyl ether	ND	U	0.00796	0.147	mg/kg	1	8/2/23 19:05
4-Nitroaniline	ND	U	0.0737	0.147	mg/kg	1	8/2/23 19:05
4-Nitrophenol	ND	U	0.00943	0.147	mg/kg	1	8/2/23 19:05
Acenaphthene	ND	U	0.00840	0.147	mg/kg	1	8/2/23 19:05
Acenaphthylene	ND	U	0.00513	0.147	mg/kg	1	8/2/23 19:05
Acetophenone	ND	U	0.0146	0.147	mg/kg	1	8/2/23 19:05
Anthracene	ND	U	0.0214	0.147	mg/kg	1	8/2/23 19:05
Atrazine	ND	U	0.0138	0.147	mg/kg	1	8/2/23 19:05
Benzaldehyde	ND	U	0.0453	0.147	mg/kg	1	8/2/23 19:05
Benzo(a)anthracene	ND	U	0.0148	0.147	mg/kg	1	8/2/23 19:05
Benzo(a)pyrene	ND	U	0.0257	0.147	mg/kg	1	8/2/23 19:05
Benzo(b)fluoranthene	ND	U	0.0207	0.147	mg/kg	1	8/2/23 19:05
Benzo(g,h,i)perylene	ND	U	0.0120	0.147	mg/kg	1	8/2/23 19:05
Benzo(k)fluoranthene	ND	U	0.0169	0.147	mg/kg	1	8/2/23 19:05
Biphenyl	ND	U	0.0130	0.147	mg/kg	1	8/2/23 19:05
bis(2-chloroethoxy)methane	ND	U	0.0204	0.147	mg/kg	1	8/2/23 19:05

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0162	0.147	mg/kg	1	8/2/23 19:05	
bis(2-chloroisopropyl)ether	ND	U	0.0530	0.147	mg/kg	1	8/2/23 19:05	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0294	0.147	mg/kg	1	8/2/23 19:05	
Butylbenzylphthalate	ND	U	0.0134	0.147	mg/kg	1	8/2/23 19:05	
Caprolactam	ND	U	0.0190	0.147	mg/kg	1	8/2/23 19:05	
Carbazole	ND	U	0.0283	0.369	mg/kg	1	8/2/23 19:05	
Chrysene	ND	U	0.0101	0.147	mg/kg	1	8/2/23 19:05	
Dibenzo(a,h)anthracene	ND	U	0.0146	0.147	mg/kg	1	8/2/23 19:05	
Dibenzofuran	ND	U	0.00878	0.147	mg/kg	1	8/2/23 19:05	
Diethylphthalate	ND	U	0.0286	0.147	mg/kg	1	8/2/23 19:05	
Dimethylphthalate	ND	U	0.00914	0.147	mg/kg	1	8/2/23 19:05	
Di-n-butylphthalate	ND	U	0.0602	0.147	mg/kg	1	8/2/23 19:05	
Di-n-octylphthalate	ND	U	0.0302	0.147	mg/kg	1	8/2/23 19:05	
Fluoranthene	ND	U	0.0138	0.147	mg/kg	1	8/2/23 19:05	
Fluorene	ND	U	0.0123	0.147	mg/kg	1	8/2/23 19:05	
Hexachlorobenzene	ND	U	0.0193	0.147	mg/kg	1	8/2/23 19:05	
Hexachlorobutadiene	ND	U	0.0707	0.147	mg/kg	1	8/2/23 19:05	
Hexachlorocyclopentadiene	ND	U	0.0614	0.369	mg/kg	1	8/2/23 19:05	UJ, RC:SL
Hexachloroethane	ND	U	0.0162	0.147	mg/kg	1	8/2/23 19:05	
Indeno(1,2,3-cd)pyrene	ND	U	0.0158	0.147	mg/kg	1	8/2/23 19:05	
Isophorone	ND	U	0.00965	0.147	mg/kg	1	8/2/23 19:05	
Naphthalene	ND	U	0.0109	0.147	mg/kg	1	8/2/23 19:05	
Nitrobenzene	ND	U	0.0250	0.147	mg/kg	1	8/2/23 19:05	
n-Nitroso-di-n-propylamine	ND	U	0.00789	0.147	mg/kg	1	8/2/23 19:05	
n-Nitrosodiphenylamine	ND	U	0.0314	0.147	mg/kg	1	8/2/23 19:05	
Pentachlorophenol	ND	U	0.0203	0.369	mg/kg	1	8/2/23 19:05	UJ, RC:SL
Phenanthrene	ND	U	0.0194	0.147	mg/kg	1	8/2/23 19:05	
Phenol	ND	U	0.0120	0.147	mg/kg	1	8/2/23 19:05	
Pyrene	ND	U	0.0108	0.147	mg/kg	1	8/2/23 19:05	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	3.01	11.78	J	mg/kg	1	8/2/23 19:05	
Octadecanoic acid, butyl ester	~~1.93~~	12.56	J, B	mg/kg	1	8/2/23 19:05	R, RC:2
unknown	~~0.542~~	9.04	J, B	mg/kg	1	8/2/23 19:05	R, RC:2
TIC Total	~~5.47~~ 3.01						

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1341
Project:	Red Hook-Gowanus	**Date to Lab:**	7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 14:08	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 14:08	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 14:08	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 14:08	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 14:08	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 14:08	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 14:08	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 14:08	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 14:08	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 14:08	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 14:08	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000294	0.00201	mg/kg	1	7/26/23 18:19
1,1,2,2-Tetrachloroethane	ND	U	0.000278	0.00201	mg/kg	1	7/26/23 18:19
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000861	0.00201	mg/kg	1	7/26/23 18:19
1,1,2-Trichloroethane	ND	U	0.000339	0.00201	mg/kg	1	7/26/23 18:19
1,1-Dichloroethane	ND	U	0.000294	0.00201	mg/kg	1	7/26/23 18:19
1,1-Dichloroethene	ND	U	0.000372	0.00201	mg/kg	1	7/26/23 18:19
1,2,3-Trichlorobenzene	ND	U	0.000435	0.00201	mg/kg	1	7/26/23 18:19
1,2,4-Trichlorobenzene	ND	U	0.000536	0.00201	mg/kg	1	7/26/23 18:19
1,2,4-Trimethylbenzene	ND	U	0.000278	0.00201	mg/kg	1	7/26/23 18:19
1,2-Dibromo-3-chloropropane	ND	U	0.000491	0.00503	mg/kg	1	7/26/23 18:19
1,2-Dibromoethane	ND	U	0.000254	0.00201	mg/kg	1	7/26/23 18:19
1,2-Dichlorobenzene	ND	U	0.000355	0.00201	mg/kg	1	7/26/23 18:19
1,2-Dichloroethane	ND	U	0.000284	0.00201	mg/kg	1	7/26/23 18:19
1,2-Dichloropropane	ND	U	0.000330	0.00201	mg/kg	1	7/26/23 18:19
1,3-Dichlorobenzene	ND	U	0.000148	0.00201	mg/kg	1	7/26/23 18:19
1,4-Dichlorobenzene	ND	U	0.000290	0.00201	mg/kg	1	7/26/23 18:19
2-Butanone	ND	U	0.000328	0.0101	mg/kg	1	7/26/23 18:19
2-Hexanone	ND	U	0.000188	0.00201	mg/kg	1	7/26/23 18:19
4-Methyl-2-pentanone	ND	U	0.000252	0.00201	mg/kg	1	7/26/23 18:19
Acetone	ND	U	0.000610	0.0503	mg/kg	1	7/26/23 18:19
Benzene	ND	U	0.000183	0.00201	mg/kg	1	7/26/23 18:19
Bromochloromethane	ND	U	0.000371	0.00201	mg/kg	1	7/26/23 18:19
Bromodichloromethane	ND	U	0.000253	0.00201	mg/kg	1	7/26/23 18:19

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000353	0.00201	mg/kg	1	7/26/23 18:19
Bromomethane	ND	U	0.000581	0.00201	mg/kg	1	7/26/23 18:19
Carbon disulfide	ND	U	0.000289	0.00201	mg/kg	1	7/26/23 18:19
Carbon Tetrachloride	ND	U	0.000303	0.00201	mg/kg	1	7/26/23 18:19
Chlorobenzene	ND	U	0.000292	0.00201	mg/kg	1	7/26/23 18:19
Chlorodibromomethane	ND	U	0.000248	0.00201	mg/kg	1	7/26/23 18:19
Chloroethane	ND	U	0.000343	0.00201	mg/kg	1	7/26/23 18:19
Chloroform	ND	U	0.000338	0.00201	mg/kg	1	7/26/23 18:19
Chloromethane	ND	U	0.000775	0.00201	mg/kg	1	7/26/23 18:19
cis-1,2-Dichloroethene	ND	U	0.0000973	0.00201	mg/kg	1	7/26/23 18:19
cis-1,3-Dichloropropene	ND	U	0.000255	0.00201	mg/kg	1	7/26/23 18:19
Cyclohexane	ND	U	0.000446	0.00201	mg/kg	1	7/26/23 18:19
Dichlorodifluoromethane	ND	U	0.000679	0.00201	mg/kg	1	7/26/23 18:19
EthylBenzene	ND	U	0.000273	0.00201	mg/kg	1	7/26/23 18:19
Isopropylbenzene	ND	U	0.000316	0.00201	mg/kg	1	7/26/23 18:19
m+p-Xylenes	ND	U	0.000508	0.00403	mg/kg	1	7/26/23 18:19
Methyl Acetate	ND	U	0.000267	0.00201	mg/kg	1	7/26/23 18:19
Methyl tert-Butyl Ether	ND	U	0.000340	0.00201	mg/kg	1	7/26/23 18:19
Methylcyclohexane	ND	U	0.000324	0.00201	mg/kg	1	7/26/23 18:19
Methylene Chloride	ND	U	0.000605	0.00503	mg/kg	1	7/26/23 18:19
o-Xylene	ND	U	0.000259	0.00201	mg/kg	1	7/26/23 18:19
Styrene	ND	U	0.000288	0.00201	mg/kg	1	7/26/23 18:19
tert-Butyl alcohol	ND	U	0.00423	0.0201	mg/kg	1	7/26/23 18:19
Tetrachloroethene	ND	U	0.000199	0.00201	mg/kg	1	7/26/23 18:19
Toluene	ND	U	0.000162	0.00201	mg/kg	1	7/26/23 18:19
Total Xylenes	ND	U	0.000259	0.00201	mg/kg	1	7/26/23 18:19
trans-1,2-Dichloroethene	ND	U	0.000273	0.00201	mg/kg	1	7/26/23 18:19
trans-1,3-Dichloropropene	ND	U	0.000384	0.00201	mg/kg	1	7/26/23 18:19
Trichloroethene	ND	U	0.000296	0.00201	mg/kg	1	7/26/23 18:19
Trichlorofluoromethane	ND	U	0.000231	0.00201	mg/kg	1	7/26/23 18:19
Vinyl chloride	ND	U	0.000382	0.00201	mg/kg	1	7/26/23 18:19

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1341
Project:	Red Hook-Gowanus	**Date to Lab:**	7/25/2023 3:08:00PM

23G1341-01 (Soil) Sample Name: **MR-208-6.0-8.0-20230724** Collected: **7/24/2023 9:27:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/2/23 19:29
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/2/23 19:29
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/2/23 19:29
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/2/23 19:29
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/2/23 19:29
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/2/23 19:29
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/2/23 19:29
Chloroform	**0.0127**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/2/23 19:29**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/2/23 19:29
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/2/23 19:29
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/2/23 19:29

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.3**				**%**	**1**	**7/26/23 11:20**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/31/23 12:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Cyanide	ND	U, H	0.11	0.11	mg/kg	1	8/9/23 14:44	UJ, RC:1

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.111	0.111	mg/kg	1	7/28/23 18:14

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.90**				**pH Units**	**1**	**7/26/23 18:49**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00519	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1221	ND	U	0.0102	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1232	ND	U	0.0130	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1242	ND	U	0.00760	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1248	ND	U	0.00795	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1254	ND	U	0.00624	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1260	ND	U	0.00484	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1262	ND	U	0.0104	0.0387	mg/kg	1	8/4/23 16:08
Aroclor-1268	ND	U	0.00468	0.0387	mg/kg	1	8/4/23 16:08
Total PCBs	ND	U	0.00361	0.0387	mg/kg	1	8/4/23 16:08

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0115	0.117	mg/kg	1	8/9/23 10:50
2,4-D	ND	U	0.0195	0.117	mg/kg	1	8/9/23 10:50

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:25
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:25

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00586	0.0234	mg/kg	1	7/28/23 16:06

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 14:54

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8840**		**0.166**	**2.79**	**mg/kg**	**1**	**8/8/23 10:02**
Antimony	ND	U	0.152	1.40	mg/kg	1	8/8/23 10:02
Arsenic	**2.88**		**0.0996**	**1.40**	**mg/kg**	**1**	**8/8/23 10:02**
Barium	**38.6**		**0.0422**	**0.558**	**mg/kg**	**1**	**8/8/23 10:02**
Beryllium	**0.638**		**0.00323**	**0.0279**	**mg/kg**	**1**	**8/8/23 10:02**
Cadmium	ND	U	0.0544	0.279	mg/kg	1	8/8/23 10:02
Calcium	**919**		**3.14**	**27.9**	**mg/kg**	**1**	**8/8/23 10:02**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**16.0**		**0.0315**	**0.279**	**mg/kg**	**1**	**8/8/23 10:02**	
Cobalt	**5.33**		**0.0285**	**0.223**	**mg/kg**	**1**	**8/8/23 10:02**	
Copper	**14.1**		**0.0781**	**0.279**	**mg/kg**	**1**	**8/8/23 10:02**	
Iron	**14400**		**0.791**	**5.58**	**mg/kg**	**1**	**8/8/23 10:02**	
Lead	**6.97**		**0.116**	**1.40**	**mg/kg**	**1**	**8/8/23 10:02**	
Magnesium	**3940**		**9.86**	**55.8**	**mg/kg**	**1**	**8/8/23 10:02**	
Manganese	**205**		**0.0347**	**0.279**	**mg/kg**	**1**	**8/8/23 10:02**	
Nickel	**15.5**		**0.0245**	**0.140**	**mg/kg**	**1**	**8/8/23 10:02**	
Potassium	**1970**		**33.2**	**112**	**mg/kg**	**1**	**8/8/23 10:02**	
Selenium	ND	U	0.268	1.40	mg/kg	1	8/8/23 10:02	UJ, RC:6L
Silver	ND	U	0.0475	0.167	mg/kg	1	8/8/23 10:02	
Sodium	**206**		**5.32**	**55.8**	**mg/kg**	**1**	**8/8/23 10:02**	
Thallium	ND	U	0.0939	1.40	mg/kg	1	8/8/23 10:02	
Vanadium	**20.9**		**0.0642**	**0.558**	**mg/kg**	**1**	**8/8/23 10:02**	
Zinc	**32.9**		**0.0853**	**0.837**	**mg/kg**	**1**	**8/8/23 10:02**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:17
Barium	**0.850**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:17**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:17
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:17
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:17
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:17
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:17

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000697	0.00152	mg/kg	1	8/7/23 21:22
4,4'-DDE	ND	U	0.000833	0.00152	mg/kg	1	8/7/23 21:22
4,4'-DDT	ND	U	0.00108	0.00152	mg/kg	1	8/7/23 21:22
Aldrin	ND	U	0.000722	0.00152	mg/kg	1	8/7/23 21:22
alpha-BHC	ND	U	0.000454	0.00152	mg/kg	1	8/7/23 21:22
beta-BHC	ND	U	0.000728	0.00152	mg/kg	1	8/7/23 21:22
Chlordane	ND	U	0.000678	0.00152	mg/kg	1	8/7/23 21:22
delta-BHC	ND	U	0.000708	0.00152	mg/kg	1	8/7/23 21:22
Dieldrin	ND	U	0.000797	0.00152	mg/kg	1	8/7/23 21:22
Endosulfan I	ND	U	0.000720	0.00152	mg/kg	1	8/7/23 21:22

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000693	0.00152	mg/kg	1	8/7/23 21:22	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000573	0.00152	mg/kg	1	8/7/23 21:22	
Endosulfans, Total (alpha and beta)	ND	U	0.000693	0.00152	mg/kg	1	8/7/23 21:22	
Endrin	ND	U	0.000526	0.00152	mg/kg	1	8/7/23 21:22	
Endrin aldehyde	ND	U	0.000607	0.00152	mg/kg	1	8/7/23 21:22	
Endrin ketone	ND	U	0.000537	0.00152	mg/kg	1	8/7/23 21:22	
gamma-BHC (Lindane)	ND	U	0.000483	0.00152	mg/kg	1	8/7/23 21:22	
Heptachlor	ND	U	0.000408	0.00152	mg/kg	1	8/7/23 21:22	
Heptachlor Epoxide	ND	U	0.000769	0.00152	mg/kg	1	8/7/23 21:22	
Methoxychlor	ND	U	0.000447	0.00152	mg/kg	1	8/7/23 21:22	
Toxaphene	ND	U	0.0734	0.0774	mg/kg	1	8/7/23 21:22	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/4/23 22:38	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/4/23 22:38	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/4/23 22:38	UJ, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/4/23 22:38	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/4/23 22:38	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/4/23 22:38	
Chlordane [2C]	**0.0000390**	J	**3.27E-7**	**0.0000500**	**mg/L**	**1**	**8/4/23 22:38**	J, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/4/23 22:38	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/4/23 22:38	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/4/23 22:38	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/4/23 22:38	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/4/23 22:38	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/4/23 22:38	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/4/23 22:38	UJ, RC:6L
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/4/23 22:38	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/4/23 22:38	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/4/23 22:38	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/4/23 22:38	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/4/23 22:38	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/4/23 22:38	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00441	0.0390	mg/kg	1	8/2/23 19:35	
2,3,4,6-Tetrachlorophenol	ND	U	0.0240	0.156	mg/kg	1	8/2/23 19:35	
2,4,5-Trichlorophenol	ND	U	0.0212	0.156	mg/kg	1	8/2/23 19:35	
2,4,6-Trichlorophenol	ND	U	0.00976	0.156	mg/kg	1	8/2/23 19:35	
2,4-Dichlorophenol	ND	U	0.0157	0.156	mg/kg	1	8/2/23 19:35	
2,4-Dimethylphenol	ND	U	0.0154	0.156	mg/kg	1	8/2/23 19:35	
2,4-Dinitrophenol	ND	U	0.0225	0.782	mg/kg	1	8/2/23 19:35	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0166	0.156	mg/kg	1	8/2/23 19:35	
2,6-Dinitrotoluene	ND	U	0.0373	0.156	mg/kg	1	8/2/23 19:35	
2-Chloronaphthalene	ND	U	0.0179	0.156	mg/kg	1	8/2/23 19:35	
2-Chlorophenol	ND	U	0.0206	0.156	mg/kg	1	8/2/23 19:35	
2-Methylnaphthalene	ND	U	0.0374	0.234	mg/kg	1	8/2/23 19:35	
2-Methylphenol	ND	U	0.0308	0.156	mg/kg	1	8/2/23 19:35	
2-Nitroaniline	ND	U	0.0125	0.156	mg/kg	1	8/2/23 19:35	
2-Nitrophenol	ND	U	0.0173	0.156	mg/kg	1	8/2/23 19:35	
3,3'-Dichlorobenzidine	ND	U	0.0164	0.156	mg/kg	1	8/2/23 19:35	
3+4-Methylphenol	ND	U	0.0286	0.156	mg/kg	1	8/2/23 19:35	
3-Nitroaniline	ND	U	0.0290	0.156	mg/kg	1	8/2/23 19:35	
4,6-Dinitro-2-methylphenol	ND	U	0.0294	0.390	mg/kg	1	8/2/23 19:35	
4-Bromophenyl-phenyl ether	ND	U	0.0223	0.156	mg/kg	1	8/2/23 19:35	
4-Chloro-3-methylphenol	ND	U	0.0246	0.156	mg/kg	1	8/2/23 19:35	
4-Chloroaniline	ND	U	0.00546	0.156	mg/kg	1	8/2/23 19:35	
4-Chlorophenyl phenyl ether	ND	U	0.00843	0.156	mg/kg	1	8/2/23 19:35	
4-Nitroaniline	ND	U	0.0781	0.156	mg/kg	1	8/2/23 19:35	
4-Nitrophenol	ND	U	0.00999	0.156	mg/kg	1	8/2/23 19:35	
Acenaphthene	ND	U	0.00890	0.156	mg/kg	1	8/2/23 19:35	
Acenaphthylene	ND	U	0.00543	0.156	mg/kg	1	8/2/23 19:35	
Acetophenone	ND	U	0.0155	0.156	mg/kg	1	8/2/23 19:35	
Anthracene	ND	U	0.0226	0.156	mg/kg	1	8/2/23 19:35	
Atrazine	ND	U	0.0147	0.156	mg/kg	1	8/2/23 19:35	
Benzaldehyde	ND	U	0.0479	0.156	mg/kg	1	8/2/23 19:35	
Benzo(a)anthracene	ND	U	0.0157	0.156	mg/kg	1	8/2/23 19:35	
Benzo(a)pyrene	ND	U	0.0272	0.156	mg/kg	1	8/2/23 19:35	
Benzo(b)fluoranthene	ND	U	0.0219	0.156	mg/kg	1	8/2/23 19:35	
Benzo(g,h,i)perylene	ND	U	0.0127	0.156	mg/kg	1	8/2/23 19:35	
Benzo(k)fluoranthene	ND	U	0.0179	0.156	mg/kg	1	8/2/23 19:35	
Biphenyl	ND	U	0.0137	0.156	mg/kg	1	8/2/23 19:35	
bis(2-chloroethoxy)methane	ND	U	0.0216	0.156	mg/kg	1	8/2/23 19:35	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0171	0.156	mg/kg	1	8/2/23 19:35	
bis(2-chloroisopropyl)ether	ND	U	0.0562	0.156	mg/kg	1	8/2/23 19:35	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0312	0.156	mg/kg	1	8/2/23 19:35	
Butylbenzylphthalate	ND	U	0.0142	0.156	mg/kg	1	8/2/23 19:35	
Caprolactam	ND	U	0.0202	0.156	mg/kg	1	8/2/23 19:35	
Carbazole	ND	U	0.0300	0.390	mg/kg	1	8/2/23 19:35	
Chrysene	ND	U	0.0107	0.156	mg/kg	1	8/2/23 19:35	
Dibenzo(a,h)anthracene	ND	U	0.0155	0.156	mg/kg	1	8/2/23 19:35	
Dibenzofuran	ND	U	0.00930	0.156	mg/kg	1	8/2/23 19:35	
Diethylphthalate	ND	U	0.0302	0.156	mg/kg	1	8/2/23 19:35	
Dimethylphthalate	ND	U	0.00968	0.156	mg/kg	1	8/2/23 19:35	
Di-n-butylphthalate	ND	U	0.0638	0.156	mg/kg	1	8/2/23 19:35	
Di-n-octylphthalate	ND	U	0.0320	0.156	mg/kg	1	8/2/23 19:35	
Fluoranthene	ND	U	0.0147	0.156	mg/kg	1	8/2/23 19:35	
Fluorene	ND	U	0.0130	0.156	mg/kg	1	8/2/23 19:35	
Hexachlorobenzene	ND	U	0.0204	0.156	mg/kg	1	8/2/23 19:35	
Hexachlorobutadiene	ND	U	0.0749	0.156	mg/kg	1	8/2/23 19:35	
Hexachlorocyclopentadiene	ND	U	0.0651	0.390	mg/kg	1	8/2/23 19:35	UJ, RC:SL
Hexachloroethane	ND	U	0.0171	0.156	mg/kg	1	8/2/23 19:35	
Indeno(1,2,3-cd)pyrene	ND	U	0.0168	0.156	mg/kg	1	8/2/23 19:35	
Isophorone	ND	U	0.0102	0.156	mg/kg	1	8/2/23 19:35	
Naphthalene	ND	U	0.0116	0.156	mg/kg	1	8/2/23 19:35	
Nitrobenzene	ND	U	0.0265	0.156	mg/kg	1	8/2/23 19:35	
n-Nitroso-di-n-propylamine	ND	U	0.00836	0.156	mg/kg	1	8/2/23 19:35	
n-Nitrosodiphenylamine	ND	U	0.0333	0.156	mg/kg	1	8/2/23 19:35	
Pentachlorophenol	ND	U	0.0215	0.390	mg/kg	1	8/2/23 19:35	UJ, RC:SL
Phenanthrene	ND	U	0.0205	0.156	mg/kg	1	8/2/23 19:35	
Phenol	ND	U	0.0127	0.156	mg/kg	1	8/2/23 19:35	
Pyrene	ND	U	0.0115	0.156	mg/kg	1	8/2/23 19:35	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	13.3	11.79	J	mg/kg	1	8/2/23 19:35
Octadecanoic acid, butyl ester	7.67	12.57	J, B	mg/kg	1	8/2/23 19:35
TIC Total	**21.0**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1341
Project:	Red Hook-Gowanus	**Date to Lab:**	7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 14:40	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 14:40	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 14:40	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 14:40	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 14:40	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 14:40	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 14:40	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 14:40	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 14:40	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 14:40	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 14:40	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000228	0.00156	mg/kg	1	7/26/23 18:49
1,1,2,2-Tetrachloroethane	ND	U	0.000216	0.00156	mg/kg	1	7/26/23 18:49
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000669	0.00156	mg/kg	1	7/26/23 18:49
1,1,2-Trichloroethane	ND	U	0.000263	0.00156	mg/kg	1	7/26/23 18:49
1,1-Dichloroethane	ND	U	0.000228	0.00156	mg/kg	1	7/26/23 18:49
1,1-Dichloroethene	ND	U	0.000289	0.00156	mg/kg	1	7/26/23 18:49
1,2,3-Trichlorobenzene	ND	U	0.000338	0.00156	mg/kg	1	7/26/23 18:49
1,2,4-Trichlorobenzene	ND	U	0.000417	0.00156	mg/kg	1	7/26/23 18:49
1,2,4-Trimethylbenzene	ND	U	0.000216	0.00156	mg/kg	1	7/26/23 18:49
1,2-Dibromo-3-chloropropane	ND	U	0.000381	0.00391	mg/kg	1	7/26/23 18:49
1,2-Dibromoethane	ND	U	0.000197	0.00156	mg/kg	1	7/26/23 18:49
1,2-Dichlorobenzene	ND	U	0.000276	0.00156	mg/kg	1	7/26/23 18:49
1,2-Dichloroethane	ND	U	0.000220	0.00156	mg/kg	1	7/26/23 18:49
1,2-Dichloropropane	ND	U	0.000256	0.00156	mg/kg	1	7/26/23 18:49
1,3-Dichlorobenzene	ND	U	0.000115	0.00156	mg/kg	1	7/26/23 18:49
1,4-Dichlorobenzene	ND	U	0.000225	0.00156	mg/kg	1	7/26/23 18:49
2-Butanone	ND	U	0.000255	0.00781	mg/kg	1	7/26/23 18:49
2-Hexanone	ND	U	0.000146	0.00156	mg/kg	1	7/26/23 18:49
4-Methyl-2-pentanone	ND	U	0.000195	0.00156	mg/kg	1	7/26/23 18:49
Acetone	ND	U	0.000474	0.0391	mg/kg	1	7/26/23 18:49
Benzene	ND	U	0.000142	0.00156	mg/kg	1	7/26/23 18:49
Bromochloromethane	ND	U	0.000288	0.00156	mg/kg	1	7/26/23 18:49
Bromodichloromethane	ND	U	0.000196	0.00156	mg/kg	1	7/26/23 18:49

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-20230724** Collected: **7/24/2023 10:01:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000274	0.00156	mg/kg	1	7/26/23 18:49
Bromomethane	ND	U	0.000451	0.00156	mg/kg	1	7/26/23 18:49
Carbon disulfide	ND	U	0.000224	0.00156	mg/kg	1	7/26/23 18:49
Carbon Tetrachloride	ND	U	0.000235	0.00156	mg/kg	1	7/26/23 18:49
Chlorobenzene	ND	U	0.000227	0.00156	mg/kg	1	7/26/23 18:49
Chlorodibromomethane	ND	U	0.000192	0.00156	mg/kg	1	7/26/23 18:49
Chloroethane	ND	U	0.000266	0.00156	mg/kg	1	7/26/23 18:49
Chloroform	ND	U	0.000263	0.00156	mg/kg	1	7/26/23 18:49
Chloromethane	ND	U	0.000602	0.00156	mg/kg	1	7/26/23 18:49
cis-1,2-Dichloroethene	ND	U	0.0000756	0.00156	mg/kg	1	7/26/23 18:49
cis-1,3-Dichloropropene	ND	U	0.000198	0.00156	mg/kg	1	7/26/23 18:49
Cyclohexane	ND	U	0.000346	0.00156	mg/kg	1	7/26/23 18:49
Dichlorodifluoromethane	ND	U	0.000528	0.00156	mg/kg	1	7/26/23 18:49
EthylBenzene	ND	U	0.000212	0.00156	mg/kg	1	7/26/23 18:49
Isopropylbenzene	ND	U	0.000245	0.00156	mg/kg	1	7/26/23 18:49
m+p-Xylenes	ND	U	0.000395	0.00313	mg/kg	1	7/26/23 18:49
Methyl Acetate	ND	U	0.000207	0.00156	mg/kg	1	7/26/23 18:49
Methyl tert-Butyl Ether	**0.00220**		**0.000264**	**0.00156**	**mg/kg**	**1**	**7/26/23 18:49**
Methylcyclohexane	ND	U	0.000252	0.00156	mg/kg	1	7/26/23 18:49
Methylene Chloride	ND	U	0.000470	0.00391	mg/kg	1	7/26/23 18:49
o-Xylene	ND	U	0.000201	0.00156	mg/kg	1	7/26/23 18:49
Styrene	ND	U	0.000224	0.00156	mg/kg	1	7/26/23 18:49
tert-Butyl alcohol	ND	U	0.00328	0.0156	mg/kg	1	7/26/23 18:49
Tetrachloroethene	ND	U	0.000155	0.00156	mg/kg	1	7/26/23 18:49
Toluene	ND	U	0.000126	0.00156	mg/kg	1	7/26/23 18:49
Total Xylenes	ND	U	0.000201	0.00156	mg/kg	1	7/26/23 18:49
trans-1,2-Dichloroethene	ND	U	0.000212	0.00156	mg/kg	1	7/26/23 18:49
trans-1,3-Dichloropropene	ND	U	0.000299	0.00156	mg/kg	1	7/26/23 18:49
Trichloroethene	ND	U	0.000230	0.00156	mg/kg	1	7/26/23 18:49
Trichlorofluoromethane	ND	U	0.000180	0.00156	mg/kg	1	7/26/23 18:49
Vinyl chloride	ND	U	0.000297	0.00156	mg/kg	1	7/26/23 18:49

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-02 (Soil) Sample Name: **MR-208-15.0-17.0-202 30724** Collected: **7/24/2023 10:01:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/2/23 19:55
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/2/23 19:55
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/2/23 19:55
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/2/23 19:55
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/2/23 19:55
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/2/23 19:55
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/2/23 19:55
Chloroform	**0.0191**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/2/23 19:55**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/2/23 19:55
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/2/23 19:55
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/2/23 19:55

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**85.3**				**%**	**1**	**7/26/23 11:20**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/31/23 12:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Cyanide	ND	U, H	0.12	0.12	mg/kg	1	8/9/23 14:44	UJ, RC:1

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.117	0.117	mg/kg	1	7/28/23 18:14

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.61**				**pH Units**	**1**	**7/26/23 18:49**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00502	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1221	ND	U	0.00988	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1232	ND	U	0.0126	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1242	ND	U	0.00736	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1248	ND	U	0.00770	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1254	ND	U	0.00604	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1260	ND	U	0.00469	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1262	ND	U	0.0101	0.0374	mg/kg	1	8/4/23 16:30
Aroclor-1268	ND	U	0.00453	0.0374	mg/kg	1	8/4/23 16:30
Total PCBs	ND	U	0.00350	0.0374	mg/kg	1	8/4/23 16:30

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0111	0.113	mg/kg	1	8/9/23 11:00
2,4-D	ND	U	0.0188	0.113	mg/kg	1	8/9/23 11:00

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:34
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:34

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00567	0.0227	mg/kg	1	7/28/23 16:15

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 14:56

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3430**		**0.168**	**2.84**	**mg/kg**	**1**	**8/8/23 10:04**
Antimony	ND	U	0.155	1.42	mg/kg	1	8/8/23 10:04
Arsenic	**1.78**		**0.101**	**1.42**	**mg/kg**	**1**	**8/8/23 10:04**
Barium	**23.5**		**0.0429**	**0.567**	**mg/kg**	**1**	**8/8/23 10:04**
Beryllium	**0.340**		**0.00328**	**0.0284**	**mg/kg**	**1**	**8/8/23 10:04**
Cadmium	ND	U	0.0553	0.284	mg/kg	1	8/8/23 10:04
Calcium	**7550**		**3.19**	**28.4**	**mg/kg**	**1**	**8/8/23 10:04**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**7.46**		**0.0320**	**0.284**	**mg/kg**	**1**	**8/8/23 10:04**
Cobalt	**3.46**		**0.0290**	**0.227**	**mg/kg**	**1**	**8/8/23 10:04**
Copper	**17.2**		**0.0794**	**0.284**	**mg/kg**	**1**	**8/8/23 10:04**
Iron	**9420**		**0.804**	**5.67**	**mg/kg**	**1**	**8/8/23 10:04**
Lead	**44.3**		**0.118**	**1.42**	**mg/kg**	**1**	**8/8/23 10:04**
Magnesium	**1840**		**10.0**	**56.7**	**mg/kg**	**1**	**8/8/23 10:04**
Manganese	**191**		**0.0353**	**0.284**	**mg/kg**	**1**	**8/8/23 10:04**
Nickel	**9.93**		**0.0249**	**0.142**	**mg/kg**	**1**	**8/8/23 10:04**
Potassium	**747**		**33.7**	**113**	**mg/kg**	**1**	**8/8/23 10:04**
Selenium	ND	U	0.272	1.42	mg/kg	1	8/8/23 10:04 UJ, RC:6L
Silver	ND	U	0.0482	0.170	mg/kg	1	8/8/23 10:04
Sodium	**194**		**5.41**	**56.7**	**mg/kg**	**1**	**8/8/23 10:04**
Thallium	ND	U	0.0954	1.42	mg/kg	1	8/8/23 10:04
Vanadium	**13.3**		**0.0652**	**0.567**	**mg/kg**	**1**	**8/8/23 10:04**
Zinc	**30.6**		**0.0867**	**0.851**	**mg/kg**	**1**	**8/8/23 10:04**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:19
Barium	**1.18**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:19**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:19
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:19
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:19
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:19
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:19

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000675	0.00148	mg/kg	1	8/7/23 21:44
4,4'-DDE	ND	U	0.000807	0.00148	mg/kg	1	8/7/23 21:44
4,4'-DDT	ND	U	0.00104	0.00148	mg/kg	1	8/7/23 21:44
Aldrin	ND	U	0.000699	0.00148	mg/kg	1	8/7/23 21:44
alpha-BHC	ND	U	0.000439	0.00148	mg/kg	1	8/7/23 21:44
beta-BHC	ND	U	0.000705	0.00148	mg/kg	1	8/7/23 21:44
Chlordane	ND	U	0.000656	0.00148	mg/kg	1	8/7/23 21:44
delta-BHC	ND	U	0.000685	0.00148	mg/kg	1	8/7/23 21:44
Dieldrin	ND	U	0.000772	0.00148	mg/kg	1	8/7/23 21:44
Endosulfan I	ND	U	0.000697	0.00148	mg/kg	1	8/7/23 21:44

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000671	0.00148	mg/kg	1	8/7/23 21:44	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000555	0.00148	mg/kg	1	8/7/23 21:44	
Endosulfans, Total (alpha and beta)	ND	U	0.000671	0.00148	mg/kg	1	8/7/23 21:44	
Endrin	ND	U	0.000509	0.00148	mg/kg	1	8/7/23 21:44	
Endrin aldehyde	ND	U	0.000588	0.00148	mg/kg	1	8/7/23 21:44	
Endrin ketone	ND	U	0.000520	0.00148	mg/kg	1	8/7/23 21:44	
gamma-BHC (Lindane)	ND	U	0.000467	0.00148	mg/kg	1	8/7/23 21:44	
Heptachlor	ND	U	0.000395	0.00148	mg/kg	1	8/7/23 21:44	
Heptachlor Epoxide	ND	U	0.000744	0.00148	mg/kg	1	8/7/23 21:44	
Methoxychlor	ND	U	0.000432	0.00148	mg/kg	1	8/7/23 21:44	
Toxaphene	ND	U	0.0711	0.0749	mg/kg	1	8/7/23 21:44	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/4/23 23:00	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/4/23 23:00	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/4/23 23:00	UJ, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/4/23 23:00	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/4/23 23:00	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/4/23 23:00	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/4/23 23:00	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/4/23 23:00	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/4/23 23:00	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/4/23 23:00	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/4/23 23:00	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/4/23 23:00	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/4/23 23:00	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/4/23 23:00	UJ, RC:6L
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/4/23 23:00	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/4/23 23:00	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/4/23 23:00	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/4/23 23:00	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/4/23 23:00	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/4/23 23:00	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00427	0.0378	mg/kg	1	8/2/23 20:05	
2,3,4,6-Tetrachlorophenol	ND	U	0.0233	0.151	mg/kg	1	8/2/23 20:05	
2,4,5-Trichlorophenol	ND	U	0.0205	0.151	mg/kg	1	8/2/23 20:05	
2,4,6-Trichlorophenol	ND	U	0.00945	0.151	mg/kg	1	8/2/23 20:05	
2,4-Dichlorophenol	ND	U	0.0152	0.151	mg/kg	1	8/2/23 20:05	
2,4-Dimethylphenol	ND	U	0.0149	0.151	mg/kg	1	8/2/23 20:05	
2,4-Dinitrophenol	ND	U	0.0218	0.757	mg/kg	1	8/2/23 20:05	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0161	0.151	mg/kg	1	8/2/23 20:05	
2,6-Dinitrotoluene	ND	U	0.0361	0.151	mg/kg	1	8/2/23 20:05	
2-Chloronaphthalene	ND	U	0.0174	0.151	mg/kg	1	8/2/23 20:05	
2-Chlorophenol	ND	U	0.0200	0.151	mg/kg	1	8/2/23 20:05	
2-Methylnaphthalene	ND	U	0.0362	0.227	mg/kg	1	8/2/23 20:05	
2-Methylphenol	ND	U	0.0298	0.151	mg/kg	1	8/2/23 20:05	
2-Nitroaniline	ND	U	0.0121	0.151	mg/kg	1	8/2/23 20:05	
2-Nitrophenol	ND	U	0.0168	0.151	mg/kg	1	8/2/23 20:05	
3,3'-Dichlorobenzidine	ND	U	0.0159	0.151	mg/kg	1	8/2/23 20:05	
3+4-Methylphenol	ND	U	0.0277	0.151	mg/kg	1	8/2/23 20:05	
3-Nitroaniline	ND	U	0.0280	0.151	mg/kg	1	8/2/23 20:05	
4,6-Dinitro-2-methylphenol	ND	U	0.0285	0.378	mg/kg	1	8/2/23 20:05	
4-Bromophenyl-phenyl ether	ND	U	0.0216	0.151	mg/kg	1	8/2/23 20:05	
4-Chloro-3-methylphenol	ND	U	0.0238	0.151	mg/kg	1	8/2/23 20:05	
4-Chloroaniline	ND	U	0.00529	0.151	mg/kg	1	8/2/23 20:05	
4-Chlorophenyl phenyl ether	ND	U	0.00816	0.151	mg/kg	1	8/2/23 20:05	
4-Nitroaniline	ND	U	0.0756	0.151	mg/kg	1	8/2/23 20:05	
4-Nitrophenol	ND	U	0.00967	0.151	mg/kg	1	8/2/23 20:05	
Acenaphthene	ND	U	0.00861	0.151	mg/kg	1	8/2/23 20:05	
Acenaphthylene	ND	U	0.00525	0.151	mg/kg	1	8/2/23 20:05	
Acetophenone	ND	U	0.0150	0.151	mg/kg	1	8/2/23 20:05	
Anthracene	ND	U	0.0219	0.151	mg/kg	1	8/2/23 20:05	
Atrazine	ND	U	0.0142	0.151	mg/kg	1	8/2/23 20:05	
Benzaldehyde	ND	U	0.0464	0.151	mg/kg	1	8/2/23 20:05	
Benzo(a)anthracene	ND	U	0.0152	0.151	mg/kg	1	8/2/23 20:05	
Benzo(a)pyrene	ND	U	0.0263	0.151	mg/kg	1	8/2/23 20:05	
Benzo(b)fluoranthene	ND	U	0.0212	0.151	mg/kg	1	8/2/23 20:05	
Benzo(g,h,i)perylene	ND	U	0.0123	0.151	mg/kg	1	8/2/23 20:05	
Benzo(k)fluoranthene	ND	U	0.0174	0.151	mg/kg	1	8/2/23 20:05	
Biphenyl	ND	U	0.0133	0.151	mg/kg	1	8/2/23 20:05	
bis(2-chloroethoxy)methane	ND	U	0.0209	0.151	mg/kg	1	8/2/23 20:05	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0166	0.151	mg/kg	1	8/2/23 20:05
bis(2-chloroisopropyl)ether	ND	U	0.0544	0.151	mg/kg	1	8/2/23 20:05
bis(2-ethylhexyl)phthalate	ND	U	0.0302	0.151	mg/kg	1	8/2/23 20:05
Butylbenzylphthalate	ND	U	0.0137	0.151	mg/kg	1	8/2/23 20:05
Caprolactam	ND	U	0.0195	0.151	mg/kg	1	8/2/23 20:05
Carbazole	ND	U	0.0290	0.378	mg/kg	1	8/2/23 20:05
Chrysene	ND	U	0.0103	0.151	mg/kg	1	8/2/23 20:05
Dibenzo(a,h)anthracene	ND	U	0.0150	0.151	mg/kg	1	8/2/23 20:05
Dibenzofuran	ND	U	0.00900	0.151	mg/kg	1	8/2/23 20:05
Diethylphthalate	ND	U	0.0293	0.151	mg/kg	1	8/2/23 20:05
Dimethylphthalate	ND	U	0.00937	0.151	mg/kg	1	8/2/23 20:05
Di-n-butylphthalate	ND	U	0.0617	0.151	mg/kg	1	8/2/23 20:05
Di-n-octylphthalate	ND	U	0.0310	0.151	mg/kg	1	8/2/23 20:05
Fluoranthene	ND	U	0.0142	0.151	mg/kg	1	8/2/23 20:05
Fluorene	ND	U	0.0126	0.151	mg/kg	1	8/2/23 20:05
Hexachlorobenzene	ND	U	0.0197	0.151	mg/kg	1	8/2/23 20:05
Hexachlorobutadiene	ND	U	0.0725	0.151	mg/kg	1	8/2/23 20:05
Hexachlorocyclopentadiene	ND	U	0.0630	0.378	mg/kg	1	8/2/23 20:05
Hexachloroethane	ND	U	0.0166	0.151	mg/kg	1	8/2/23 20:05
Indeno(1,2,3-cd)pyrene	ND	U	0.0162	0.151	mg/kg	1	8/2/23 20:05
Isophorone	ND	U	0.00989	0.151	mg/kg	1	8/2/23 20:05
Naphthalene	ND	U	0.0112	0.151	mg/kg	1	8/2/23 20:05
Nitrobenzene	ND	U	0.0256	0.151	mg/kg	1	8/2/23 20:05
n-Nitroso-di-n-propylamine	ND	U	0.00809	0.151	mg/kg	1	8/2/23 20:05
n-Nitrosodiphenylamine	ND	U	0.0322	0.151	mg/kg	1	8/2/23 20:05
Pentachlorophenol	ND	U	0.0208	0.378	mg/kg	1	8/2/23 20:05
Phenanthrene	ND	U	0.0199	0.151	mg/kg	1	8/2/23 20:05
Phenol	ND	U	0.0123	0.151	mg/kg	1	8/2/23 20:05
Pyrene	ND	U	0.0111	0.151	mg/kg	1	8/2/23 20:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	6.21	11.78	J	mg/kg	1	8/2/23 20:05
Octadecanoic acid, butyl ester	3.35	12.56	J, B	mg/kg	1	8/2/23 20:05
TIC Total	**9.55**					

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 15:13	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 15:13	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 15:13	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 15:13	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 15:13	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 15:13	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 15:13	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 15:13	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 15:13	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 15:13	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 15:13	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000210	0.00144	mg/kg	1	7/26/23 19:18
1,1,2,2-Tetrachloroethane	ND	U	0.000198	0.00144	mg/kg	1	7/26/23 19:18
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000615	0.00144	mg/kg	1	7/26/23 19:18
1,1,2-Trichloroethane	ND	U	0.000242	0.00144	mg/kg	1	7/26/23 19:18
1,1-Dichloroethane	ND	U	0.000210	0.00144	mg/kg	1	7/26/23 19:18
1,1-Dichloroethene	ND	U	0.000266	0.00144	mg/kg	1	7/26/23 19:18
1,2,3-Trichlorobenzene	ND	U	0.000310	0.00144	mg/kg	1	7/26/23 19:18
1,2,4-Trichlorobenzene	ND	U	0.000383	0.00144	mg/kg	1	7/26/23 19:18
1,2,4-Trimethylbenzene	ND	U	0.000198	0.00144	mg/kg	1	7/26/23 19:18
1,2-Dibromo-3-chloropropane	ND	U	0.000350	0.00359	mg/kg	1	7/26/23 19:18
1,2-Dibromoethane	ND	U	0.000181	0.00144	mg/kg	1	7/26/23 19:18
1,2-Dichlorobenzene	ND	U	0.000254	0.00144	mg/kg	1	7/26/23 19:18
1,2-Dichloroethane	ND	U	0.000203	0.00144	mg/kg	1	7/26/23 19:18
1,2-Dichloropropane	ND	U	0.000236	0.00144	mg/kg	1	7/26/23 19:18
1,3-Dichlorobenzene	ND	U	0.000106	0.00144	mg/kg	1	7/26/23 19:18
1,4-Dichlorobenzene	ND	U	0.000207	0.00144	mg/kg	1	7/26/23 19:18
2-Butanone	ND	U	0.000234	0.00718	mg/kg	1	7/26/23 19:18
2-Hexanone	ND	U	0.000134	0.00144	mg/kg	1	7/26/23 19:18
4-Methyl-2-pentanone	ND	U	0.000180	0.00144	mg/kg	1	7/26/23 19:18
Acetone	ND	U	0.000435	0.0359	mg/kg	1	7/26/23 19:18
Benzene	ND	U	0.000131	0.00144	mg/kg	1	7/26/23 19:18
Bromochloromethane	ND	U	0.000265	0.00144	mg/kg	1	7/26/23 19:18
Bromodichloromethane	ND	U	0.000180	0.00144	mg/kg	1	7/26/23 19:18

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000252	0.00144	mg/kg	1	7/26/23 19:18
Bromomethane	ND	U	0.000414	0.00144	mg/kg	1	7/26/23 19:18
Carbon disulfide	ND	U	0.000206	0.00144	mg/kg	1	7/26/23 19:18
Carbon Tetrachloride	ND	U	0.000216	0.00144	mg/kg	1	7/26/23 19:18
Chlorobenzene	ND	U	0.000208	0.00144	mg/kg	1	7/26/23 19:18
Chlorodibromomethane	ND	U	0.000177	0.00144	mg/kg	1	7/26/23 19:18
Chloroethane	ND	U	0.000245	0.00144	mg/kg	1	7/26/23 19:18
Chloroform	ND	U	0.000241	0.00144	mg/kg	1	7/26/23 19:18
Chloromethane	ND	U	0.000553	0.00144	mg/kg	1	7/26/23 19:18
cis-1,2-Dichloroethene	ND	U	0.0000694	0.00144	mg/kg	1	7/26/23 19:18
cis-1,3-Dichloropropene	ND	U	0.000182	0.00144	mg/kg	1	7/26/23 19:18
Cyclohexane	ND	U	0.000318	0.00144	mg/kg	1	7/26/23 19:18
Dichlorodifluoromethane	ND	U	0.000485	0.00144	mg/kg	1	7/26/23 19:18
EthylBenzene	ND	U	0.000195	0.00144	mg/kg	1	7/26/23 19:18
Isopropylbenzene	ND	U	0.000225	0.00144	mg/kg	1	7/26/23 19:18
m+p-Xylenes	ND	U	0.000363	0.00287	mg/kg	1	7/26/23 19:18
Methyl Acetate	ND	U	0.000190	0.00144	mg/kg	1	7/26/23 19:18
Methyl tert-Butyl Ether	ND	U	0.000243	0.00144	mg/kg	1	7/26/23 19:18
Methylcyclohexane	ND	U	0.000231	0.00144	mg/kg	1	7/26/23 19:18
Methylene Chloride	ND	U	0.000432	0.00359	mg/kg	1	7/26/23 19:18
o-Xylene	ND	U	0.000185	0.00144	mg/kg	1	7/26/23 19:18
Styrene	ND	U	0.000205	0.00144	mg/kg	1	7/26/23 19:18
tert-Butyl alcohol	ND	U	0.00302	0.0144	mg/kg	1	7/26/23 19:18
Tetrachloroethene	ND	U	0.000142	0.00144	mg/kg	1	7/26/23 19:18
Toluene	ND	U	0.000116	0.00144	mg/kg	1	7/26/23 19:18
Total Xylenes	ND	U	0.000185	0.00144	mg/kg	1	7/26/23 19:18
trans-1,2-Dichloroethene	ND	U	0.000195	0.00144	mg/kg	1	7/26/23 19:18
trans-1,3-Dichloropropene	ND	U	0.000274	0.00144	mg/kg	1	7/26/23 19:18
Trichloroethene	**0.000672**	J	**0.000211**	**0.00144**	**mg/kg**	**1**	**7/26/23 19:18**
Trichlorofluoromethane	ND	U	0.000165	0.00144	mg/kg	1	7/26/23 19:18
Vinyl chloride	ND	U	0.000273	0.00144	mg/kg	1	7/26/23 19:18

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1341
Project:	Red Hook-Gowanus	**Date to Lab:**	7/25/2023 3:08:00PM

23G1341-03 (Soil) Sample Name: **MR-208-30.0-32.0-20230724** Collected: **7/24/2023 10:48:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/2/23 20:21
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/2/23 20:21
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/2/23 20:21
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/2/23 20:21
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/2/23 20:21
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/2/23 20:21
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/2/23 20:21
Chloroform	**0.0192**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/2/23 20:21**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/2/23 20:21
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/2/23 20:21
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/2/23 20:21

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.1**				**%**	**1**	**7/26/23 11:20**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/31/23 12:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U, H	0.11	0.11	mg/kg	1	8/9/23 14:44 UJ, RC:1

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.113	0.113	mg/kg	1	7/28/23 18:14

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.73**				**pH Units**	**1**	**7/26/23 18:49**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00487	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1221	ND	U	0.00958	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1232	ND	U	0.0122	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1242	ND	U	0.00713	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1248	ND	U	0.00746	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1254	ND	U	0.00586	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1260	ND	U	0.00455	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1262	ND	U	0.00977	0.0363	mg/kg	1	8/4/23 16:53
Aroclor-1268	ND	U	0.00439	0.0363	mg/kg	1	8/4/23 16:53
Total PCBs	ND	U	0.00339	0.0363	mg/kg	1	8/4/23 16:53

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	8/9/23 11:09
2,4-D	ND	U	0.0183	0.110	mg/kg	1	8/9/23 11:09

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:44
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:44

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.217**		**0.00550**	**0.0220**	**mg/kg**	**1**	**7/28/23 16:48**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 15:04

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2750**		**0.159**	**2.67**	**mg/kg**	**1**	**8/8/23 10:06**
Antimony	ND	U	0.145	1.34	mg/kg	1	8/8/23 10:06
Arsenic	**1.74**		**0.0953**	**1.34**	**mg/kg**	**1**	**8/8/23 10:06**
Barium	**22.6**		**0.0404**	**0.534**	**mg/kg**	**1**	**8/8/23 10:06**
Beryllium	**0.313**		**0.00309**	**0.0267**	**mg/kg**	**1**	**8/8/23 10:06**
Cadmium	ND	U	0.0521	0.267	mg/kg	1	8/8/23 10:06
Calcium	**7060**		**3.00**	**26.7**	**mg/kg**	**1**	**8/8/23 10:06**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**6.84**		**0.0302**	**0.267**	**mg/kg**	**1**	**8/8/23 10:06**	
Cobalt	**3.34**		**0.0273**	**0.214**	**mg/kg**	**1**	**8/8/23 10:06**	
Copper	**19.2**		**0.0747**	**0.267**	**mg/kg**	**1**	**8/8/23 10:06**	
Iron	**8250**		**0.756**	**5.34**	**mg/kg**	**1**	**8/8/23 10:06**	
Lead	**51.0**		**0.111**	**1.34**	**mg/kg**	**1**	**8/8/23 10:06**	
Magnesium	**1410**		**9.43**	**53.4**	**mg/kg**	**1**	**8/8/23 10:06**	
Manganese	**183**		**0.0332**	**0.267**	**mg/kg**	**1**	**8/8/23 10:06**	
Nickel	**9.56**		**0.0235**	**0.134**	**mg/kg**	**1**	**8/8/23 10:06**	
Potassium	**573**		**31.8**	**107**	**mg/kg**	**1**	**8/8/23 10:06**	
Selenium	ND	U	0.256	1.34	mg/kg	1	8/8/23 10:06	UJ, RC:6L
Silver	ND	U	0.0454	0.160	mg/kg	1	8/8/23 10:06	
Sodium	**182**		**5.09**	**53.4**	**mg/kg**	**1**	**8/8/23 10:06**	
Thallium	ND	U	0.0899	1.34	mg/kg	1	8/8/23 10:06	
Vanadium	**12.3**		**0.0614**	**0.534**	**mg/kg**	**1**	**8/8/23 10:06**	
Zinc	**28.0**		**0.0816**	**0.801**	**mg/kg**	**1**	**8/8/23 10:06**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:21
Barium	**0.761**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:21**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:21
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:21
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:21
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:21
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:21

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000655	0.00143	mg/kg	1	8/7/23 22:06
4,4'-DDE	ND	U	0.000782	0.00143	mg/kg	1	8/7/23 22:06
4,4'-DDT	ND	U	0.00101	0.00143	mg/kg	1	8/7/23 22:06
Aldrin	ND	U	0.000678	0.00143	mg/kg	1	8/7/23 22:06
alpha-BHC	ND	U	0.000426	0.00143	mg/kg	1	8/7/23 22:06
beta-BHC	ND	U	0.000683	0.00143	mg/kg	1	8/7/23 22:06
Chlordane	ND	U	0.000636	0.00143	mg/kg	1	8/7/23 22:06
delta-BHC	ND	U	0.000665	0.00143	mg/kg	1	8/7/23 22:06
Dieldrin	ND	U	0.000748	0.00143	mg/kg	1	8/7/23 22:06
Endosulfan I	ND	U	0.000676	0.00143	mg/kg	1	8/7/23 22:06

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000650	0.00143	mg/kg	1	8/7/23 22:06	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000538	0.00143	mg/kg	1	8/7/23 22:06	
Endosulfans, Total (alpha and beta)	ND	U	0.000650	0.00143	mg/kg	1	8/7/23 22:06	
Endrin	ND	U	0.000494	0.00143	mg/kg	1	8/7/23 22:06	
Endrin aldehyde	ND	U	0.000570	0.00143	mg/kg	1	8/7/23 22:06	
Endrin ketone	ND	U	0.000504	0.00143	mg/kg	1	8/7/23 22:06	
gamma-BHC (Lindane)	ND	U	0.000453	0.00143	mg/kg	1	8/7/23 22:06	
Heptachlor	ND	U	0.000383	0.00143	mg/kg	1	8/7/23 22:06	
Heptachlor Epoxide	ND	U	0.000722	0.00143	mg/kg	1	8/7/23 22:06	
Methoxychlor	ND	U	0.000419	0.00143	mg/kg	1	8/7/23 22:06	
Toxaphene	ND	U	0.0689	0.0726	mg/kg	1	8/7/23 22:06	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/4/23 23:23	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/4/23 23:23	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/4/23 23:23	UJ, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/4/23 23:23	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/4/23 23:23	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/4/23 23:23	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/4/23 23:23	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/4/23 23:23	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/4/23 23:23	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/4/23 23:23	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/4/23 23:23	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/4/23 23:23	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/4/23 23:23	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/4/23 23:23	UJ, RC:6L
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/4/23 23:23	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/4/23 23:23	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/4/23 23:23	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/4/23 23:23	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/4/23 23:23	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/4/23 23:23	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00414	0.0366	mg/kg	1	8/3/23 15:20	
2,3,4,6-Tetrachlorophenol	ND	U	0.0226	0.146	mg/kg	1	8/3/23 15:20	
2,4,5-Trichlorophenol	ND	U	0.0199	0.146	mg/kg	1	8/3/23 15:20	
2,4,6-Trichlorophenol	ND	U	0.00916	0.146	mg/kg	1	8/3/23 15:20	
2,4-Dichlorophenol	ND	U	0.0147	0.146	mg/kg	1	8/3/23 15:20	
2,4-Dimethylphenol	ND	U	0.0144	0.146	mg/kg	1	8/3/23 15:20	
2,4-Dinitrophenol	ND	U	0.0211	0.734	mg/kg	1	8/3/23 15:20	R, RC:4L,SL
2,4-Dinitrotoluene	ND	U	0.0156	0.146	mg/kg	1	8/3/23 15:20	UJ, RC:4L
2,6-Dinitrotoluene	ND	U	0.0350	0.146	mg/kg	1	8/3/23 15:20	
2-Chloronaphthalene	ND	U	0.0168	0.146	mg/kg	1	8/3/23 15:20	
2-Chlorophenol	ND	U	0.0194	0.146	mg/kg	1	8/3/23 15:20	
2-Methylnaphthalene	**26.0**	D	**0.351**	**2.20**	**mg/kg**	**10**	**8/4/23 20:41**	
2-Methylphenol	ND	U	0.0289	0.146	mg/kg	1	8/3/23 15:20	
2-Nitroaniline	ND	U	0.0118	0.146	mg/kg	1	8/3/23 15:20	
2-Nitrophenol	ND	U	0.0163	0.146	mg/kg	1	8/3/23 15:20	
3,3'-Dichlorobenzidine	ND	U	0.0154	0.146	mg/kg	1	8/3/23 15:20	
3+4-Methylphenol	ND	U	0.0268	0.146	mg/kg	1	8/3/23 15:20	
3-Nitroaniline	ND	U	0.0272	0.146	mg/kg	1	8/3/23 15:20	
4,6-Dinitro-2-methylphenol	ND	U	0.0276	0.366	mg/kg	1	8/3/23 15:20	R, RC:4L
4-Bromophenyl-phenyl ether	ND	U	0.0209	0.146	mg/kg	1	8/3/23 15:20	
4-Chloro-3-methylphenol	ND	U	0.0231	0.146	mg/kg	1	8/3/23 15:20	
4-Chloroaniline	ND	U	0.00513	0.146	mg/kg	1	8/3/23 15:20	
4-Chlorophenyl phenyl ether	ND	U	0.00791	0.146	mg/kg	1	8/3/23 15:20	
4-Nitroaniline	ND	U	0.0733	0.146	mg/kg	1	8/3/23 15:20	
4-Nitrophenol	ND	U	0.00937	0.146	mg/kg	1	8/3/23 15:20	
Acenaphthene	**3.53**		**0.00835**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Acenaphthylene	ND	U	0.00509	0.146	mg/kg	1	8/3/23 15:20	
Acetophenone	ND	U	0.0145	0.146	mg/kg	1	8/3/23 15:20	
Anthracene	**5.84**		**0.0212**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Atrazine	ND	U	0.0138	0.146	mg/kg	1	8/3/23 15:20	
Benzaldehyde	ND	U	0.0450	0.146	mg/kg	1	8/3/23 15:20	
Benzo(a)anthracene	**5.71**		**0.0147**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Benzo(a)pyrene	**6.81**		**0.0255**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Benzo(b)fluoranthene	**7.68**		**0.0206**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	J, RC:4H
Benzo(g,h,i)perylene	**5.92**		**0.0119**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	J, RC:4L
Benzo(k)fluoranthene	**2.86**		**0.0168**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Biphenyl	ND	U	0.0129	0.146	mg/kg	1	8/3/23 15:20	
bis(2-chloroethoxy)methane	ND	U	0.0202	0.146	mg/kg	1	8/3/23 15:20	R, RC:4L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0161	0.146	mg/kg	1	8/3/23 15:20	
bis(2-chloroisopropyl)ether	ND	U	0.0527	0.146	mg/kg	1	8/3/23 15:20	
bis(2-ethylhexyl)phthalate	ND	U	0.0293	0.146	mg/kg	1	8/3/23 15:20	
Butylbenzylphthalate	ND	U	0.0133	0.146	mg/kg	1	8/3/23 15:20	
Caprolactam	ND	U	0.0189	0.146	mg/kg	1	8/3/23 15:20	
Carbazole	**1.07**		**0.0282**	**0.366**	**mg/kg**	**1**	**8/3/23 15:20**	
Chrysene	**5.62**		**0.0100**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Dibenzo(a,h)anthracene	**1.17**		**0.0145**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Dibenzofuran	**3.78**		**0.00872**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	J, RC:4L
Diethylphthalate	ND	U	0.0284	0.146	mg/kg	1	8/3/23 15:20	
Dimethylphthalate	ND	U	0.00909	0.146	mg/kg	1	8/3/23 15:20	
Di-n-butylphthalate	ND	U	0.0599	0.146	mg/kg	1	8/3/23 15:20	
Di-n-octylphthalate	ND	U	0.0300	0.146	mg/kg	1	8/3/23 15:20	
Fluoranthene	**13.9**	D	**0.138**	**1.46**	**mg/kg**	**10**	**8/4/23 20:41**	
Fluorene	**4.90**		**0.0122**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	J, RC:4L
Hexachlorobenzene	ND	U	0.0191	0.146	mg/kg	1	8/3/23 15:20	
Hexachlorobutadiene	ND	U	0.0703	0.146	mg/kg	1	8/3/23 15:20	
Hexachlorocyclopentadiene	ND	U	0.0611	0.366	mg/kg	1	8/3/23 15:20	R, RC:4L
Hexachloroethane	ND	U	0.0161	0.146	mg/kg	1	8/3/23 15:20	
Indeno(1,2,3-cd)pyrene	**4.14**		**0.0157**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	
Isophorone	ND	U	0.00959	0.146	mg/kg	1	8/3/23 15:20	
Naphthalene	**1.94**		**0.0108**	**0.146**	**mg/kg**	**1**	**8/3/23 15:20**	J, RC:4H
Nitrobenzene	ND	U	0.0249	0.146	mg/kg	1	8/3/23 15:20	
n-Nitroso-di-n-propylamine	ND	U	0.00784	0.146	mg/kg	1	8/3/23 15:20	
n-Nitrosodiphenylamine	ND	U	0.0312	0.146	mg/kg	1	8/3/23 15:20	
Pentachlorophenol	ND	U	0.0201	0.366	mg/kg	1	8/3/23 15:20	R, RC:4L
Phenanthrene	**18.4**	D	**0.193**	**1.46**	**mg/kg**	**10**	**8/4/23 20:41**	
Phenol	ND	U	0.0119	0.146	mg/kg	1	8/3/23 15:20	
Pyrene	**11.3**	D	**0.108**	**1.46**	**mg/kg**	**10**	**8/4/23 20:41**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,2-diethyl-	2.88	6.63	J	mg/kg	1	8/3/23 15:20
Benzene, 1-methyl-2-(1-methylethyl)-	2.49	7.42	J	mg/kg	1	8/3/23 15:20
Cyclohexane, butyl-	3.72	6.54	J	mg/kg	1	8/3/23 15:20
Cyclopentane, (2-methylpropyl)-	2.51	5.73	J	mg/kg	1	8/3/23 15:20
Heptadecane, 9-octyl-	2.81	10.76	J	mg/kg	1	8/3/23 15:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, decahydro-, trans-	5.95	6.82	J	mg/kg	1	8/3/23 15:20
Octane, 3,6-dimethyl-	2.92	5.67	J	mg/kg	1	8/3/23 15:20
Tetradecane	2.53	6.47	J	mg/kg	1	8/3/23 15:20
unknown (01)	2.93	7.60	J	mg/kg	1	8/3/23 15:20
unknown (02)	6.73	8.05	J	mg/kg	1	8/3/23 15:20
unknown (03)	5.65	8.65	J	mg/kg	1	8/3/23 15:20
unknown (04)	4.13	9.11	J	mg/kg	1	8/3/23 15:20
unknown (05)	2.93	9.38	J	mg/kg	1	8/3/23 15:20
unknown (06)	2.72	15.90	J	mg/kg	1	8/3/23 15:20
unknown (07)	9.12	16.27	J	mg/kg	1	8/3/23 15:20
TIC Total	**60.0**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 15:45	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 15:45	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 15:45	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 15:45	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 15:45	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 15:45	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 15:45	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 15:45	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 15:45	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 15:45	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 15:45	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000277	0.00190	mg/kg	1	7/26/23 19:48	
1,1,2,2-Tetrachloroethane	ND	U	0.000262	0.00190	mg/kg	1	7/26/23 19:48	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000812	0.00190	mg/kg	1	7/26/23 19:48	
1,1,2-Trichloroethane	ND	U	0.000320	0.00190	mg/kg	1	7/26/23 19:48	
1,1-Dichloroethane	ND	U	0.000277	0.00190	mg/kg	1	7/26/23 19:48	
1,1-Dichloroethene	ND	U	0.000351	0.00190	mg/kg	1	7/26/23 19:48	
1,2,3-Trichlorobenzene	ND	U	0.000410	0.00190	mg/kg	1	7/26/23 19:48	UJ, RC:X
1,2,4-Trichlorobenzene	ND	U	0.000506	0.00190	mg/kg	1	7/26/23 19:48	UJ, RC:X
1,2,4-Trimethylbenzene	**0.00198**		**0.000262**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromo-3-chloropropane	ND	U	0.000463	0.00474	mg/kg	1	7/26/23 19:48	UJ, RC:X
1,2-Dibromoethane	ND	U	0.000239	0.00190	mg/kg	1	7/26/23 19:48	
1,2-Dichlorobenzene	ND	U	0.000335	0.00190	mg/kg	1	7/26/23 19:48	UJ, RC:X
1,2-Dichloroethane	ND	U	0.000267	0.00190	mg/kg	1	7/26/23 19:48	
1,2-Dichloropropane	ND	U	0.000311	0.00190	mg/kg	1	7/26/23 19:48	
1,3-Dichlorobenzene	ND	U	0.000139	0.00190	mg/kg	1	7/26/23 19:48	
1,4-Dichlorobenzene	ND	U	0.000273	0.00190	mg/kg	1	7/26/23 19:48	UJ, RC:X
2-Butanone	ND	U	0.000309	0.00948	mg/kg	1	7/26/23 19:48	
2-Hexanone	ND	U	0.000177	0.00190	mg/kg	1	7/26/23 19:48	
4-Methyl-2-pentanone	ND	U	0.000237	0.00190	mg/kg	1	7/26/23 19:48	
Acetone	ND	U	0.000575	0.0474	mg/kg	1	7/26/23 19:48	
Benzene	**0.00250**		**0.000173**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
Bromochloromethane	ND	U	0.000350	0.00190	mg/kg	1	7/26/23 19:48	
Bromodichloromethane	ND	U	0.000238	0.00190	mg/kg	1	7/26/23 19:48	
Bromoform	ND	U	0.000333	0.00190	mg/kg	1	7/26/23 19:48	
Bromomethane	ND	U	0.000547	0.00190	mg/kg	1	7/26/23 19:48	
Carbon disulfide	**0.0231**		**0.000272**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
Carbon Tetrachloride	ND	U	0.000285	0.00190	mg/kg	1	7/26/23 19:48	
Chlorobenzene	ND	U	0.000275	0.00190	mg/kg	1	7/26/23 19:48	
Chlorodibromomethane	ND	U	0.000233	0.00190	mg/kg	1	7/26/23 19:48	
Chloroethane	ND	U	0.000323	0.00190	mg/kg	1	7/26/23 19:48	
Chloroform	ND	U	0.000319	0.00190	mg/kg	1	7/26/23 19:48	
Chloromethane	ND	U	0.000730	0.00190	mg/kg	1	7/26/23 19:48	
cis-1,2-Dichloroethene	ND	U	0.0000917	0.00190	mg/kg	1	7/26/23 19:48	
cis-1,3-Dichloropropene	ND	U	0.000240	0.00190	mg/kg	1	7/26/23 19:48	
Cyclohexane	**0.0519**		**0.000420**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
Dichlorodifluoromethane	ND	U	0.000640	0.00190	mg/kg	1	7/26/23 19:48	
EthylBenzene	**0.00674**		**0.000257**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
Isopropylbenzene	**0.0585**		**0.000298**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
m+p-Xylenes	**0.00394**		**0.000479**	**0.00379**	**mg/kg**	**1**	**7/26/23 19:48**	
Methyl Acetate	ND	U	0.000251	0.00190	mg/kg	1	7/26/23 19:48	
Methyl tert-Butyl Ether	ND	U	0.000321	0.00190	mg/kg	1	7/26/23 19:48	
Methylcyclohexane	**0.367**		**0.000305**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
Methylene Chloride	ND	U	0.000570	0.00474	mg/kg	1	7/26/23 19:48	
o-Xylene	**0.00963**		**0.000244**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**	
Styrene	ND	U	0.000271	0.00190	mg/kg	1	7/26/23 19:48	
tert-Butyl alcohol	ND	U	0.00398	0.0190	mg/kg	1	7/26/23 19:48	
Tetrachloroethene	ND	U	0.000188	0.00190	mg/kg	1	7/26/23 19:48	

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J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	**0.00472**		**0.000153**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**
Total Xylenes	**0.0136**		**0.000244**	**0.00190**	**mg/kg**	**1**	**7/26/23 19:48**
trans-1,2-Dichloroethene	ND	U	0.000257	0.00190	mg/kg	1	7/26/23 19:48
trans-1,3-Dichloropropene	ND	U	0.000362	0.00190	mg/kg	1	7/26/23 19:48
Trichloroethene	ND	U	0.000279	0.00190	mg/kg	1	7/26/23 19:48
Trichlorofluoromethane	ND	U	0.000218	0.00190	mg/kg	1	7/26/23 19:48
Vinyl chloride	ND	U	0.000360	0.00190	mg/kg	1	7/26/23 19:48

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Methyl-4-(1-methylethyl)-cyclohexane	0.0961	16.41	J	mg/kg	1	7/26/23 19:48
4-Nonene	0.103	14.88	J	mg/kg	1	7/26/23 19:48
Benzene, 4-ethyl-1,2-dimethyl-	0.0943	19.03	J	mg/kg	1	7/26/23 19:48
Cyclohexane, 1,1,2,3-tetramethyl-	0.201	16.19	J	mg/kg	1	7/26/23 19:48
Cyclohexane, 1-methyl-2-propyl-	0.131	16.61	J	mg/kg	1	7/26/23 19:48
Cyclohexane, butyl-	0.103	17.66	J	mg/kg	1	7/26/23 19:48
Cyclohexane, propyl-	0.182	15.43	J	mg/kg	1	7/26/23 19:48
Cyclohexaneethanol, .beta.,4-dimethyl-,	0.120	16.53	J	mg/kg	1	7/26/23 19:48
Cyclohexene,3-propyl-	0.126	16.99	J	mg/kg	1	7/26/23 19:48
Decane, 3-methyl-	0.0817	17.45	J	mg/kg	1	7/26/23 19:48
Dodecane, 2,6,10-trimethyl-	0.0830	17.31	J	mg/kg	1	7/26/23 19:48
Naphthalene, decahydro-, trans-	0.126	18.45	J	mg/kg	1	7/26/23 19:48
Nonane, 3-methyl-	0.0814	16.10	J	mg/kg	1	7/26/23 19:48
Octane, 2,6-dimethyl-	0.134	15.27	J	mg/kg	1	7/26/23 19:48
Propanedinitrile, cyclohexyl(2-methylcyc	0.120	16.70	J	mg/kg	1	7/26/23 19:48
TIC Total	**1.78**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 14:08
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 14:08
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 14:08
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 14:08
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/7/23 14:08
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 14:08

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1341

Project: Red Hook-Gowanus **Date to Lab:** 7/25/2023 3:08:00PM

23G1341-04 (Soil) Sample Name: **MR-202-2.0-4.0-20230725** Collected: **7/25/2023 8:35:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 14:08
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 14:08
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 14:08
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 14:08
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 14:08

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.9**				**%**	**1**	**7/26/23 11:20**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/31/23 12:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Cyanide	ND	U, H	0.11	0.11	mg/kg	1	8/9/23 14:44	UJ, RC:1

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Sulfide	ND	U	0.110	0.110	mg/kg	1	8/1/23 11:04	UJ, RC:4L

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.70**				**pH Units**	**1**	**7/26/23 18:49**

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-20230725** Collected: **7/25/2023 9:03:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00538	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1221	ND	U	0.0106	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1232	ND	U	0.0135	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1242	ND	U	0.00789	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1248	ND	U	0.00825	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1254	ND	U	0.00648	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1260	ND	U	0.00503	0.0401	mg/kg	1	8/4/23 17:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1262	ND	U	0.0108	0.0401	mg/kg	1	8/4/23 17:15
Aroclor-1268	ND	U	0.00486	0.0401	mg/kg	1	8/4/23 17:15
Total PCBs	ND	U	0.00375	0.0401	mg/kg	1	8/4/23 17:15

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0119	0.122	mg/kg	1	8/9/23 11:19
2,4-D	ND	U	0.0202	0.122	mg/kg	1	8/9/23 11:19

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:53
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 10:53

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0272**		**0.00608**	**0.0243**	**mg/kg**	**1**	**7/28/23 16:58**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 15:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**11500**		**0.177**	**2.98**	**mg/kg**	**1**	**8/8/23 10:09**
Antimony	ND	U	0.162	1.49	mg/kg	1	8/8/23 10:09
Arsenic	**2.26**		**0.106**	**1.49**	**mg/kg**	**1**	**8/8/23 10:09**
Barium	**39.5**		**0.0451**	**0.596**	**mg/kg**	**1**	**8/8/23 10:09**
Beryllium	**0.756**		**0.00345**	**0.0298**	**mg/kg**	**1**	**8/8/23 10:09**
Cadmium	ND	U	0.0581	0.298	mg/kg	1	8/8/23 10:09
Calcium	**1600**		**3.35**	**29.8**	**mg/kg**	**1**	**8/8/23 10:09**
Chromium	**16.1**		**0.0337**	**0.298**	**mg/kg**	**1**	**8/8/23 10:09**
Cobalt	**4.98**		**0.0305**	**0.239**	**mg/kg**	**1**	**8/8/23 10:09**
Copper	**18.3**		**0.0834**	**0.298**	**mg/kg**	**1**	**8/8/23 10:09**
Iron	**13300**		**0.845**	**5.96**	**mg/kg**	**1**	**8/8/23 10:09**
Lead	**16.2**		**0.124**	**1.49**	**mg/kg**	**1**	**8/8/23 10:09**
Magnesium	**2970**		**10.5**	**59.6**	**mg/kg**	**1**	**8/8/23 10:09**
Manganese	**226**		**0.0371**	**0.298**	**mg/kg**	**1**	**8/8/23 10:09**

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Nickel	**20.5**		**0.0262**	**0.149**	**mg/kg**	**1**	**8/8/23 10:09**	
Potassium	**965**		**35.5**	**119**	**mg/kg**	**1**	**8/8/23 10:09**	
Selenium	ND	U	0.286	1.49	mg/kg	1	8/8/23 10:09	UJ, RC:6L
Silver	ND	U	0.0507	0.179	mg/kg	1	8/8/23 10:09	
Sodium	**285**		**5.69**	**59.6**	**mg/kg**	**1**	**8/8/23 10:09**	
Thallium	ND	U	0.100	1.49	mg/kg	1	8/8/23 10:09	
Vanadium	**23.8**		**0.0686**	**0.596**	**mg/kg**	**1**	**8/8/23 10:09**	
Zinc	**42.3**		**0.0911**	**0.894**	**mg/kg**	**1**	**8/8/23 10:09**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:24
Barium	**1.28**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:24**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:24
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:24
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:24
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:24
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:24

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000724	0.00158	mg/kg	1	8/7/23 22:28	
4,4'-DDE	ND	U	0.000865	0.00158	mg/kg	1	8/7/23 22:28	
4,4'-DDT	ND	U	0.00112	0.00158	mg/kg	1	8/7/23 22:28	
Aldrin	ND	U	0.000749	0.00158	mg/kg	1	8/7/23 22:28	
alpha-BHC	ND	U	0.000471	0.00158	mg/kg	1	8/7/23 22:28	
beta-BHC	ND	U	0.000755	0.00158	mg/kg	1	8/7/23 22:28	
Chlordane	ND	U	0.000703	0.00158	mg/kg	1	8/7/23 22:28	
delta-BHC	ND	U	0.000735	0.00158	mg/kg	1	8/7/23 22:28	
Dieldrin	ND	U	0.000827	0.00158	mg/kg	1	8/7/23 22:28	
Endosulfan I	ND	U	0.000747	0.00158	mg/kg	1	8/7/23 22:28	
Endosulfan II	ND	U	0.000719	0.00158	mg/kg	1	8/7/23 22:28	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000595	0.00158	mg/kg	1	8/7/23 22:28	
Endosulfans, Total (alpha and beta)	ND	U	0.000719	0.00158	mg/kg	1	8/7/23 22:28	
Endrin	ND	U	0.000546	0.00158	mg/kg	1	8/7/23 22:28	
Endrin aldehyde	ND	U	0.000630	0.00158	mg/kg	1	8/7/23 22:28	
Endrin ketone	ND	U	0.000557	0.00158	mg/kg	1	8/7/23 22:28	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
gamma-BHC (Lindane)	ND	U	0.000501	0.00158	mg/kg	1	8/7/23 22:28
Heptachlor	ND	U	0.000423	0.00158	mg/kg	1	8/7/23 22:28
Heptachlor Epoxide	ND	U	0.000798	0.00158	mg/kg	1	8/7/23 22:28
Methoxychlor	ND	U	0.000463	0.00158	mg/kg	1	8/7/23 22:28
Toxaphene	ND	U	0.0762	0.0803	mg/kg	1	8/7/23 22:28

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/4/23 23:45	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/4/23 23:45	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/4/23 23:45	UJ, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/4/23 23:45	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/4/23 23:45	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/4/23 23:45	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/4/23 23:45	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/4/23 23:45	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/4/23 23:45	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/4/23 23:45	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/4/23 23:45	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/4/23 23:45	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/4/23 23:45	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/4/23 23:45	UJ, RC:6L
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/4/23 23:45	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/4/23 23:45	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/4/23 23:45	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/4/23 23:45	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/4/23 23:45	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/4/23 23:45	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00457	0.0405	mg/kg	1	8/3/23 21:36
2,3,4,6-Tetrachlorophenol	ND	U	0.0249	0.162	mg/kg	1	8/3/23 21:36
2,4,5-Trichlorophenol	ND	U	0.0220	0.162	mg/kg	1	8/3/23 21:36
2,4,6-Trichlorophenol	ND	U	0.0101	0.162	mg/kg	1	8/3/23 21:36
2,4-Dichlorophenol	ND	U	0.0163	0.162	mg/kg	1	8/3/23 21:36
2,4-Dimethylphenol	ND	U	0.0159	0.162	mg/kg	1	8/3/23 21:36
2,4-Dinitrophenol	ND	U	0.0234	0.811	mg/kg	1	8/3/23 21:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dinitrotoluene	ND	U	0.0173	0.162	mg/kg	1	8/3/23 21:36	
2,6-Dinitrotoluene	ND	U	0.0387	0.162	mg/kg	1	8/3/23 21:36	
2-Chloronaphthalene	ND	U	0.0186	0.162	mg/kg	1	8/3/23 21:36	
2-Chlorophenol	ND	U	0.0214	0.162	mg/kg	1	8/3/23 21:36	
2-Methylnaphthalene	ND	U	0.0388	0.243	mg/kg	1	8/3/23 21:36	
2-Methylphenol	ND	U	0.0320	0.162	mg/kg	1	8/3/23 21:36	
2-Nitroaniline	ND	U	0.0130	0.162	mg/kg	1	8/3/23 21:36	
2-Nitrophenol	ND	U	0.0180	0.162	mg/kg	1	8/3/23 21:36	
3,3'-Dichlorobenzidine	ND	U	0.0170	0.162	mg/kg	1	8/3/23 21:36	
3+4-Methylphenol	ND	U	0.0297	0.162	mg/kg	1	8/3/23 21:36	
3-Nitroaniline	ND	U	0.0300	0.162	mg/kg	1	8/3/23 21:36	
4,6-Dinitro-2-methylphenol	ND	U	0.0305	0.405	mg/kg	1	8/3/23 21:36	
4-Bromophenyl-phenyl ether	ND	U	0.0231	0.162	mg/kg	1	8/3/23 21:36	
4-Chloro-3-methylphenol	ND	U	0.0255	0.162	mg/kg	1	8/3/23 21:36	
4-Chloroaniline	ND	U	0.00567	0.162	mg/kg	1	8/3/23 21:36	
4-Chlorophenyl phenyl ether	ND	U	0.00875	0.162	mg/kg	1	8/3/23 21:36	
4-Nitroaniline	ND	U	0.0810	0.162	mg/kg	1	8/3/23 21:36	
4-Nitrophenol	ND	U	0.0104	0.162	mg/kg	1	8/3/23 21:36	
Acenaphthene	ND	U	0.00923	0.162	mg/kg	1	8/3/23 21:36	
Acenaphthylene	ND	U	0.00563	0.162	mg/kg	1	8/3/23 21:36	
Acetophenone	ND	U	0.0161	0.162	mg/kg	1	8/3/23 21:36	
Anthracene	ND	U	0.0235	0.162	mg/kg	1	8/3/23 21:36	
Atrazine	ND	U	0.0152	0.162	mg/kg	1	8/3/23 21:36	
Benzaldehyde	ND	U	0.0498	0.162	mg/kg	1	8/3/23 21:36	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0163	0.162	mg/kg	1	8/3/23 21:36	
Benzo(a)pyrene	ND	U	0.0282	0.162	mg/kg	1	8/3/23 21:36	
Benzo(b)fluoranthene	ND	U	0.0227	0.162	mg/kg	1	8/3/23 21:36	
Benzo(g,h,i)perylene	ND	U	0.0131	0.162	mg/kg	1	8/3/23 21:36	
Benzo(k)fluoranthene	ND	U	0.0186	0.162	mg/kg	1	8/3/23 21:36	
Biphenyl	ND	U	0.0142	0.162	mg/kg	1	8/3/23 21:36	
bis(2-chloroethoxy)methane	ND	U	0.0224	0.162	mg/kg	1	8/3/23 21:36	
bis(2-chloroethyl)ether	ND	U	0.0178	0.162	mg/kg	1	8/3/23 21:36	
bis(2-chloroisopropyl)ether	ND	U	0.0583	0.162	mg/kg	1	8/3/23 21:36	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0324	0.162	mg/kg	1	8/3/23 21:36	
Butylbenzylphthalate	ND	U	0.0147	0.162	mg/kg	1	8/3/23 21:36	
Caprolactam	**0.0749**	J	**0.0209**	**0.162**	**mg/kg**	**1**	**8/3/23 21:36**	
Carbazole	ND	U	0.0311	0.405	mg/kg	1	8/3/23 21:36	
Chrysene	ND	U	0.0111	0.162	mg/kg	1	8/3/23 21:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Dibenzo(a,h)anthracene	ND	U	0.0161	0.162	mg/kg	1	8/3/23 21:36	
Dibenzofuran	ND	U	0.00965	0.162	mg/kg	1	8/3/23 21:36	
Diethylphthalate	ND	U	0.0314	0.162	mg/kg	1	8/3/23 21:36	
Dimethylphthalate	ND	U	0.0100	0.162	mg/kg	1	8/3/23 21:36	
Di-n-butylphthalate	ND	U	0.0662	0.162	mg/kg	1	8/3/23 21:36	
Di-n-octylphthalate	ND	U	0.0332	0.162	mg/kg	1	8/3/23 21:36	
Fluoranthene	ND	U	0.0152	0.162	mg/kg	1	8/3/23 21:36	
Fluorene	ND	U	0.0135	0.162	mg/kg	1	8/3/23 21:36	
Hexachlorobenzene	ND	U	0.0212	0.162	mg/kg	1	8/3/23 21:36	
Hexachlorobutadiene	ND	U	0.0777	0.162	mg/kg	1	8/3/23 21:36	
Hexachlorocyclopentadiene	ND	U	0.0675	0.405	mg/kg	1	8/3/23 21:36	
Hexachloroethane	ND	U	0.0178	0.162	mg/kg	1	8/3/23 21:36	UJ, RC:SL
Indeno(1,2,3-cd)pyrene	ND	U	0.0174	0.162	mg/kg	1	8/3/23 21:36	
Isophorone	ND	U	0.0106	0.162	mg/kg	1	8/3/23 21:36	
Naphthalene	ND	U	0.0120	0.162	mg/kg	1	8/3/23 21:36	
Nitrobenzene	ND	U	0.0275	0.162	mg/kg	1	8/3/23 21:36	
n-Nitroso-di-n-propylamine	ND	U	0.00867	0.162	mg/kg	1	8/3/23 21:36	
n-Nitrosodiphenylamine	ND	U	0.0345	0.162	mg/kg	1	8/3/23 21:36	
Pentachlorophenol	ND	U	0.0223	0.405	mg/kg	1	8/3/23 21:36	
Phenanthrene	ND	U	0.0213	0.162	mg/kg	1	8/3/23 21:36	
Phenol	ND	U	0.0131	0.162	mg/kg	1	8/3/23 21:36	
Pyrene	ND	U	0.0119	0.162	mg/kg	1	8/3/23 21:36	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Docosene	0.587	13.78	J	mg/kg	1	8/3/23 21:36	
2-Pentanone, 4-hydroxy-4-methyl-	12.3	4.93	J	mg/kg	1	8/3/23 21:36	
Hexadecanoic acid, butyl ester	~~29.0~~	12.54	J, B	mg/kg	1	8/3/23 21:36	R, RC:2
Octadecanoic acid, butyl ester	~~17.3~~	13.33	J, B	mg/kg	1	8/3/23 21:36	R, RC:2
TIC Total	~~59.2~~ 12.9						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 16:18	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 16:18	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 16:18	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 16:18	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 16:18	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 16:18	UJ, RC:3L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 16:18	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 16:18	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 16:18	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 16:18	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 16:18	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000228	0.00156	mg/kg	1	7/26/23 20:18	
1,1,2,2-Tetrachloroethane	ND	U	0.000215	0.00156	mg/kg	1	7/26/23 20:18	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000667	0.00156	mg/kg	1	7/26/23 20:18	
1,1,2-Trichloroethane	ND	U	0.000263	0.00156	mg/kg	1	7/26/23 20:18	
1,1-Dichloroethane	ND	U	0.000228	0.00156	mg/kg	1	7/26/23 20:18	
1,1-Dichloroethene	ND	U	0.000289	0.00156	mg/kg	1	7/26/23 20:18	
1,2,3-Trichlorobenzene	ND	U	0.000337	0.00156	mg/kg	1	7/26/23 20:18	UJ, RC:X
1,2,4-Trichlorobenzene	ND	U	0.000416	0.00156	mg/kg	1	7/26/23 20:18	UJ, RC:X
1,2,4-Trimethylbenzene	ND	U	0.000215	0.00156	mg/kg	1	7/26/23 20:18	
1,2-Dibromo-3-chloropropane	ND	U	0.000381	0.00390	mg/kg	1	7/26/23 20:18	UJ, RC:X
1,2-Dibromoethane	ND	U	0.000197	0.00156	mg/kg	1	7/26/23 20:18	
1,2-Dichlorobenzene	**0.0169**		**0.000275**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**	J, RC:XH
1,2-Dichloroethane	ND	U	0.000220	0.00156	mg/kg	1	7/26/23 20:18	
1,2-Dichloropropane	ND	U	0.000256	0.00156	mg/kg	1	7/26/23 20:18	
1,3-Dichlorobenzene	**0.00607**		**0.000115**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**	
1,4-Dichlorobenzene	**0.0187**		**0.000225**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**	J, RC:XH
2-Butanone	ND	U	0.000254	0.00780	mg/kg	1	7/26/23 20:18	
2-Hexanone	ND	U	0.000146	0.00156	mg/kg	1	7/26/23 20:18	
4-Methyl-2-pentanone	ND	U	0.000195	0.00156	mg/kg	1	7/26/23 20:18	
Acetone	ND	U	0.000473	0.0390	mg/kg	1	7/26/23 20:18	
Benzene	ND	U	0.000142	0.00156	mg/kg	1	7/26/23 20:18	
Bromochloromethane	ND	U	0.000288	0.00156	mg/kg	1	7/26/23 20:18	
Bromodichloromethane	ND	U	0.000196	0.00156	mg/kg	1	7/26/23 20:18	
Bromoform	ND	U	0.000274	0.00156	mg/kg	1	7/26/23 20:18	
Bromomethane	ND	U	0.000450	0.00156	mg/kg	1	7/26/23 20:18	
Carbon disulfide	ND	U	0.000224	0.00156	mg/kg	1	7/26/23 20:18	
Carbon Tetrachloride	ND	U	0.000235	0.00156	mg/kg	1	7/26/23 20:18	
Chlorobenzene	ND	U	0.000226	0.00156	mg/kg	1	7/26/23 20:18	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorodibromomethane	ND	U	0.000192	0.00156	mg/kg	1	7/26/23 20:18
Chloroethane	ND	U	0.000266	0.00156	mg/kg	1	7/26/23 20:18
Chloroform	ND	U	0.000262	0.00156	mg/kg	1	7/26/23 20:18
Chloromethane	ND	U	0.000600	0.00156	mg/kg	1	7/26/23 20:18
cis-1,2-Dichloroethene	ND	U	0.0000754	0.00156	mg/kg	1	7/26/23 20:18
cis-1,3-Dichloropropene	ND	U	0.000197	0.00156	mg/kg	1	7/26/23 20:18
Cyclohexane	**0.0400**		**0.000345**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**
Dichlorodifluoromethane	ND	U	0.000526	0.00156	mg/kg	1	7/26/23 20:18
EthylBenzene	ND	U	0.000211	0.00156	mg/kg	1	7/26/23 20:18
Isopropylbenzene	**0.0430**		**0.000245**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**
m+p-Xylenes	ND	U	0.000394	0.00312	mg/kg	1	7/26/23 20:18
Methyl Acetate	ND	U	0.000207	0.00156	mg/kg	1	7/26/23 20:18
Methyl tert-Butyl Ether	ND	U	0.000264	0.00156	mg/kg	1	7/26/23 20:18
Methylcyclohexane	**0.268**		**0.000251**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**
Methylene Chloride	ND	U	0.000469	0.00390	mg/kg	1	7/26/23 20:18
o-Xylene	**0.00375**		**0.000200**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**
Styrene	ND	U	0.000223	0.00156	mg/kg	1	7/26/23 20:18
tert-Butyl alcohol	ND	U	0.00328	0.0156	mg/kg	1	7/26/23 20:18
Tetrachloroethene	ND	U	0.000154	0.00156	mg/kg	1	7/26/23 20:18
Toluene	ND	U	0.000126	0.00156	mg/kg	1	7/26/23 20:18
Total Xylenes	**0.00375**		**0.000200**	**0.00156**	**mg/kg**	**1**	**7/26/23 20:18**
trans-1,2-Dichloroethene	ND	U	0.000211	0.00156	mg/kg	1	7/26/23 20:18
trans-1,3-Dichloropropene	ND	U	0.000298	0.00156	mg/kg	1	7/26/23 20:18
Trichloroethene	ND	U	0.000229	0.00156	mg/kg	1	7/26/23 20:18
Trichlorofluoromethane	ND	U	0.000179	0.00156	mg/kg	1	7/26/23 20:18
Vinyl chloride	ND	U	0.000296	0.00156	mg/kg	1	7/26/23 20:18

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Ethyl-4-methylcyclohexane	0.211	14.37	J	mg/kg	1	7/26/23 20:18
2,3-Dimethyl-3-heptene	0.182	14.27	J	mg/kg	1	7/26/23 20:18
2-Octene, 2,6-dimethyl-	0.204	16.19	J	mg/kg	1	7/26/23 20:18
Cyclohexane, 1,1,3-trimethyl-	0.216	13.06	J	mg/kg	1	7/26/23 20:18
Cyclohexane, 1,2,3-trimethyl-, (1.alpha.	0.483	14.88	J	mg/kg	1	7/26/23 20:18
Cyclohexane, 1,2,4-trimethyl-	0.267	13.46	J	mg/kg	1	7/26/23 20:18
Cyclohexane, 1,2-dimethyl-	0.197	11.93	J	mg/kg	1	7/26/23 20:18
Cyclohexane, 1-ethyl-4-methyl-, cis-	0.187	14.46	J	mg/kg	1	7/26/23 20:18

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-2023 0725** Collected: **7/25/2023 9:03:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, ethyl-	0.156	12.94	J	mg/kg	1	7/26/23 20:18
Cyclohexane, propyl-	0.755	15.43	J	mg/kg	1	7/26/23 20:18
Decane, 4-methyl-	0.160	17.19	J	mg/kg	1	7/26/23 20:18
Heptane, 2,6-dimethyl-	0.180	12.59	J	mg/kg	1	7/26/23 20:18
Nonane, 4-methyl-	0.179	15.04	J	mg/kg	1	7/26/23 20:18
Octane, 3,6-dimethyl-	0.574	15.28	J	mg/kg	1	7/26/23 20:18
Undecane, 5,6-dimethyl-	0.343	15.76	J	mg/kg	1	7/26/23 20:18
TIC Total	**4.30**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 20:36
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 20:36
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 20:36
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 20:36
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/7/23 20:36
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 20:36
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 20:36
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 20:36
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 20:36
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 20:36
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 20:36

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.2**				**%**	**1**	**7/26/23 11:20**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/31/23 12:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Cyanide	**0.35**	H	**0.12**	**0.12**	**mg/kg**	**1**	**8/9/23 14:44**	J, RC:1

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-05 (Soil) Sample Name: **MR-202-8.0-10.0-20230725** Collected: **7/25/2023 9:03:00AM**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.122	0.122	mg/kg	1	7/28/23 18:14

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.60**				**pH Units**	**1**	**7/26/23 18:49**

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00949	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1221	ND	U	0.0187	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1232	ND	U	0.0237	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1242	ND	U	0.0139	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1248	ND	U	0.0145	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1254	ND	U	0.0114	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1260	ND	U	0.00886	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1262	ND	U	0.0190	0.0707	mg/kg	1	8/4/23 17:37
Aroclor-1268	ND	U	0.00856	0.0707	mg/kg	1	8/4/23 17:37
Total PCBs	ND	U	0.00660	0.0707	mg/kg	1	8/4/23 17:37

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0210	0.214	mg/kg	1	8/9/23 11:28
2,4-D	ND	U	0.0356	0.214	mg/kg	1	8/9/23 11:28

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 11:02
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 11:02

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.0107	0.0429	mg/kg	1	7/28/23 17:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1341
Project:	Red Hook-Gowanus	**Date to Lab:**	7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-202 30725** Collected: **7/25/2023 9:40:00AM**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 15:09

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**17300**		**0.309**	**5.20**	**mg/kg**	**1**	**8/8/23 10:11**
Antimony	ND	U	0.283	2.60	mg/kg	1	8/8/23 10:11
Arsenic	**4.73**		**0.186**	**2.60**	**mg/kg**	**1**	**8/8/23 10:11**
Barium	**37.3**		**0.0787**	**1.04**	**mg/kg**	**1**	**8/8/23 10:11**
Beryllium	**1.03**		**0.00602**	**0.0520**	**mg/kg**	**1**	**8/8/23 10:11**
Cadmium	ND	U	0.101	0.520	mg/kg	1	8/8/23 10:11
Calcium	**2370**		**5.85**	**52.0**	**mg/kg**	**1**	**8/8/23 10:11**
Chromium	**28.4**		**0.0587**	**0.520**	**mg/kg**	**1**	**8/8/23 10:11**
Cobalt	**7.59**		**0.0532**	**0.416**	**mg/kg**	**1**	**8/8/23 10:11**
Copper	**15.7**		**0.146**	**0.520**	**mg/kg**	**1**	**8/8/23 10:11**
Iron	**25900**		**1.47**	**10.4**	**mg/kg**	**1**	**8/8/23 10:11**
Lead	**14.9**		**0.217**	**2.60**	**mg/kg**	**1**	**8/8/23 10:11**
Magnesium	**7170**		**18.4**	**104**	**mg/kg**	**1**	**8/8/23 10:11**
Manganese	**271**		**0.0647**	**0.520**	**mg/kg**	**1**	**8/8/23 10:11**
Nickel	**28.3**		**0.0457**	**0.260**	**mg/kg**	**1**	**8/8/23 10:11**
Potassium	**3240**		**61.9**	**208**	**mg/kg**	**1**	**8/8/23 10:11**
Selenium	ND	U	0.499	2.60	mg/kg	1	8/8/23 10:11 UJ, RC:6L
Silver	ND	U	0.0885	0.312	mg/kg	1	8/8/23 10:11
Sodium	**2840**		**9.92**	**104**	**mg/kg**	**1**	**8/8/23 10:11**
Thallium	ND	U	0.175	2.60	mg/kg	1	8/8/23 10:11
Vanadium	**42.8**		**0.120**	**1.04**	**mg/kg**	**1**	**8/8/23 10:11**
Zinc	**65.5**		**0.159**	**1.56**	**mg/kg**	**1**	**8/8/23 10:11**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:26
Barium	**1.15**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:26**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:26
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:26
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:26
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:26
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:26

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.00128	0.00279	mg/kg	1	8/7/23 22:51	
4,4'-DDE	ND	U	0.00152	0.00279	mg/kg	1	8/7/23 22:51	
4,4'-DDT	ND	U	0.00197	0.00279	mg/kg	1	8/7/23 22:51	
Aldrin	ND	U	0.00132	0.00279	mg/kg	1	8/7/23 22:51	
alpha-BHC	ND	U	0.000829	0.00279	mg/kg	1	8/7/23 22:51	
beta-BHC	ND	U	0.00133	0.00279	mg/kg	1	8/7/23 22:51	
Chlordane	ND	U	0.00124	0.00279	mg/kg	1	8/7/23 22:51	
delta-BHC	ND	U	0.00129	0.00279	mg/kg	1	8/7/23 22:51	
Dieldrin	ND	U	0.00146	0.00279	mg/kg	1	8/7/23 22:51	
Endosulfan I	ND	U	0.00132	0.00279	mg/kg	1	8/7/23 22:51	
Endosulfan II	ND	U	0.00127	0.00279	mg/kg	1	8/7/23 22:51	UJ, RC:6L
Endosulfan sulfate	ND	U	0.00105	0.00279	mg/kg	1	8/7/23 22:51	
Endosulfans, Total (alpha and beta)	ND	U	0.00127	0.00279	mg/kg	1	8/7/23 22:51	
Endrin	ND	U	0.000962	0.00279	mg/kg	1	8/7/23 22:51	
Endrin aldehyde	ND	U	0.00111	0.00279	mg/kg	1	8/7/23 22:51	
Endrin ketone	ND	U	0.000982	0.00279	mg/kg	1	8/7/23 22:51	
gamma-BHC (Lindane)	ND	U	0.000883	0.00279	mg/kg	1	8/7/23 22:51	
Heptachlor	ND	U	0.000746	0.00279	mg/kg	1	8/7/23 22:51	
Heptachlor Epoxide	ND	U	0.00141	0.00279	mg/kg	1	8/7/23 22:51	
Methoxychlor	ND	U	0.000817	0.00279	mg/kg	1	8/7/23 22:51	
Toxaphene	ND	U	0.134	0.141	mg/kg	1	8/7/23 22:51	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/5/23 0:07	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/5/23 0:07	
4,4'-DDT [2C]	**0.000110**		**3.19E-7**	**0.0000200**	**mg/L**	**1**	**8/5/23 0:07**	J, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/5/23 0:07	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/5/23 0:07	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/5/23 0:07	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/5/23 0:07	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/5/23 0:07	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/5/23 0:07	
Endosulfan I	**0.000488**		**3.80E-7**	**0.0000200**	**mg/L**	**1**	**8/5/23 0:07**	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/5/23 0:07	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/5/23 0:07	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/5/23 0:07	UJ, RC:6L

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/5/23 0:07 UJ, RC:6L
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/5/23 0:07
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/5/23 0:07
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/5/23 0:07
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/5/23 0:07
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/5/23 0:07
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/5/23 0:07

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0161	0.143	mg/kg	2	8/3/23 15:53
2,3,4,6-Tetrachlorophenol	ND	U	0.0879	0.570	mg/kg	2	8/3/23 15:53
2,4,5-Trichlorophenol	ND	U	0.0776	0.570	mg/kg	2	8/3/23 15:53
2,4,6-Trichlorophenol	ND	U	0.0357	0.570	mg/kg	2	8/3/23 15:53
2,4-Dichlorophenol	ND	U	0.0574	0.570	mg/kg	2	8/3/23 15:53
2,4-Dimethylphenol	ND	U	0.0562	0.570	mg/kg	2	8/3/23 15:53
2,4-Dinitrophenol	ND	U	0.0823	2.86	mg/kg	2	8/3/23 15:53
2,4-Dinitrotoluene	ND	U	0.0609	0.570	mg/kg	2	8/3/23 15:53
2,6-Dinitrotoluene	ND	U	0.136	0.570	mg/kg	2	8/3/23 15:53
2-Chloronaphthalene	ND	U	0.0656	0.570	mg/kg	2	8/3/23 15:53
2-Chlorophenol	ND	U	0.0754	0.570	mg/kg	2	8/3/23 15:53
2-Methylnaphthalene	ND	U	0.137	0.857	mg/kg	2	8/3/23 15:53
2-Methylphenol	ND	U	0.113	0.570	mg/kg	2	8/3/23 15:53
2-Nitroaniline	ND	U	0.0459	0.570	mg/kg	2	8/3/23 15:53
2-Nitrophenol	ND	U	0.0634	0.570	mg/kg	2	8/3/23 15:53
3,3'-Dichlorobenzidine	ND	U	0.0600	0.570	mg/kg	2	8/3/23 15:53
3+4-Methylphenol	ND	U	0.105	0.570	mg/kg	2	8/3/23 15:53
3-Nitroaniline	ND	U	0.106	0.570	mg/kg	2	8/3/23 15:53
4,6-Dinitro-2-methylphenol	ND	U	0.108	1.43	mg/kg	2	8/3/23 15:53
4-Bromophenyl-phenyl ether	ND	U	0.0814	0.570	mg/kg	2	8/3/23 15:53
4-Chloro-3-methylphenol	ND	U	0.0900	0.570	mg/kg	2	8/3/23 15:53
4-Chloroaniline	ND	U	0.0200	0.570	mg/kg	2	8/3/23 15:53
4-Chlorophenyl phenyl ether	ND	U	0.0308	0.570	mg/kg	2	8/3/23 15:53
4-Nitroaniline	ND	U	0.285	0.570	mg/kg	2	8/3/23 15:53
4-Nitrophenol	ND	U	0.0365	0.570	mg/kg	2	8/3/23 15:53
Acenaphthene	ND	U	0.0325	0.570	mg/kg	2	8/3/23 15:53
Acenaphthylene	ND	U	0.0198	0.570	mg/kg	2	8/3/23 15:53
Acetophenone	ND	U	0.0566	0.570	mg/kg	2	8/3/23 15:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	ND	U	0.0827	0.570	mg/kg	2	8/3/23 15:53
Atrazine	ND	U	0.0536	0.570	mg/kg	2	8/3/23 15:53
Benzaldehyde	ND	U	0.175	0.570	mg/kg	2	8/3/23 15:53
Benzo(a)anthracene	ND	U	0.0574	0.570	mg/kg	2	8/3/23 15:53
Benzo(a)pyrene	ND	U	0.0994	0.570	mg/kg	2	8/3/23 15:53
Benzo(b)fluoranthene	ND	U	0.0802	0.570	mg/kg	2	8/3/23 15:53
Benzo(g,h,i)perylene	ND	U	0.0463	0.570	mg/kg	2	8/3/23 15:53
Benzo(k)fluoranthene	ND	U	0.0656	0.570	mg/kg	2	8/3/23 15:53
Biphenyl	ND	U	0.0502	0.570	mg/kg	2	8/3/23 15:53
bis(2-chloroethoxy)methane	ND	U	0.0789	0.570	mg/kg	2	8/3/23 15:53
bis(2-chloroethyl)ether	ND	U	0.0626	0.570	mg/kg	2	8/3/23 15:53
bis(2-chloroisopropyl)ether	ND	U	0.205	0.570	mg/kg	2	8/3/23 15:53
bis(2-ethylhexyl)phthalate	ND	U	0.114	0.570	mg/kg	2	8/3/23 15:53
Butylbenzylphthalate	ND	U	0.0519	0.570	mg/kg	2	8/3/23 15:53
Caprolactam	ND	U	0.0737	0.570	mg/kg	2	8/3/23 15:53
Carbazole	ND	U	0.110	1.43	mg/kg	2	8/3/23 15:53
Chrysene	ND	U	0.0391	0.570	mg/kg	2	8/3/23 15:53
Dibenzo(a,h)anthracene	ND	U	0.0566	0.570	mg/kg	2	8/3/23 15:53
Dibenzofuran	ND	U	0.0340	0.570	mg/kg	2	8/3/23 15:53
Diethylphthalate	ND	U	0.111	0.570	mg/kg	2	8/3/23 15:53
Dimethylphthalate	ND	U	0.0354	0.570	mg/kg	2	8/3/23 15:53
Di-n-butylphthalate	ND	U	0.233	0.570	mg/kg	2	8/3/23 15:53
Di-n-octylphthalate	ND	U	0.117	0.570	mg/kg	2	8/3/23 15:53
Fluoranthene	ND	U	0.0536	0.570	mg/kg	2	8/3/23 15:53
Fluorene	ND	U	0.0476	0.570	mg/kg	2	8/3/23 15:53
Hexachlorobenzene	ND	U	0.0746	0.570	mg/kg	2	8/3/23 15:53
Hexachlorobutadiene	ND	U	0.274	0.570	mg/kg	2	8/3/23 15:53
Hexachlorocyclopentadiene	ND	U	0.238	1.43	mg/kg	2	8/3/23 15:53
Hexachloroethane	ND	U	0.0626	0.570	mg/kg	2	8/3/23 15:53
Indeno(1,2,3-cd)pyrene	ND	U	0.0613	0.570	mg/kg	2	8/3/23 15:53
Isophorone	ND	U	0.0374	0.570	mg/kg	2	8/3/23 15:53
Naphthalene	ND	U	0.0423	0.570	mg/kg	2	8/3/23 15:53
Nitrobenzene	ND	U	0.0969	0.570	mg/kg	2	8/3/23 15:53
n-Nitroso-di-n-propylamine	ND	U	0.0306	0.570	mg/kg	2	8/3/23 15:53
n-Nitrosodiphenylamine	ND	U	0.122	0.570	mg/kg	2	8/3/23 15:53
Pentachlorophenol	ND	U	0.0784	1.43	mg/kg	2	8/3/23 15:53
Phenanthrene	ND	U	0.0750	0.570	mg/kg	2	8/3/23 15:53
Phenol	ND	U	0.0463	0.570	mg/kg	2	8/3/23 15:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Pyrene	ND	U	0.0420	0.570	mg/kg	2	8/3/23 15:53	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Octadecene	5.64	13.57	J, D	mg/kg	2	8/3/23 15:53	
Ethanone, 1-(3-methoxyphenyl)-	2.60	8.36	J, D	mg/kg	2	8/3/23 15:53	
Heneicosane	1.45	14.45	J, D	mg/kg	2	8/3/23 15:53	
Hexadecanoic acid, butyl ester	~~27.3~~	12.29	J, D, B	mg/kg	2	8/3/23 15:53	R, RC:2
Octadecanoic acid, butyl ester	~~15.7~~	13.10	J, D, B	mg/kg	2	8/3/23 15:53	R, RC:2
Tetradecanal	2.81	15.25	J, D	mg/kg	2	8/3/23 15:53	
unknown (01)	1.31	12.75	J, D	mg/kg	2	8/3/23 15:53	
unknown (02)	2.45	13.31	J, D	mg/kg	2	8/3/23 15:53	
unknown (03)	2.86	13.61	J, D	mg/kg	2	8/3/23 15:53	
unknown (04)	1.58	13.89	J, D	mg/kg	2	8/3/23 15:53	
unknown (05)	2.01	14.19	J, D	mg/kg	2	8/3/23 15:53	
unknown (06)	2.80	14.50	J, D	mg/kg	2	8/3/23 15:53	
unknown (07)	1.22	17.08	J, D	mg/kg	2	8/3/23 15:53	
unknown (08)	2.65	20.39	J, D	mg/kg	2	8/3/23 15:53	
unknown (09)	29.6	20.57	J, D	mg/kg	2	8/3/23 15:53	
TIC Total	~~102~~ 59						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 16:50
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 16:50
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 16:50
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 16:50
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 16:50
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 16:50
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 16:50
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 16:50
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 16:50
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 16:50
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 16:50

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000626	0.00429	mg/kg	1	7/27/23 14:21
1,1,2,2-Tetrachloroethane	ND	U	0.000592	0.00429	mg/kg	1	7/27/23 14:21
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00183	0.00429	mg/kg	1	7/27/23 14:21
1,1,2-Trichloroethane	ND	U	0.000722	0.00429	mg/kg	1	7/27/23 14:21
1,1-Dichloroethane	ND	U	0.000626	0.00429	mg/kg	1	7/27/23 14:21
1,1-Dichloroethene	ND	U	0.000793	0.00429	mg/kg	1	7/27/23 14:21
1,2,3-Trichlorobenzene	ND	U	0.000926	0.00429	mg/kg	1	7/27/23 14:21
1,2,4-Trichlorobenzene	ND	U	0.00114	0.00429	mg/kg	1	7/27/23 14:21
1,2,4-Trimethylbenzene	ND	U	0.000592	0.00429	mg/kg	1	7/27/23 14:21
1,2-Dibromo-3-chloropropane	ND	U	0.00105	0.0107	mg/kg	1	7/27/23 14:21
1,2-Dibromoethane	ND	U	0.000540	0.00429	mg/kg	1	7/27/23 14:21
1,2-Dichlorobenzene	ND	U	0.000757	0.00429	mg/kg	1	7/27/23 14:21
1,2-Dichloroethane	ND	U	0.000604	0.00429	mg/kg	1	7/27/23 14:21
1,2-Dichloropropane	ND	U	0.000703	0.00429	mg/kg	1	7/27/23 14:21
1,3-Dichlorobenzene	ND	U	0.000315	0.00429	mg/kg	1	7/27/23 14:21
1,4-Dichlorobenzene	ND	U	0.000617	0.00429	mg/kg	1	7/27/23 14:21
2-Butanone	ND	U	0.000699	0.0214	mg/kg	1	7/27/23 14:21
2-Hexanone	ND	U	0.000401	0.00429	mg/kg	1	7/27/23 14:21
4-Methyl-2-pentanone	ND	U	0.000536	0.00429	mg/kg	1	7/27/23 14:21
Acetone	ND	U	0.00130	0.107	mg/kg	1	7/27/23 14:21
Benzene	ND	U	0.000390	0.00429	mg/kg	1	7/27/23 14:21
Bromochloromethane	ND	U	0.000791	0.00429	mg/kg	1	7/27/23 14:21
Bromodichloromethane	ND	U	0.000538	0.00429	mg/kg	1	7/27/23 14:21
Bromoform	ND	U	0.000752	0.00429	mg/kg	1	7/27/23 14:21
Bromomethane	ND	U	0.00124	0.00429	mg/kg	1	7/27/23 14:21
Carbon disulfide	**0.0222**		**0.000615**	**0.00429**	**mg/kg**	**1**	**7/27/23 14:21**
Carbon Tetrachloride	ND	U	0.000645	0.00429	mg/kg	1	7/27/23 14:21
Chlorobenzene	ND	U	0.000622	0.00429	mg/kg	1	7/27/23 14:21
Chlorodibromomethane	ND	U	0.000527	0.00429	mg/kg	1	7/27/23 14:21
Chloroethane	ND	U	0.000731	0.00429	mg/kg	1	7/27/23 14:21
Chloroform	ND	U	0.000720	0.00429	mg/kg	1	7/27/23 14:21
Chloromethane	ND	U	0.00165	0.00429	mg/kg	1	7/27/23 14:21
cis-1,2-Dichloroethene	ND	U	0.000207	0.00429	mg/kg	1	7/27/23 14:21
cis-1,3-Dichloropropene	ND	U	0.000542	0.00429	mg/kg	1	7/27/23 14:21
Cyclohexane	ND	U	0.000949	0.00429	mg/kg	1	7/27/23 14:21
Dichlorodifluoromethane	ND	U	0.00145	0.00429	mg/kg	1	7/27/23 14:21
EthylBenzene	ND	U	0.000581	0.00429	mg/kg	1	7/27/23 14:21

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000673	0.00429	mg/kg	1	7/27/23 14:21
m+p-Xylenes	ND	U	0.00108	0.00857	mg/kg	1	7/27/23 14:21
Methyl Acetate	ND	U	0.000568	0.00429	mg/kg	1	7/27/23 14:21
Methyl tert-Butyl Ether	ND	U	0.000724	0.00429	mg/kg	1	7/27/23 14:21
Methylcyclohexane	ND	U	0.000690	0.00429	mg/kg	1	7/27/23 14:21
Methylene Chloride	ND	U	0.00129	0.0107	mg/kg	1	7/27/23 14:21
o-Xylene	ND	U	0.000551	0.00429	mg/kg	1	7/27/23 14:21
Styrene	ND	U	0.000613	0.00429	mg/kg	1	7/27/23 14:21
tert-Butyl alcohol	ND	U	0.00900	0.0429	mg/kg	1	7/27/23 14:21
Tetrachloroethene	ND	U	0.000424	0.00429	mg/kg	1	7/27/23 14:21
Toluene	ND	U	0.000345	0.00429	mg/kg	1	7/27/23 14:21
Total Xylenes	ND	U	0.000551	0.00429	mg/kg	1	7/27/23 14:21
trans-1,2-Dichloroethene	ND	U	0.000581	0.00429	mg/kg	1	7/27/23 14:21
trans-1,3-Dichloropropene	ND	U	0.000819	0.00429	mg/kg	1	7/27/23 14:21
Trichloroethene	ND	U	0.000630	0.00429	mg/kg	1	7/27/23 14:21
Trichlorofluoromethane	ND	U	0.000493	0.00429	mg/kg	1	7/27/23 14:21
Vinyl chloride	ND	U	0.000814	0.00429	mg/kg	1	7/27/23 14:21

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, propyl-	0.0110	15.41	J	mg/kg	1	7/27/23 14:21
Nonane, 3-methyl-	0.0128	21.73	J	mg/kg	1	7/27/23 14:21
TIC Total	**0.024**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 21:02	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 21:02	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 21:02	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 21:02	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/7/23 21:02	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 21:02	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 21:02	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 21:02	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 21:02	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 21:02	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 21:02	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-06 (Soil) Sample Name: **MR-202-15.0-17.0-20230725** Collected: **7/25/2023 9:40:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Percent Solids	**46.7**				**%**	**1**	**7/26/23 11:20**	

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Ignitability	> 60			20.0	°C	1	7/31/23 12:41	

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Cyanide	**0.28**	H	**0.21**	**0.21**	**mg/kg**	**1**	**8/9/23 14:44**	J, RC:1

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.214	0.214	mg/kg	1	7/28/23 18:14

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.57**				**pH Units**	**1**	**7/26/23 18:49**

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00547	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1221	ND	U	0.0108	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1232	ND	U	0.0137	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1242	ND	U	0.00801	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1248	ND	U	0.00838	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1254	ND	U	0.00658	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1260	ND	U	0.00510	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1262	ND	U	0.0110	0.0408	mg/kg	1	8/4/23 17:59
Aroclor-1268	ND	U	0.00493	0.0408	mg/kg	1	8/4/23 17:59
Total PCBs	ND	U	0.00381	0.0408	mg/kg	1	8/4/23 17:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0121	0.124	mg/kg	1	8/9/23 11:37	UJ, RC:3L
2,4-D	ND	U	0.0205	0.124	mg/kg	1	8/9/23 11:37	UJ, RC:3L

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/5/23 11:12
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/5/23 11:12

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00618	0.0247	mg/kg	1	7/28/23 17:17

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/3/23 15:11

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5220**		**0.180**	**3.03**	**mg/kg**	**1**	**8/8/23 10:35**	
Antimony	ND	U	0.165	1.51	mg/kg	1	8/8/23 10:35	
Arsenic	**6.02**		**0.108**	**1.51**	**mg/kg**	**1**	**8/8/23 10:35**	
Barium	**34.0**		**0.0458**	**0.605**	**mg/kg**	**1**	**8/8/23 10:35**	
Beryllium	**0.453**		**0.00351**	**0.0303**	**mg/kg**	**1**	**8/8/23 10:35**	
Cadmium	ND	U	0.0590	0.303	mg/kg	1	8/8/23 10:35	
Calcium	**1460**		**3.41**	**30.3**	**mg/kg**	**1**	**8/8/23 10:35**	
Chromium	**10.5**		**0.0342**	**0.303**	**mg/kg**	**1**	**8/8/23 10:35**	
Cobalt	**4.03**		**0.0309**	**0.242**	**mg/kg**	**1**	**8/8/23 10:35**	
Copper	**8.26**		**0.0847**	**0.303**	**mg/kg**	**1**	**8/8/23 10:35**	
Iron	**11900**		**0.858**	**6.05**	**mg/kg**	**1**	**8/8/23 10:35**	
Lead	**5.03**		**0.126**	**1.51**	**mg/kg**	**1**	**8/8/23 10:35**	
Magnesium	**2780**		**10.7**	**60.5**	**mg/kg**	**1**	**8/8/23 10:35**	
Manganese	**162**		**0.0377**	**0.303**	**mg/kg**	**1**	**8/8/23 10:35**	
Nickel	**11.4**		**0.0266**	**0.151**	**mg/kg**	**1**	**8/8/23 10:35**	
Potassium	**1070**		**36.0**	**121**	**mg/kg**	**1**	**8/8/23 10:35**	
Selenium	ND	U	0.291	1.51	mg/kg	1	8/8/23 10:35	UJ, RC:6L
Silver	ND	U	0.0515	0.182	mg/kg	1	8/8/23 10:35	
Sodium	**688**		**5.77**	**60.5**	**mg/kg**	**1**	**8/8/23 10:35**	
Thallium	ND	U	0.102	1.51	mg/kg	1	8/8/23 10:35	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	**17.3**		**0.0696**	**0.605**	**mg/kg**	**1**	**8/8/23 10:35**
Zinc	**30.9**		**0.0925**	**0.908**	**mg/kg**	**1**	**8/8/23 10:35**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/8/23 14:28
Barium	**1.62**		**0.00279**	**0.100**	**mg/L**	**1**	**8/8/23 14:28**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/8/23 14:28
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/8/23 14:28
Lead	ND	U	0.0255	0.250	mg/L	1	8/8/23 14:28
Selenium	ND	U	0.0760	0.250	mg/L	1	8/8/23 14:28
Silver	ND	U	0.0232	0.100	mg/L	1	8/8/23 14:28

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000735	0.00161	mg/kg	1	8/7/23 23:13
4,4'-DDE	ND	U	0.000878	0.00161	mg/kg	1	8/7/23 23:13
4,4'-DDT	ND	U	0.00113	0.00161	mg/kg	1	8/7/23 23:13
Aldrin	ND	U	0.000761	0.00161	mg/kg	1	8/7/23 23:13
alpha-BHC	ND	U	0.000478	0.00161	mg/kg	1	8/7/23 23:13
beta-BHC	ND	U	0.000767	0.00161	mg/kg	1	8/7/23 23:13
Chlordane	ND	U	0.000714	0.00161	mg/kg	1	8/7/23 23:13
delta-BHC	ND	U	0.000746	0.00161	mg/kg	1	8/7/23 23:13
Dieldrin	ND	U	0.000840	0.00161	mg/kg	1	8/7/23 23:13
Endosulfan I	ND	U	0.000758	0.00161	mg/kg	1	8/7/23 23:13
Endosulfan II	ND	U	0.000730	0.00161	mg/kg	1	8/7/23 23:13
Endosulfan sulfate	ND	U	0.000604	0.00161	mg/kg	1	8/7/23 23:13
Endosulfans, Total (alpha and beta)	ND	U	0.000730	0.00161	mg/kg	1	8/7/23 23:13
Endrin	ND	U	0.000555	0.00161	mg/kg	1	8/7/23 23:13
Endrin aldehyde	ND	U	0.000640	0.00161	mg/kg	1	8/7/23 23:13
Endrin ketone	ND	U	0.000566	0.00161	mg/kg	1	8/7/23 23:13
gamma-BHC (Lindane)	ND	U	0.000509	0.00161	mg/kg	1	8/7/23 23:13
Heptachlor	ND	U	0.000430	0.00161	mg/kg	1	8/7/23 23:13
Heptachlor Epoxide	ND	U	0.000810	0.00161	mg/kg	1	8/7/23 23:13
Methoxychlor	ND	U	0.000471	0.00161	mg/kg	1	8/7/23 23:13
Toxaphene	ND	U	0.0774	0.0815	mg/kg	1	8/7/23 23:13

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H - Indicates a Hold Time violation
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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/7/23 23:35
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/7/23 23:35
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/7/23 23:35
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/7/23 23:35
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/7/23 23:35
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/7/23 23:35
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/7/23 23:35
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/7/23 23:35
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/7/23 23:35
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/7/23 23:35
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/7/23 23:35
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/7/23 23:35
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/7/23 23:35
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/7/23 23:35
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/7/23 23:35
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/7/23 23:35
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/7/23 23:35
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/7/23 23:35
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/7/23 23:35
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/7/23 23:35

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00464	0.0411	mg/kg	1	8/3/23 16:25
2,3,4,6-Tetrachlorophenol	ND	U	0.0253	0.164	mg/kg	1	8/3/23 16:25
2,4,5-Trichlorophenol	ND	U	0.0224	0.164	mg/kg	1	8/3/23 16:25
2,4,6-Trichlorophenol	ND	U	0.0103	0.164	mg/kg	1	8/3/23 16:25
2,4-Dichlorophenol	ND	U	0.0166	0.164	mg/kg	1	8/3/23 16:25
2,4-Dimethylphenol	ND	U	0.0162	0.164	mg/kg	1	8/3/23 16:25
2,4-Dinitrophenol	ND	U	0.0237	0.824	mg/kg	1	8/3/23 16:25
2,4-Dinitrotoluene	ND	U	0.0175	0.164	mg/kg	1	8/3/23 16:25
2,6-Dinitrotoluene	ND	U	0.0393	0.164	mg/kg	1	8/3/23 16:25
2-Chloronaphthalene	ND	U	0.0189	0.164	mg/kg	1	8/3/23 16:25
2-Chlorophenol	ND	U	0.0217	0.164	mg/kg	1	8/3/23 16:25
2-Methylnaphthalene	ND	U	0.0394	0.247	mg/kg	1	8/3/23 16:25
2-Methylphenol	ND	U	0.0325	0.164	mg/kg	1	8/3/23 16:25
2-Nitroaniline	ND	U	0.0132	0.164	mg/kg	1	8/3/23 16:25
2-Nitrophenol	ND	U	0.0183	0.164	mg/kg	1	8/3/23 16:25

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3,3'-Dichlorobenzidine	ND	U	0.0173	0.164	mg/kg	1	8/3/23 16:25
3+4-Methylphenol	ND	U	0.0301	0.164	mg/kg	1	8/3/23 16:25
3-Nitroaniline	ND	U	0.0305	0.164	mg/kg	1	8/3/23 16:25
4,6-Dinitro-2-methylphenol	ND	U	0.0310	0.411	mg/kg	1	8/3/23 16:25
4-Bromophenyl-phenyl ether	ND	U	0.0235	0.164	mg/kg	1	8/3/23 16:25
4-Chloro-3-methylphenol	ND	U	0.0259	0.164	mg/kg	1	8/3/23 16:25
4-Chloroaniline	ND	U	0.00576	0.164	mg/kg	1	8/3/23 16:25
4-Chlorophenyl phenyl ether	ND	U	0.00888	0.164	mg/kg	1	8/3/23 16:25
4-Nitroaniline	ND	U	0.0823	0.164	mg/kg	1	8/3/23 16:25
4-Nitrophenol	ND	U	0.0105	0.164	mg/kg	1	8/3/23 16:25
Acenaphthene	ND	U	0.00938	0.164	mg/kg	1	8/3/23 16:25
Acenaphthylene	ND	U	0.00572	0.164	mg/kg	1	8/3/23 16:25
Acetophenone	ND	U	0.0163	0.164	mg/kg	1	8/3/23 16:25
Anthracene	ND	U	0.0238	0.164	mg/kg	1	8/3/23 16:25
Atrazine	ND	U	0.0154	0.164	mg/kg	1	8/3/23 16:25
Benzaldehyde	ND	U	0.0505	0.164	mg/kg	1	8/3/23 16:25
Benzo(a)anthracene	ND	U	0.0166	0.164	mg/kg	1	8/3/23 16:25
Benzo(a)pyrene	ND	U	0.0287	0.164	mg/kg	1	8/3/23 16:25
Benzo(b)fluoranthene	ND	U	0.0231	0.164	mg/kg	1	8/3/23 16:25
Benzo(g,h,i)perylene	ND	U	0.0133	0.164	mg/kg	1	8/3/23 16:25
Benzo(k)fluoranthene	ND	U	0.0189	0.164	mg/kg	1	8/3/23 16:25
Biphenyl	ND	U	0.0145	0.164	mg/kg	1	8/3/23 16:25
bis(2-chloroethoxy)methane	ND	U	0.0227	0.164	mg/kg	1	8/3/23 16:25
bis(2-chloroethyl)ether	ND	U	0.0180	0.164	mg/kg	1	8/3/23 16:25
bis(2-chloroisopropyl)ether	ND	U	0.0592	0.164	mg/kg	1	8/3/23 16:25 UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0329	0.164	mg/kg	1	8/3/23 16:25
Butylbenzylphthalate	ND	U	0.0149	0.164	mg/kg	1	8/3/23 16:25
Caprolactam	ND	U	0.0212	0.164	mg/kg	1	8/3/23 16:25
Carbazole	ND	U	0.0316	0.411	mg/kg	1	8/3/23 16:25
Chrysene	ND	U	0.0113	0.164	mg/kg	1	8/3/23 16:25
Dibenzo(a,h)anthracene	ND	U	0.0163	0.164	mg/kg	1	8/3/23 16:25
Dibenzofuran	ND	U	0.00980	0.164	mg/kg	1	8/3/23 16:25
Diethylphthalate	ND	U	0.0319	0.164	mg/kg	1	8/3/23 16:25
Dimethylphthalate	ND	U	0.0102	0.164	mg/kg	1	8/3/23 16:25
Di-n-butylphthalate	ND	U	0.0672	0.164	mg/kg	1	8/3/23 16:25
Di-n-octylphthalate	ND	U	0.0337	0.164	mg/kg	1	8/3/23 16:25
Fluoranthene	ND	U	0.0154	0.164	mg/kg	1	8/3/23 16:25
Fluorene	ND	U	0.0137	0.164	mg/kg	1	8/3/23 16:25

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorobenzene	ND	U	0.0215	0.164	mg/kg	1	8/3/23 16:25	
Hexachlorobutadiene	ND	U	0.0789	0.164	mg/kg	1	8/3/23 16:25	
Hexachlorocyclopentadiene	ND	U	0.0686	0.411	mg/kg	1	8/3/23 16:25	UJ, RC:SL
Hexachloroethane	ND	U	0.0180	0.164	mg/kg	1	8/3/23 16:25	
Indeno(1,2,3-cd)pyrene	ND	U	0.0177	0.164	mg/kg	1	8/3/23 16:25	
Isophorone	ND	U	0.0108	0.164	mg/kg	1	8/3/23 16:25	
Naphthalene	ND	U	0.0122	0.164	mg/kg	1	8/3/23 16:25	
Nitrobenzene	ND	U	0.0279	0.164	mg/kg	1	8/3/23 16:25	
n-Nitroso-di-n-propylamine	ND	U	0.00881	0.164	mg/kg	1	8/3/23 16:25	
n-Nitrosodiphenylamine	ND	U	0.0351	0.164	mg/kg	1	8/3/23 16:25	
Pentachlorophenol	ND	U	0.0226	0.411	mg/kg	1	8/3/23 16:25	UJ, RC:SL
Phenanthrene	ND	U	0.0216	0.164	mg/kg	1	8/3/23 16:25	
Phenol	ND	U	0.0133	0.164	mg/kg	1	8/3/23 16:25	
Pyrene	ND	U	0.0121	0.164	mg/kg	1	8/3/23 16:25	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Nonadecene	1.69	15.65	J	mg/kg	1	8/3/23 16:25	
Cyclohexane, 1,2-dimethyl-3-pentyl-4-pro	3.43	17.22	J	mg/kg	1	8/3/23 16:25	
Heneicosane	1.19	13.57	J	mg/kg	1	8/3/23 16:25	
Heptacosane	0.824	14.46	J	mg/kg	1	8/3/23 16:25	
Hexadecanoic acid, butyl ester	~~13.2~~	12.29	J, B	mg/kg	1	8/3/23 16:25	R, RC:2
Octadecanoic acid, 2-methylpropyl ester	6.98	13.11	J	mg/kg	1	8/3/23 16:25	
unknown (01)	0.653	11.75	J	mg/kg	1	8/3/23 16:25	
unknown (02)	0.382	12.75	J	mg/kg	1	8/3/23 16:25	
unknown (03)	0.563	15.25	J	mg/kg	1	8/3/23 16:25	
unknown (04)	0.776	15.58	J	mg/kg	1	8/3/23 16:25	
unknown (05)	1.57	16.66	J	mg/kg	1	8/3/23 16:25	
TIC Total	~~31.2~~ 18						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 17:23
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 17:23
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 17:23
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 17:23

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 17:23
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 17:23
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 17:23
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 17:23
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 17:23
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 17:23
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 17:23

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000258	0.00176	mg/kg	1	7/27/23 14:51	
1,1,2,2-Tetrachloroethane	ND	U	0.000244	0.00176	mg/kg	1	7/27/23 14:51	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000755	0.00176	mg/kg	1	7/27/23 14:51	
1,1,2-Trichloroethane	ND	U	0.000297	0.00176	mg/kg	1	7/27/23 14:51	
1,1-Dichloroethane	ND	U	0.000258	0.00176	mg/kg	1	7/27/23 14:51	
1,1-Dichloroethene	ND	U	0.000326	0.00176	mg/kg	1	7/27/23 14:51	
1,2,3-Trichlorobenzene	ND	U	0.000381	0.00176	mg/kg	1	7/27/23 14:51	
1,2,4-Trichlorobenzene	ND	U	0.000470	0.00176	mg/kg	1	7/27/23 14:51	
1,2,4-Trimethylbenzene	ND	U	0.000244	0.00176	mg/kg	1	7/27/23 14:51	
1,2-Dibromo-3-chloropropane	ND	U	0.000431	0.00441	mg/kg	1	7/27/23 14:51	
1,2-Dibromoethane	ND	U	0.000222	0.00176	mg/kg	1	7/27/23 14:51	
1,2-Dichlorobenzene	ND	U	0.000311	0.00176	mg/kg	1	7/27/23 14:51	
1,2-Dichloroethane	ND	U	0.000249	0.00176	mg/kg	1	7/27/23 14:51	
1,2-Dichloropropane	ND	U	0.000289	0.00176	mg/kg	1	7/27/23 14:51	
1,3-Dichlorobenzene	ND	U	0.000130	0.00176	mg/kg	1	7/27/23 14:51	
1,4-Dichlorobenzene	ND	U	0.000254	0.00176	mg/kg	1	7/27/23 14:51	
2-Butanone	**0.0282**		**0.000288**	**0.00882**	**mg/kg**	**1**	**7/27/23 14:51**	J, RC:SH
2-Hexanone	ND	U	0.000165	0.00176	mg/kg	1	7/27/23 14:51	
4-Methyl-2-pentanone	ND	U	0.000221	0.00176	mg/kg	1	7/27/23 14:51	
Acetone	**0.109**		**0.000535**	**0.0441**	**mg/kg**	**1**	**7/27/23 14:51**	J, RC:SH
Benzene	ND	U	0.000161	0.00176	mg/kg	1	7/27/23 14:51	
Bromochloromethane	ND	U	0.000326	0.00176	mg/kg	1	7/27/23 14:51	
Bromodichloromethane	ND	U	0.000221	0.00176	mg/kg	1	7/27/23 14:51	
Bromoform	ND	U	0.000310	0.00176	mg/kg	1	7/27/23 14:51	
Bromomethane	ND	U	0.000509	0.00176	mg/kg	1	7/27/23 14:51	
Carbon disulfide	**0.00423**		**0.000253**	**0.00176**	**mg/kg**	**1**	**7/27/23 14:51**	
Carbon Tetrachloride	ND	U	0.000266	0.00176	mg/kg	1	7/27/23 14:51	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1341
Date to Lab: 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-20230725** Collected: **7/25/2023 10:38:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.000256	0.00176	mg/kg	1	7/27/23 14:51
Chlorodibromomethane	ND	U	0.000217	0.00176	mg/kg	1	7/27/23 14:51
Chloroethane	ND	U	0.000301	0.00176	mg/kg	1	7/27/23 14:51
Chloroform	ND	U	0.000296	0.00176	mg/kg	1	7/27/23 14:51
Chloromethane	ND	U	0.000679	0.00176	mg/kg	1	7/27/23 14:51
cis-1,2-Dichloroethene	ND	U	0.0000853	0.00176	mg/kg	1	7/27/23 14:51
cis-1,3-Dichloropropene	ND	U	0.000223	0.00176	mg/kg	1	7/27/23 14:51
Cyclohexane	ND	U	0.000391	0.00176	mg/kg	1	7/27/23 14:51
Dichlorodifluoromethane	ND	U	0.000596	0.00176	mg/kg	1	7/27/23 14:51
EthylBenzene	ND	U	0.000239	0.00176	mg/kg	1	7/27/23 14:51
Isopropylbenzene	ND	U	0.000277	0.00176	mg/kg	1	7/27/23 14:51
m+p-Xylenes	ND	U	0.000446	0.00353	mg/kg	1	7/27/23 14:51
Methyl Acetate	ND	U	0.000234	0.00176	mg/kg	1	7/27/23 14:51
Methyl tert-Butyl Ether	ND	U	0.000298	0.00176	mg/kg	1	7/27/23 14:51
Methylcyclohexane	ND	U	0.000284	0.00176	mg/kg	1	7/27/23 14:51
Methylene Chloride	ND	U	0.000530	0.00441	mg/kg	1	7/27/23 14:51
o-Xylene	ND	U	0.000227	0.00176	mg/kg	1	7/27/23 14:51
Styrene	ND	U	0.000252	0.00176	mg/kg	1	7/27/23 14:51
tert-Butyl alcohol	ND	U	0.00371	0.0176	mg/kg	1	7/27/23 14:51
Tetrachloroethene	ND	U	0.000175	0.00176	mg/kg	1	7/27/23 14:51
Toluene	ND	U	0.000142	0.00176	mg/kg	1	7/27/23 14:51
Total Xylenes	ND	U	0.000227	0.00176	mg/kg	1	7/27/23 14:51
trans-1,2-Dichloroethene	ND	U	0.000239	0.00176	mg/kg	1	7/27/23 14:51
trans-1,3-Dichloropropene	ND	U	0.000337	0.00176	mg/kg	1	7/27/23 14:51
Trichloroethene	ND	U	0.000259	0.00176	mg/kg	1	7/27/23 14:51
Trichlorofluoromethane	ND	U	0.000203	0.00176	mg/kg	1	7/27/23 14:51
Vinyl chloride	ND	U	0.000335	0.00176	mg/kg	1	7/27/23 14:51

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 21:28	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 21:28	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 21:28	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 21:28	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1341

Project: Red Hook-Gowanus **Date to Lab:** 7/25/2023 3:08:00PM

23G1341-07 (Soil) Sample Name: **MR-202-30.0-32.0-202 30725** Collected: **7/25/2023 10:38:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/7/23 21:28	UJ, RC:3L
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 21:28	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 21:28	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 21:28	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 21:28	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 21:28	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 21:28	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.0**				**%**	**1**	**7/26/23 11:20**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	7/31/23 12:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Cyanide	ND	U, H	0.12	0.12	mg/kg	1	8/9/23 14:44	UJ, RC:1

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.124	0.124	mg/kg	1	7/28/23 18:14

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.27**				**pH Units**	**1**	**7/26/23 18:49**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23G1483
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 30, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-105-6.0-8.0-20230726	23G1483-01	7/26/2023	Soil
MR-105-20.0-22.0-20230726	23G1483-02	7/26/2023	Soil
MR-105-35.0-37.0-20230726	23G1483-03	7/26/2023	Soil
MR-105-50.0-52.0-20230726	23G1483-04	7/26/2023	Soil
MR-105-65.0-67.0-20230726	23G1483-05	7/26/2023	Soil
MR-201-4.0-6.0-20230726	23G1483-06	7/26/2023	Soil
MR-201-12.0-14.0-20230726	23G1483-07	7/26/2023	Soil
MR-201-17.0-19.0-20230726	23G1483-08	7/26/2023	Soil
MR-201-30.0-32.0-20230726	23G1483-09	7/26/2023	Soil
MR-303-4.0-6.0-20230727	23G1483-10	7/27/2023	Soil
MR-303-15.0-17.0-20230727	23G1483-11	7/27/2023	Soil
MR-303-20.0-22.0-20230727	23G1483-12	7/27/2023	Soil
MR-303-35.0-37.0-20230727	23G1483-13	7/27/2023	Soil

Data validation was performed on the analytical data for thirteen (13) samples collected July 26 and 27, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP)

methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOC 2,4-Dinitrophenol results were qualified as rejected due to major deviations associated with laboratory control samples. SVOC bis(2-Chloroisopropyl)ether was qualified as rejected due to major deviations associated with matrix spike samples. Multiple VOCs associated with sample MR-303-20.0-22.0-20230727 were qualified as rejected due to major deviations associated with internal standards. Additionally, Dichlorodifluoromethane associated with sample MR-303-15.0-17.0-20230727 was qualified as rejected due to major deviations associated with matrix spike samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibrations, internal standards, surrogates, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726	4-Bromofluorobenzene	10% < %R < CL	J (detects) UJ (non-detects)	3L
8260D	MR-201-12.0-14.0-20230726	4-Bromofluorobenzene	> CL	J (detects) No Action (non-detects)	3H
	MR-303-20.0-22.0-20230727	4-Bromofluorobenzene	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-303-15.0-17.0-20230727	Dichlorodifluoromethane	10% > %R < CL	J (detects) R (non-detects)	4L

- Additionally, RPDs were outside control limit except for Dichlorodifluoromethane. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Internal standard	Exceedance	Qualification	Reason Code
8260D	MR-303-20.0-22.0-20230727	1,4-Dichlorobenzene-d4	25% > %R < CL	J (detects) R (non-detects)	X

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727	Dichlorodifluoromethane	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
	MR-303-35.0-37.0-20230727	Acetone	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH
		Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
8260D-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726	Vinyl chloride	CCV %D > 20% (increase in response)	No Action (NDs) J (Detects)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester and "unknown." Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726	2,4-Dinitrophenol	10% > %R < CL	J (detects) R (non-detects)	6L

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727 MR-303-15.0-17.0-20230727				
	MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727	2,4-Dinitrophenol	10% > %R < CL	J (detects) R (non-detects)	6L
		Acenaphthylene Butylbenzylphthalate	%R > CL	J (detects) No Action (non-detects)	6H
8270E-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727	2,4-Dinitrotoluene	%R > CL	J (detects) No Action (non-detects)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-303-20.0-22.0-20230727	Acenaphthylene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Biphenyl Chrysene bis(2-chloroisopropyl)ether	10% > %R < CL	J (detects) R (non-detects)	4L
		Benzo(k)fluoranthene Benzo(g,h,i)perylene Dibenzofuran	10% < %R < CL	J (detects) UJ (non-detects)	4L

- Additionally, multiple SVOCs exhibited concentrations greater than four times the spike amount; Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit for samples MR-303-20.0-22.0-20230727 and MR-303-35.0-37.0-20230727. Non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-30.0-32.0-20230726	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline 4,6-Dinitro-2-methylphenol 4-Chloro-3-methylphenol Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727 MR-303-15.0-17.0-20230727	1,4-Dioxane 2,4-Dinitrotoluene 2-Nitrophenol Acetophenone Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2,4-Dinitrophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727	1,4-Dioxane bis(2-chloroethyl)ether bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-octylphthalate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP	MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727	2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727	2,4,6-Trichlorophenol 2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate; 7 days from leachate extraction; 40 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	MR-105-6.0-8.0-20230726 MR-201-4.0-6.0-20230726	DCB (column 2)	%R > CL	J (detects) No Action (non-detects)	3H
	MR-105-35.0-37.0-20230726	TCMX (column 1&2)	%R > CL	J (detects) No Action (non-detects)	3H
		DCB (column 2)	%R > CL	J (detects) No Action (non-detects)	3H
	MR-105-50.0-52.0-20230726	TCMX (column 1)	%R > CL	J (detects) No Action (non-detects)	3H
	MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726	DCB (column 1)	10% < %R < CL	J (detects) UJ (non-detects)	3L
	MR-303-20.0-22.0-20230727	TCMX (column 2) DCB (column 2)	%R > CL	J (detects) No Action (non-detects)	3H

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	MR-105-6.0-8.0-20230726 MR-105-35.0-37.0-20230726 MR-303-20.0-22.0-20230727	DCB (column 2)	%R > CL	J (detects) No Action (non-detects)	3H
	MR-201-4.0-6.0-20230726	DCB (column 1&2)	10% < %R < CL	J (detects) UJ (non-detects)	3L
8081B-TCLP	MR-201-4.0-6.0-20230726	DCB (column 1)	10% < %R < CL	J (detects) UJ (non-detects)	3L
	MR-201-17.0-19.0-20230726	DCB (column 1&2)	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726	Endosulfan I Endosulfan II Endrin aldehyde Endrin ketone Methoxychlor	%R > CL	J (detects) No Action (non-detects)	6H
	MR-303-4.0-6.0-20230727 MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727	Endosulfan II	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726	All compounds except for: alpha-BHC beta-BHC delta-BHC Dieldrin	10% < %R < CL	J (detects) UJ (non-detects)	6L
	MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727 MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727	4,4-DDD 4,4-DDE Endosulfan I Endosulfan II Methoxychlor	%R > CL	J (detects) No Action (non-detects)	6H
		Endosulfan sulfate	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established

acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8181B	MR-303-15.0-17.0-20230727	Methoxychlor	%R > CL	J (detects) No Action (non-detects)	6H

- Additionally, RPDs were outside control limit for Endrin Ketone and Methoxychlor. Non-detected Results were not qualified.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All RSDs and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A and 8151A-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726	2,4-D 2,4,5-TP (Silvex)	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727 MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727				
8081	MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726	4,4'-DDT Methoxychlor	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8081-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726				

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9010C+9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	ASAP

- All samples were received properly preserved and method holding times were achieved.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727	Selenium	10% < %R < CL	J (detects) UJ (non-detects)	6L

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727				

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
Reactive Sulfide by SW-846 9030B	MR-201-17.0-19.0-20230726	Reactive Sulfide	10% < %R < CL	J (detects) UJ (non-detects)	4L

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D-TCLP	MR-105-6.0-8.0-20230726 MR-105-20.0-22.0-20230726 MR-105-35.0-37.0-20230726 MR-105-50.0-52.0-20230726 MR-105-65.0-67.0-20230726 MR-201-4.0-6.0-20230726 MR-201-12.0-14.0-20230726 MR-201-17.0-19.0-20230726 MR-201-30.0-32.0-20230726 MR-303-4.0-6.0-20230727 MR-303-15.0-17.0-20230727 MR-303-20.0-22.0-20230727 MR-303-35.0-37.0-20230727	Silver	CCV %D > 10% (increase in response)	No Action (NDs) J (Detects)	SH

Reporting Limits and Analyte Quantitation

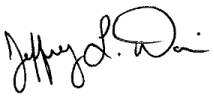
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: September 30, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23G1483

Yu & Associates

Project: Red Hook-Gowanus

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 03, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23G1483

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-105-6.0-8.0-20230726	23G1483-01	Soil	07/26/2023 07:00	07/27/2023 15:07
MR-105-20.0-22.0-20230726	23G1483-02	Soil	07/26/2023 08:49	07/27/2023 15:07
MR-105-35.0-37.0-20230726	23G1483-03	Soil	07/26/2023 09:19	07/27/2023 15:07
MR-105-50.0-52.0-20230726	23G1483-04	Soil	07/26/2023 10:03	07/27/2023 15:07
MR-105-65.0-67.0-20230726	23G1483-05	Soil	07/26/2023 11:08	07/27/2023 15:07
MR-201-4.0-6.0-20230726	23G1483-06	Soil	07/26/2023 09:55	07/27/2023 15:07
MR-201-12.0-14.0-20230726	23G1483-07	Soil	07/26/2023 10:25	07/27/2023 15:07
MR-201-17.0-19.0-20230726	23G1483-08	Soil	07/26/2023 11:01	07/27/2023 15:07
MR-201-30.0-32.0-20230726	23G1483-09	Soil	07/26/2023 11:35	07/27/2023 15:07
MR-303-4.0-6.0-20230727	23G1483-10	Soil	07/27/2023 07:22	07/27/2023 15:07
MR-303-15.0-17.0-20230727	23G1483-11	Soil	07/27/2023 08:43	07/27/2023 15:07
MR-303-20.0-22.0-20230727	23G1483-12	Soil	07/27/2023 09:11	07/27/2023 15:07
MR-303-35.0-37.0-20230727	23G1483-13	Soil	07/27/2023 09:30	07/27/2023 15:07

PN: 23G1483

APL 23G1483

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 2

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ, 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: ~~[illegible]~~ 1568541	SAMPLED BY: Acxell / Marlena

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

[X] NYS Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23G1483-01	MR-105-6.0-8.0-20230726	07/26/23	0700	X		S	5	TCLP SVOC	~~[illegible]~~, VOC, TAL Metals, Pesticides/Herbicides, PCB, TCN, RCRA CHAR., TCLP-VOA, Pest., Herb., Metals
-02	MR-105-20.0-22.0-20230726	7/26/23	0849	X		S	5		
-03	MR-105-35.0-37.0-20230726	7/26/23	0919	X		S	5		
-04	MR-105-50.0-52.0-20230726	7/26/23	1003	X		S	5		
-05	MR-105-65-0-67.0-20230726	7/26/23	1108	X		S	5		
-06	MR-201-4.0-6.0-20230726	7/26/23	0955	X		S	5		
-07	MR-201-12.0-14.0-20230726	7/26/23	1025	X		S	5		
-08	MR-201-17.0-19.0-20230726	7/26/23	1101	X		S	5		
-09	MR-201-30.0-32.0-20230726	7/26/23	1135	X		S	5		

RELINQUISHED BY (Print)	Acxell Marlena	DATE 7/27/23	RECEIVED BY (Print) NDLN ALPHA 13:10
Signature		Time 1310	Signature 7/27/23
RELINQUISHED BY (Print)	MDLN ALPHA	DATE 7/27/23	RECEIVED BY (Print) 7/26
Signature		Time 15:51	Signature 1555
RELINQUISHED BY (Print)		DATE	RECEIVED BY (Print)
Signature		Time	Signature

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.2°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

PN: 23G1483

APL
AQUA PRO-TECH LABORATORIES
www.aquaprotechlabs.com

1275 BLOOMFIELD AVENUE • BUILDING 6
FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ, 07407	
PHONE: 201-703-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 156541	SAMPLED BY: AM / MK

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☐ LOW

TURN-AROUND TIME
- ☒ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required
  - ☐ 48 hr. date & time required
  - ☐ 72 hr. date & time required
  - ☐ 1 week

REPORT FORMAT
- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

PWSID#

ELECTRONIC FORMAT
- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP#

☒ NYS Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
2361483-10	MR-303-4.0-6.0-20230727	7/27/23	0722	X		S	5		TCLP SVOC, VOC, TAL Metals, Pesticides/Herbicides, PCB, TCN, RCRA CHAR., TCLP-VOA, Pest., Herb., Metals
-11	MR-303-15.0-17.0-20230727	7/27/23	0843	X		S	5		
-12	MR-303-20.0-22.0-20230727	7/27/23	0911	X		S	5		
-13	MR-303-35.0-37.0-20230727	7/27/23	0930	X		S	5		

RELINQUISHED BY (Print) Azrell Marmol	DATE 7/27/23	RECEIVED BY (Print) MPIN AIP4A	7/27/23 13:10
Signature	Time 1310	Signature	
RELINQUISHED BY (Print) MPIN AIP4A	DATE 7/27/23	RECEIVED BY (Print) Nubel	7/27/23
Signature	Time 1515	Signature mf	1555
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.2°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spikes (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spikes and matrix spike duplicates (low). The blank spikes met all QC criteria.

Methods 1311/6010D / 7473 / 1311/7470A / 1010A / 9045D / 9014:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

All samples met the QC criteria.

ANALYSIS: PCBs [8082A]

Some of the samples have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]

Some of the samples have surrogates outside of the QC limits (low and high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spikes and matrix spike duplicates (low and high).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spikes and matrix spike duplicates (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Dichlorodifluoromethane was outside of the QC limits for the matrix spike duplicate (low).
The percent recovery for Bromoform was outside of the QC limits for the blank spike and blank spike duplicate (low).

Sample 23G1483-12 has one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interference.
Some of the samples have surrogates outside of the QC limits (low and high), due to matrix interferences.



Reviewed By: _____ (SK) 10/11/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1254 [2C]	13.1	D	0.0783	0.838	mg/kg dry	20	8/7/23 11:54
Total PCBs	13.1	D	0.0783	0.838	mg/kg dry	20	8/7/23 11:54

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.306		0.00635	0.0254	mg/kg dry	1	8/2/23 15:04

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5530		0.187	3.14	mg/kg dry	1	8/9/23 13:36
Antimony	2.45		0.171	1.57	mg/kg dry	1	8/9/23 13:36
Arsenic	6.05		0.112	1.57	mg/kg dry	1	8/9/23 13:36
Barium	225		0.0475	0.629	mg/kg dry	1	8/9/23 13:36
Beryllium	0.387		0.00364	0.0314	mg/kg dry	1	8/9/23 13:36
Cadmium	1.91		0.0613	0.314	mg/kg dry	1	8/9/23 13:36
Calcium	143000	D	35.4	314	mg/kg dry	10	8/9/23 14:29
Chromium	32.1		0.0355	0.314	mg/kg dry	1	8/9/23 13:36
Cobalt	4.81		0.0321	0.252	mg/kg dry	1	8/9/23 13:36
Copper	226		0.0880	0.314	mg/kg dry	1	8/9/23 13:36
Iron	20300		0.891	6.29	mg/kg dry	1	8/9/23 13:36
Lead	364		0.131	1.57	mg/kg dry	1	8/9/23 13:36
Magnesium	5590		11.1	62.9	mg/kg dry	1	8/9/23 13:36
Manganese	217		0.0391	0.314	mg/kg dry	1	8/9/23 13:36
Nickel	61.6		0.0276	0.157	mg/kg dry	1	8/9/23 13:36
Potassium	616		37.4	126	mg/kg dry	1	8/9/23 13:36
Silver	1.11		0.0535	0.189	mg/kg dry	1	8/9/23 13:36
Sodium	3690		6.00	62.9	mg/kg dry	1	8/9/23 13:36
Vanadium	46.5		0.0723	0.629	mg/kg dry	1	8/9/23 13:36
Zinc	591	D	0.960	9.43	mg/kg dry	10	8/9/23 14:29

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.417		0.00279	0.100	mg/L	1	8/10/23 9:40

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.218		0.00117	0.00165	mg/kg dry	1	8/8/23 0:42

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.516		0.0405	0.254	mg/kg dry	1	8/3/23 18:02
Acenaphthene	1.54		0.00964	0.169	mg/kg dry	1	8/3/23 18:02
Acenaphthylene	0.503		0.00588	0.169	mg/kg dry	1	8/3/23 18:02
Anthracene	3.97		0.0245	0.169	mg/kg dry	1	8/3/23 18:02
Benzo(a)anthracene	10.5		0.0170	0.169	mg/kg dry	1	8/3/23 18:02
Benzo(a)pyrene	10.4		0.0295	0.169	mg/kg dry	1	8/3/23 18:02
Benzo(b)fluoranthene	9.29		0.0238	0.169	mg/kg dry	1	8/3/23 18:02
Benzo(g,h,i)perylene	0.0384	J	0.0137	0.169	mg/kg dry	1	8/3/23 18:02
Benzo(k)fluoranthene	6.90		0.0194	0.169	mg/kg dry	1	8/3/23 18:02
Biphenyl	0.150	J	0.0149	0.169	mg/kg dry	1	8/3/23 18:02
bis(2-ethylhexyl)phthalate	1.00		0.0338	0.169	mg/kg dry	1	8/3/23 18:02
Carbazole	1.85		0.0325	0.423	mg/kg dry	1	8/3/23 18:02
Chrysene	9.79		0.0116	0.169	mg/kg dry	1	8/3/23 18:02
Dibenzo(a,h)anthracene	2.36		0.0168	0.169	mg/kg dry	1	8/3/23 18:02
Dibenzofuran	0.988		0.0101	0.169	mg/kg dry	1	8/3/23 18:02
Fluoranthene	23.2	D	0.0794	0.845	mg/kg dry	5	8/4/23 21:45
Fluorene	1.91		0.0141	0.169	mg/kg dry	1	8/3/23 18:02
Indeno(1,2,3-cd)pyrene	4.24		0.0182	0.169	mg/kg dry	1	8/3/23 18:02
Naphthalene	1.15		0.0125	0.169	mg/kg dry	1	8/3/23 18:02
Phenanthrene	14.1	D	0.111	0.845	mg/kg dry	5	8/4/23 21:45
Pyrene	15.3	D	0.0622	0.845	mg/kg dry	5	8/4/23 21:45
TIC_Dibenzothiophene	0.759	J			mg/kg dry	1	8/3/23 18:02
TIC_Hexadecanoic acid, butyl ester	12.5	J, B			mg/kg dry	1	8/3/23 18:02
TIC_Octadecanoic acid, butyl ester	1.65	J, B			mg/kg dry	1	8/3/23 18:02
TIC_unknown (01)	2.81	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (02)	1.05	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (03)	0.690	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (04)	1.83	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (05)	0.828	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (06)	3.94	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (07)	1.16	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (08)	1.10	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (09)	0.505	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (10)	0.449	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (11)	0.792	J			mg/kg dry	1	8/3/23 18:02
TIC_unknown (12)	0.603	J			mg/kg dry	1	8/3/23 18:02

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetone	0.116		0.000855	0.00706	mg/kg dry	1	8/3/23 15:24
Carbon disulfide	0.00917		0.000405	0.00282	mg/kg dry	1	8/3/23 15:24
TIC_Lab Contamination	0.0150	J			mg/kg dry	1	8/3/23 15:24

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.544		0.0185	0.156	mg/kg dry	1	8/8/23 18:42
Reactive Cyanide	0.54		0.13	0.13	mg/kg dry	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	0.254		0.127	0.127	mg/kg dry	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.56				pH Units	1	7/28/23 11:57

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0375		0.00799	0.0319	mg/kg dry	1	8/2/23 15:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	15500		0.235	3.95	mg/kg dry	1	8/9/23 13:38
Arsenic	7.11		0.141	1.98	mg/kg dry	1	8/9/23 13:38
Barium	84.6		0.0598	0.791	mg/kg dry	1	8/9/23 13:38
Beryllium	0.903		0.00458	0.0395	mg/kg dry	1	8/9/23 13:38
Cadmium	0.759		0.0771	0.395	mg/kg dry	1	8/9/23 13:38
Calcium	27400		4.45	39.5	mg/kg dry	1	8/9/23 13:38
Chromium	33.5		0.0446	0.395	mg/kg dry	1	8/9/23 13:38
Cobalt	8.03		0.0404	0.316	mg/kg dry	1	8/9/23 13:38
Copper	78.7		0.111	0.395	mg/kg dry	1	8/9/23 13:38
Iron	34200		1.12	7.91	mg/kg dry	1	8/9/23 13:38
Lead	126		0.165	1.98	mg/kg dry	1	8/9/23 13:38
Magnesium	7410		14.0	79.1	mg/kg dry	1	8/9/23 13:38
Manganese	321		0.0492	0.395	mg/kg dry	1	8/9/23 13:38
Nickel	39.1		0.0347	0.198	mg/kg dry	1	8/9/23 13:38

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Potassium	3210		47.0	158	mg/kg dry	1	8/9/23 13:38
Silver	0.436		0.0672	0.237	mg/kg dry	1	8/9/23 13:38
Sodium	3070		7.54	79.1	mg/kg dry	1	8/9/23 13:38
Vanadium	40.7		0.0909	0.791	mg/kg dry	1	8/9/23 13:38
Zinc	162		0.121	1.19	mg/kg dry	1	8/9/23 13:38

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.632		0.00279	0.100	mg/L	1	8/10/23 9:42

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	26.7	J, B			mg/kg dry	1	8/3/23 18:34
TIC_Octadecanoic acid, butyl ester	16.1	J, B			mg/kg dry	1	8/3/23 18:34

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0160		0.000417	0.00290	mg/kg dry	1	8/3/23 0:05
TIC_Lab Contamination	0.0226	J			mg/kg dry	1	8/3/23 0:05

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.76				pH Units	1	7/28/23 11:57

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0369		0.00631	0.0253	mg/kg dry	1	8/2/23 15:23

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9120		0.184	3.10	mg/kg dry	1	8/9/23 13:40
Arsenic	9.16		0.110	1.55	mg/kg dry	1	8/9/23 13:40
Barium	71.2		0.0468	0.619	mg/kg dry	1	8/9/23 13:40
Beryllium	0.689		0.00358	0.0310	mg/kg dry	1	8/9/23 13:40
Calcium	3310		3.48	31.0	mg/kg dry	1	8/9/23 13:40
Chromium	17.3		0.0349	0.310	mg/kg dry	1	8/9/23 13:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cobalt	6.78		0.0316	0.248	mg/kg dry	1	8/9/23 13:40
Copper	15.8		0.0866	0.310	mg/kg dry	1	8/9/23 13:40
Iron	20100		0.877	6.19	mg/kg dry	1	8/9/23 13:40
Lead	16.7		0.129	1.55	mg/kg dry	1	8/9/23 13:40
Magnesium	4170		10.9	61.9	mg/kg dry	1	8/9/23 13:40
Manganese	176		0.0385	0.310	mg/kg dry	1	8/9/23 13:40
Nickel	18.5		0.0272	0.155	mg/kg dry	1	8/9/23 13:40
Potassium	1610		36.8	124	mg/kg dry	1	8/9/23 13:40
Sodium	1040		5.90	61.9	mg/kg dry	1	8/9/23 13:40
Vanadium	24.7		0.0712	0.619	mg/kg dry	1	8/9/23 13:40
Zinc	51.7		0.0945	0.929	mg/kg dry	1	8/9/23 13:40

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.24		0.00279	0.100	mg/L	1	8/10/23 9:45

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane	0.129		0.000730	0.00164	mg/kg dry	1	8/8/23 1:27

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2-Pentanone, 4-hydroxy-4-methyl-	12.8	J			mg/kg dry	1	8/3/23 19:30
TIC_5-Octadecene, (E)-	0.419	J			mg/kg dry	1	8/3/23 19:30
TIC_Hexadecanoic acid, butyl ester	25.2	J, B			mg/kg dry	1	8/3/23 19:30
TIC_Octadecanoic acid, butyl ester	15.4	J, B			mg/kg dry	1	8/3/23 19:30

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.181		0.000268	0.00194	mg/kg dry	1	8/3/23 0:37
2-Butanone	0.0418		0.000317	0.00486	mg/kg dry	1	8/3/23 0:37
Acetone	0.123		0.000589	0.00486	mg/kg dry	1	8/3/23 0:37
Benzene	873	D	11.7	129	mg/kg dry	7143	8/8/23 6:38
Carbon disulfide	0.0127		0.000279	0.00194	mg/kg dry	1	8/3/23 0:37
EthylBenzene	9940	D	17.5	129	mg/kg dry	7143	8/8/23 6:38
Isopropylbenzene	0.115		0.000305	0.00194	mg/kg dry	1	8/3/23 0:37
m+p-Xylenes	8210	D	32.5	258	mg/kg dry	7143	8/8/23 6:38
Methylcyclohexane	0.00371		0.000313	0.00194	mg/kg dry	1	8/3/23 0:37

ND - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene	3820	D	16.6	129	mg/kg dry	7143	8/8/23 6:38
Toluene	4870	D	10.4	129	mg/kg dry	7143	8/8/23 6:38
Total Xylenes	12000	D	16.6	129	mg/kg dry	7143	8/8/23 6:38
TIC_1H-Indene, 2,3-dihydro-	0.0984	J			mg/kg dry	1	8/3/23 0:37
TIC_1H-Indene, 3-methyl-	0.0585	J			mg/kg dry	1	8/3/23 0:37
TIC_Azulene	0.414	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0421	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, (1-methylethyl)-	0.0166	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1,1-(1-ethenyl-1,3-propanediyl (01)	0.0271	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1,1-(1-ethenyl-1,3-propanediyl (02)	0.0199	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1,2,3,4-tetramethyl-	0.0322	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1,3,5-trimethyl-	0.114	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1-ethyl-3-methyl-	0.186	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1-ethyl-4-methyl-	0.0486	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	0.0278	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 1-propynyl-	0.343	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 2-ethyl-1,4-dimethyl-	0.0174	J			mg/kg dry	1	8/3/23 0:37
TIC_Benzene, 4-ethenyl-1,2-dimethyl-	0.0152	J			mg/kg dry	1	8/3/23 0:37

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.179	D	0.00129	0.0100	mg/L	10	8/7/23 22:45

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.19				pH Units	1	7/28/23 11:57

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7370		0.191	3.21	mg/kg dry	1	8/9/23 13:43
Arsenic	4.27		0.115	1.61	mg/kg dry	1	8/9/23 13:43

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Positive Results Only Summary

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	28.5		0.0486	0.643	mg/kg dry	1	8/9/23 13:43
Beryllium	0.494		0.00372	0.0321	mg/kg dry	1	8/9/23 13:43
Calcium	4000		3.62	32.1	mg/kg dry	1	8/9/23 13:43
Chromium	14.6		0.0363	0.321	mg/kg dry	1	8/9/23 13:43
Cobalt	4.66		0.0328	0.257	mg/kg dry	1	8/9/23 13:43
Copper	11.2		0.0899	0.321	mg/kg dry	1	8/9/23 13:43
Iron	16800		0.910	6.43	mg/kg dry	1	8/9/23 13:43
Lead	13.3		0.134	1.61	mg/kg dry	1	8/9/23 13:43
Magnesium	3620		11.4	64.3	mg/kg dry	1	8/9/23 13:43
Manganese	189		0.0400	0.321	mg/kg dry	1	8/9/23 13:43
Nickel	14.5		0.0282	0.161	mg/kg dry	1	8/9/23 13:43
Potassium	1490		38.2	129	mg/kg dry	1	8/9/23 13:43
Sodium	751		6.13	64.3	mg/kg dry	1	8/9/23 13:43
Vanadium	17.2		0.0739	0.643	mg/kg dry	1	8/9/23 13:43
Zinc	40.2		0.0982	0.964	mg/kg dry	1	8/9/23 13:43

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.761		0.00279	0.100	mg/L	1	8/10/23 9:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	10.1		0.0404	0.253	mg/kg dry	1	8/3/23 20:01
Acenaphthene	4.00		0.00961	0.168	mg/kg dry	1	8/3/23 20:01
Acenaphthylene	3.38		0.00586	0.168	mg/kg dry	1	8/3/23 20:01
Anthracene	3.80		0.0244	0.168	mg/kg dry	1	8/3/23 20:01
Benzo(a)anthracene	2.25		0.0170	0.168	mg/kg dry	1	8/3/23 20:01
Benzo(a)pyrene	1.66		0.0294	0.168	mg/kg dry	1	8/3/23 20:01
Benzo(b)fluoranthene	1.16		0.0237	0.168	mg/kg dry	1	8/3/23 20:01
Benzo(g,h,i)perylene	0.600		0.0137	0.168	mg/kg dry	1	8/3/23 20:01
Benzo(k)fluoranthene	0.467		0.0194	0.168	mg/kg dry	1	8/3/23 20:01
Biphenyl	1.29		0.0148	0.168	mg/kg dry	1	8/3/23 20:01
Carbazole	0.0897	J	0.0324	0.422	mg/kg dry	1	8/3/23 20:01
Chrysene	2.14		0.0115	0.168	mg/kg dry	1	8/3/23 20:01
Dibenzo(a,h)anthracene	0.191		0.0167	0.168	mg/kg dry	1	8/3/23 20:01
Dibenzofuran	0.427		0.0100	0.168	mg/kg dry	1	8/3/23 20:01
Fluoranthene	3.85		0.0158	0.168	mg/kg dry	1	8/3/23 20:01
Fluorene	4.60		0.0141	0.168	mg/kg dry	1	8/3/23 20:01
Indeno(1,2,3-cd)pyrene	0.477		0.0181	0.168	mg/kg dry	1	8/3/23 20:01

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Naphthalene	8.31		0.0125	0.168	mg/kg dry	1	8/3/23 20:01
Phenanthrene	13.7	D	0.111	0.842	mg/kg dry	5	8/4/23 22:48
Pyrene	5.29		0.0124	0.168	mg/kg dry	1	8/3/23 20:01
TIC_1,4-Methanonaphthalene, 1,4-dihydro-	8.05	J			mg/kg dry	1	8/3/23 20:01
TIC_2-Pentanone, 4-hydroxy-4-methyl-	11.8	J			mg/kg dry	1	8/3/23 20:01
TIC_Hexadecanoic acid, butyl ester	24.0	J, B			mg/kg dry	1	8/3/23 20:01
TIC_Naphthalene, 1,7-dimethyl-	2.24	J			mg/kg dry	1	8/3/23 20:01
TIC_Naphthalene, 1-ethyl-	2.30	J			mg/kg dry	1	8/3/23 20:01
TIC_Naphthalene, 2,3-dimethyl-	4.12	J			mg/kg dry	1	8/3/23 20:01
TIC_Naphthalene, 2,6-dimethyl-	3.38	J			mg/kg dry	1	8/3/23 20:01
TIC_Octadecanoic acid, butyl ester	8.46	J, B			mg/kg dry	1	8/3/23 20:01
TIC_unknown (01)	2.20	J			mg/kg dry	1	8/3/23 20:01
TIC_unknown (02)	1.70	J			mg/kg dry	1	8/3/23 20:01
TIC_unknown (03)	2.99	J			mg/kg dry	1	8/3/23 20:01
TIC_unknown (04)	3.32	J			mg/kg dry	1	8/3/23 20:01
TIC_unknown (05)	1.83	J			mg/kg dry	1	8/3/23 20:01
TIC_unknown (06)	6.44	J			mg/kg dry	1	8/3/23 20:01
TIC_unknown (07)	2.22	J			mg/kg dry	1	8/3/23 20:01

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.189		0.000269	0.00195	mg/kg dry	1	8/3/23 1:08
Benzene	0.108		0.000177	0.00195	mg/kg dry	1	8/3/23 1:08
Carbon disulfide	0.0162		0.000280	0.00195	mg/kg dry	1	8/3/23 1:08
EthylBenzene	1.44	D	0.0198	0.146	mg/kg dry	76	8/8/23 7:07
Isopropylbenzene	0.0864		0.000306	0.00195	mg/kg dry	1	8/3/23 1:08
m+p-Xylenes	1.26	D	0.0368	0.292	mg/kg dry	76	8/8/23 7:07
Methylcyclohexane	0.00232		0.000314	0.00195	mg/kg dry	1	8/3/23 1:08
o-Xylene	0.580	D	0.0187	0.146	mg/kg dry	76	8/8/23 7:07
Toluene	0.563	D	0.0117	0.146	mg/kg dry	76	8/8/23 7:07
Total Xylenes	1.84	D	0.0187	0.146	mg/kg dry	76	8/8/23 7:07
TIC_1H-Indene, 1-methylene-	0.576	J			mg/kg dry	1	8/3/23 1:08
TIC_1H-Indene, 3-methyl-	0.0589	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0527	J			mg/kg dry	1	8/3/23 1:08

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1,2,3,4-tetramethyl-	0.0406	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1,2-propadienyl-	0.315	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1,3,5-trimethyl-	0.118	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-ethenyl-3,5-dimethyl-	0.0435	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-ethenyl-4-methyl-	0.0593	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-ethyl-2-methyl-	0.0219	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-ethyl-3,5-dimethyl-	0.0358	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-ethyl-3-methyl-	0.144	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-ethyl-4-methyl-	0.0487	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	0.0213	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, 4-ethenyl-1,2-dimethyl-	0.0221	J			mg/kg dry	1	8/3/23 1:08
TIC_Benzene, cyclopropyl-	0.0521	J			mg/kg dry	1	8/3/23 1:08

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0363	D	0.00365	0.0100	mg/L	10	8/8/23 21:32

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.310		0.0185	0.155	mg/kg dry	1	8/8/23 18:42
Reactive Cyanide	0.31		0.13	0.13	mg/kg dry	1	8/9/23 16:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.20				pH Units	1	7/28/23 11:57

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3900		0.190	3.20	mg/kg dry	1	8/9/23 13:45
Barium	29.4		0.0483	0.639	mg/kg dry	1	8/9/23 13:45
Beryllium	0.331		0.00370	0.0320	mg/kg dry	1	8/9/23 13:45

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	7910		3.60	32.0	mg/kg dry	1	8/9/23 13:45
Chromium	8.03		0.0361	0.320	mg/kg dry	1	8/9/23 13:45
Cobalt	3.29		0.0327	0.256	mg/kg dry	1	8/9/23 13:45
Copper	8.41		0.0895	0.320	mg/kg dry	1	8/9/23 13:45
Iron	8310		0.906	6.39	mg/kg dry	1	8/9/23 13:45
Lead	6.84		0.133	1.60	mg/kg dry	1	8/9/23 13:45
Magnesium	4200		11.3	63.9	mg/kg dry	1	8/9/23 13:45
Manganese	167		0.0398	0.320	mg/kg dry	1	8/9/23 13:45
Nickel	16.1		0.0281	0.160	mg/kg dry	1	8/9/23 13:45
Potassium	964		38.0	128	mg/kg dry	1	8/9/23 13:45
Sodium	349		6.10	63.9	mg/kg dry	1	8/9/23 13:45
Vanadium	10.6		0.0735	0.639	mg/kg dry	1	8/9/23 13:45
Zinc	20.9		0.0977	0.959	mg/kg dry	1	8/9/23 13:45

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.822		0.00279	0.100	mg/L	1	8/10/23 9:49

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.310		0.0396	0.248	mg/kg dry	1	8/3/23 20:33
Acenaphthene	0.699		0.00942	0.165	mg/kg dry	1	8/3/23 20:33
Acenaphthylene	0.311		0.00574	0.165	mg/kg dry	1	8/3/23 20:33
Anthracene	0.591		0.0239	0.165	mg/kg dry	1	8/3/23 20:33
Benzo(a)anthracene	0.384		0.0166	0.165	mg/kg dry	1	8/3/23 20:33
Benzo(a)pyrene	0.305		0.0288	0.165	mg/kg dry	1	8/3/23 20:33
Benzo(b)fluoranthene	0.203		0.0232	0.165	mg/kg dry	1	8/3/23 20:33
Benzo(g,h,i)perylene	0.103	J	0.0134	0.165	mg/kg dry	1	8/3/23 20:33
Benzo(k)fluoranthene	0.0734	J	0.0190	0.165	mg/kg dry	1	8/3/23 20:33
Biphenyl	0.176		0.0145	0.165	mg/kg dry	1	8/3/23 20:33
Chrysene	0.363		0.0113	0.165	mg/kg dry	1	8/3/23 20:33
Dibenzofuran	0.0622	J	0.00984	0.165	mg/kg dry	1	8/3/23 20:33
Fluoranthene	0.677		0.0155	0.165	mg/kg dry	1	8/3/23 20:33
Fluorene	0.714		0.0138	0.165	mg/kg dry	1	8/3/23 20:33
Indeno(1,2,3-cd)pyrene	0.0800	J	0.0177	0.165	mg/kg dry	1	8/3/23 20:33
Naphthalene	0.270		0.0122	0.165	mg/kg dry	1	8/3/23 20:33
Phenanthrene	2.16		0.0217	0.165	mg/kg dry	1	8/3/23 20:33
Pyrene	0.925		0.0121	0.165	mg/kg dry	1	8/3/23 20:33
TIC_2-Pentanone, 4-hydroxy-4-methyl-	13.2	J			mg/kg dry	1	8/3/23 20:33

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	27.6	J, B			mg/kg dry	1	8/3/23 20:33
TIC_Naphthalene, 1-methyl-	0.746	J			mg/kg dry	1	8/3/23 20:33
TIC_Naphthalene, 2,3-dimethyl-	0.603	J			mg/kg dry	1	8/3/23 20:33
TIC_Naphthalene, 2,6-dimethyl-	0.523	J			mg/kg dry	1	8/3/23 20:33
TIC_Octadecanoic acid, butyl ester	15.1	J, B			mg/kg dry	1	8/3/23 20:33
TIC_unknown (01)	0.469	J			mg/kg dry	1	8/3/23 20:33
TIC_unknown (02)	0.646	J			mg/kg dry	1	8/3/23 20:33
TIC_unknown (03)	0.940	J			mg/kg dry	1	8/3/23 20:33

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.0971		0.000245	0.00177	mg/kg dry	1	8/3/23 1:40
Benzene	0.0257		0.000161	0.00177	mg/kg dry	1	8/3/23 1:40
Carbon disulfide	0.00436		0.000254	0.00177	mg/kg dry	1	8/3/23 1:40
EthylBenzene	9.42	J, D	1.71	12.7	mg/kg dry	714	8/8/23 8:08
Isopropylbenzene	0.0453		0.000278	0.00177	mg/kg dry	1	8/3/23 1:40
m+p-Xylenes	0.280		0.000447	0.00354	mg/kg dry	1	8/3/23 1:40
Methylcyclohexane	0.000590	J	0.000285	0.00177	mg/kg dry	1	8/3/23 1:40
o-Xylene	0.165		0.000228	0.00177	mg/kg dry	1	8/3/23 1:40
Toluene	0.131		0.000143	0.00177	mg/kg dry	1	8/3/23 1:40
Total Xylenes	0.446		0.000228	0.00177	mg/kg dry	1	8/3/23 1:40
TIC_1H-Indene, 1-methyl-	0.0806	J			mg/kg dry	1	8/3/23 1:40
TIC_1H-Indene, 1-methylene-	0.787	J			mg/kg dry	1	8/3/23 1:40
TIC_1H-Indene, 2,3-dihydro-	0.0720	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, (1-methyl-1-propenyl)-, (Z)-	0.0490	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0653	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, (1-methylethyl)-	0.0558	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, 1,2,3-trimethyl-	0.0887	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, 1-ethyl-2,4-dimethyl-	0.0267	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, 1-ethyl-2-methyl-	0.0233	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, 1-ethyl-3-methyl-	0.0857	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, 1-ethyl-4-methyl-	0.0443	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, 1-propynyl-	0.225	J			mg/kg dry	1	8/3/23 1:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 2-ethenyl-1,4-dimethyl-	0.0238	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzene, ethenylmethyl-	0.0328	J			mg/kg dry	1	8/3/23 1:40
TIC_Benzo[b]thiophene	0.0305	J			mg/kg dry	1	8/3/23 1:40

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0334	D	0.00365	0.0100	mg/L	10	8/8/23 21:58

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.19				pH Units	1	7/28/23 11:57

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.669		0.00611	0.0244	mg/kg dry	1	8/2/23 15:52

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5640		0.176	2.97	mg/kg dry	1	8/9/23 13:47
Arsenic	4.32		0.106	1.48	mg/kg dry	1	8/9/23 13:47
Barium	64.1		0.0449	0.593	mg/kg dry	1	8/9/23 13:47
Beryllium	0.423		0.00344	0.0297	mg/kg dry	1	8/9/23 13:47
Cadmium	0.332		0.0578	0.297	mg/kg dry	1	8/9/23 13:47
Calcium	14800		3.34	29.7	mg/kg dry	1	8/9/23 13:47
Chromium	11.1		0.0335	0.297	mg/kg dry	1	8/9/23 13:47
Cobalt	4.03		0.0303	0.237	mg/kg dry	1	8/9/23 13:47
Copper	41.5		0.0830	0.297	mg/kg dry	1	8/9/23 13:47
Iron	12100		0.840	5.93	mg/kg dry	1	8/9/23 13:47
Lead	197		0.124	1.48	mg/kg dry	1	8/9/23 13:47
Magnesium	2530		10.5	59.3	mg/kg dry	1	8/9/23 13:47
Manganese	144		0.0369	0.297	mg/kg dry	1	8/9/23 13:47
Nickel	15.5		0.0261	0.148	mg/kg dry	1	8/9/23 13:47
Potassium	687		35.3	119	mg/kg dry	1	8/9/23 13:47
Silver	0.239		0.0505	0.178	mg/kg dry	1	8/9/23 13:47
Sodium	507		5.66	59.3	mg/kg dry	1	8/9/23 13:47
Vanadium	17.3		0.0682	0.593	mg/kg dry	1	8/9/23 13:47
Zinc	83.4		0.0906	0.890	mg/kg dry	1	8/9/23 13:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.795		0.00279	0.100	mg/L	1	8/10/23 9:51

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.518		0.0390	0.244	mg/kg dry	1	8/3/23 19:07
Acenaphthene	0.967		0.00928	0.163	mg/kg dry	1	8/3/23 19:07
Acenaphthylene	1.14		0.00566	0.163	mg/kg dry	1	8/3/23 19:07
Anthracene	2.52		0.0236	0.163	mg/kg dry	1	8/3/23 19:07
Benzo(a)anthracene	3.59		0.0164	0.163	mg/kg dry	1	8/3/23 19:07
Benzo(a)pyrene	3.65		0.0284	0.163	mg/kg dry	1	8/3/23 19:07
Benzo(b)fluoranthene	4.07		0.0229	0.163	mg/kg dry	1	8/3/23 19:07
Benzo(g,h,i)perylene	2.44		0.0132	0.163	mg/kg dry	1	8/3/23 19:07
Benzo(k)fluoranthene	1.28		0.0187	0.163	mg/kg dry	1	8/3/23 19:07
Chrysene	3.20		0.0111	0.163	mg/kg dry	1	8/3/23 19:07
Dibenzofuran	0.605		0.00969	0.163	mg/kg dry	1	8/3/23 19:07
Fluoranthene	5.37		0.0153	0.163	mg/kg dry	1	8/3/23 19:07
Fluorene	1.13		0.0136	0.163	mg/kg dry	1	8/3/23 19:07
Indeno(1,2,3-cd)pyrene	1.78		0.0175	0.163	mg/kg dry	1	8/3/23 19:07
Naphthalene	0.780		0.0121	0.163	mg/kg dry	1	8/3/23 19:07
Phenanthrene	2.34		0.0214	0.163	mg/kg dry	1	8/3/23 19:07
Pyrene	6.55		0.0120	0.163	mg/kg dry	1	8/3/23 19:07
TIC_Benzene, (1-chloroethyl)-	2.74	J			mg/kg dry	1	8/3/23 19:07
TIC_Benzene, 1-ethenyl-3-methyl-	3.23	J			mg/kg dry	1	8/3/23 19:07
TIC_Decane, 2,6,7-trimethyl-	2.31	J			mg/kg dry	1	8/3/23 19:07
TIC_Decane, 2-methyl-	3.07	J			mg/kg dry	1	8/3/23 19:07
TIC_Dodecane, 2,6,10-trimethyl-	6.16	J			mg/kg dry	1	8/3/23 19:07
TIC_Heptadecane, 2-methyl-	4.54	J			mg/kg dry	1	8/3/23 19:07
TIC_Hexadecanoic acid, butyl ester	26.2	J, B			mg/kg dry	1	8/3/23 19:07
TIC_Indene	4.18	J			mg/kg dry	1	8/3/23 19:07
TIC_Naphthalene, 1,2,3,4-tetrahydro-1,4-dime	2.35	J			mg/kg dry	1	8/3/23 19:07
TIC_Naphthalene, 1,4,6-trimethyl-	2.57	J			mg/kg dry	1	8/3/23 19:07
TIC_Octadecanoic acid, butyl ester	7.14	J, B			mg/kg dry	1	8/3/23 19:07

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (01)	4.51	J			mg/kg dry	1	8/3/23 19:07
TIC_unknown (02)	2.32	J			mg/kg dry	1	8/3/23 19:07
TIC_unknown (03)	4.85	J			mg/kg dry	1	8/3/23 19:07
TIC_unknown (04)	4.58	J			mg/kg dry	1	8/3/23 19:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Butanone	0.0345		0.000285	0.00436	mg/kg dry	1	8/3/23 2:11
Acetone	0.0835		0.000529	0.00436	mg/kg dry	1	8/3/23 2:11
Benzene	0.0215		0.000159	0.00175	mg/kg dry	1	8/3/23 2:11
Carbon disulfide	0.0165		0.000251	0.00175	mg/kg dry	1	8/3/23 2:11
EthylBenzene	0.00502		0.000237	0.00175	mg/kg dry	1	8/3/23 2:11
Isopropylbenzene	0.0131		0.000274	0.00175	mg/kg dry	1	8/3/23 2:11
Methylcyclohexane	0.0681		0.000281	0.00175	mg/kg dry	1	8/3/23 2:11
Toluene	0.00385		0.000141	0.00175	mg/kg dry	1	8/3/23 2:11
TIC_4-Nonene, 3-methyl-, (Z)-	0.226	J			mg/kg dry	1	8/3/23 2:11
TIC_Benzene, (1-methylpropyl)-	0.146	J			mg/kg dry	1	8/3/23 2:11
TIC_Bicyclo[4.1.0]heptan-3-one , 4,7,7-trimet	0.205	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexane, 1,1-(1-methylethylidene)bi	0.153	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexane, 1,1,3-trimethyl-	0.214	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexane, 1,3,5-trimethyl-, (1.alpha.	0.190	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexane, 1-ethyl-2-methyl-, trans-	0.230	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexane, ethyl-	0.129	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexanone, 3,3,5,5-tetramethyl-	0.147	J			mg/kg dry	1	8/3/23 2:11
TIC_Cyclohexanone, 5-methyl-2-(1-methylethyl	0.181	J			mg/kg dry	1	8/3/23 2:11
TIC_Heptane, 2,6-dimethyl-	0.123	J			mg/kg dry	1	8/3/23 2:11
TIC_m-Menthane, (1S,3S)-(+)-	0.136	J			mg/kg dry	1	8/3/23 2:11
TIC_Naphthalene, decahydro-	0.162	J			mg/kg dry	1	8/3/23 2:11
TIC_Nonane, 4-methyl-	0.166	J			mg/kg dry	1	8/3/23 2:11
TIC_Octane, 3,6-dimethyl-	0.211	J			mg/kg dry	1	8/3/23 2:11

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0290	D	0.00365	0.0100	mg/L	10	8/8/23 22:23

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1483-06 (Soil) Sample Name: MR-201-4.0-6.0-20230726

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.81				pH Units	1	7/28/23 11:57

23G1483-07 (Soil) Sample Name: MR-201-12.0-14.0-20230726

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	3.15		0.00678	0.0271	mg/kg dry	1	8/2/23 16:02

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5550		0.198	3.34	mg/kg dry	1	8/9/23 13:49
Antimony	1.79		0.182	1.67	mg/kg dry	1	8/9/23 13:49
Arsenic	5.69		0.119	1.67	mg/kg dry	1	8/9/23 13:49
Barium	59.4		0.0505	0.668	mg/kg dry	1	8/9/23 13:49
Beryllium	0.414		0.00387	0.0334	mg/kg dry	1	8/9/23 13:49
Calcium	34100	D	37.6	334	mg/kg dry	10	8/9/23 14:31
Chromium	11.3		0.0377	0.334	mg/kg dry	1	8/9/23 13:49
Cobalt	4.48		0.0341	0.267	mg/kg dry	1	8/9/23 13:49
Copper	59.1		0.0935	0.334	mg/kg dry	1	8/9/23 13:49
Iron	13800		0.946	6.68	mg/kg dry	1	8/9/23 13:49
Lead	172		0.139	1.67	mg/kg dry	1	8/9/23 13:49
Magnesium	2360		11.8	66.8	mg/kg dry	1	8/9/23 13:49
Manganese	165		0.0416	0.334	mg/kg dry	1	8/9/23 13:49
Nickel	14.4		0.0293	0.167	mg/kg dry	1	8/9/23 13:49
Potassium	822		39.7	134	mg/kg dry	1	8/9/23 13:49
Silver	0.436		0.0568	0.200	mg/kg dry	1	8/9/23 13:49
Sodium	722		6.37	66.8	mg/kg dry	1	8/9/23 13:49
Vanadium	14.9		0.0768	0.668	mg/kg dry	1	8/9/23 13:49
Zinc	83.8		0.102	1.00	mg/kg dry	1	8/9/23 13:49

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.332		0.00279	0.100	mg/L	1	8/10/23 9:53

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0848	J	0.0433	0.271	mg/kg dry	1	8/3/23 19:39
Acenaphthene	0.227		0.0103	0.180	mg/kg dry	1	8/3/23 19:39
Acenaphthylene	0.104	J	0.00628	0.180	mg/kg dry	1	8/3/23 19:39

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	0.549		0.0262	0.180	mg/kg dry	1	8/3/23 19:39
Benzo(a)anthracene	1.46		0.0182	0.180	mg/kg dry	1	8/3/23 19:39
Benzo(a)pyrene	1.50		0.0315	0.180	mg/kg dry	1	8/3/23 19:39
Benzo(b)fluoranthene	2.05		0.0254	0.180	mg/kg dry	1	8/3/23 19:39
Benzo(k)fluoranthene	0.457		0.0208	0.180	mg/kg dry	1	8/3/23 19:39
Chrysene	1.35		0.0124	0.180	mg/kg dry	1	8/3/23 19:39
Dibenzo(a,h)anthracene	0.165	J	0.0179	0.180	mg/kg dry	1	8/3/23 19:39
Dibenzofuran	0.106	J	0.0108	0.180	mg/kg dry	1	8/3/23 19:39
Fluoranthene	2.30		0.0170	0.180	mg/kg dry	1	8/3/23 19:39
Fluorene	0.168	J	0.0151	0.180	mg/kg dry	1	8/3/23 19:39
Indeno(1,2,3-cd)pyrene	0.787		0.0194	0.180	mg/kg dry	1	8/3/23 19:39
Naphthalene	0.207		0.0134	0.180	mg/kg dry	1	8/3/23 19:39
Phenanthrene	1.25		0.0237	0.180	mg/kg dry	1	8/3/23 19:39
Pyrene	2.59		0.0133	0.180	mg/kg dry	1	8/3/23 19:39
TIC_Hexadecanoic acid, butyl ester	16.0	J, B			mg/kg dry	1	8/3/23 19:39
TIC_Octadecanoic acid, 2-methylpropyl ester	8.47	J			mg/kg dry	1	8/3/23 19:39
TIC_unknown (01)	0.501	J			mg/kg dry	1	8/3/23 19:39
TIC_unknown (02)	0.377	J			mg/kg dry	1	8/3/23 19:39

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.0301		0.000162	0.00178	mg/kg dry	1	8/3/23 2:43
Carbon disulfide	0.00940		0.000256	0.00178	mg/kg dry	1	8/3/23 2:43
EthylBenzene	0.00908		0.000242	0.00178	mg/kg dry	1	8/3/23 2:43
Methylcyclohexane	0.0410		0.000287	0.00178	mg/kg dry	1	8/3/23 2:43
Toluene	0.00380		0.000144	0.00178	mg/kg dry	1	8/3/23 2:43
TIC_1,3-Cyclohexanediamine	0.141	J			mg/kg dry	1	8/3/23 2:43
TIC_9-Borabicyclo[3.3.1]nonane, 9-hydroxy-	0.144	J			mg/kg dry	1	8/3/23 2:43
TIC_Camphor	0.117	J			mg/kg dry	1	8/3/23 2:43
TIC_Cycloheptane, methyl-	0.124	J			mg/kg dry	1	8/3/23 2:43
TIC_Cyclohexane, 1,1,3-trimethyl-	0.212	J			mg/kg dry	1	8/3/23 2:43
TIC_Cyclohexane, 1,3,5-trimethyl-	0.246	J			mg/kg dry	1	8/3/23 2:43
TIC_Cyclohexane, 1,3,5-trimethyl-2-octadecyl	0.204	J			mg/kg dry	1	8/3/23 2:43
TIC_Cyclohexane, 1-ethyl-2,3-dimethyl-	0.211	J			mg/kg dry	1	8/3/23 2:43

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexane, 1-ethyl-4-methyl-, trans-	0.166	J			mg/kg dry	1	8/3/23 2:43
TIC_Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.177	J			mg/kg dry	1	8/3/23 2:43
TIC_Cyclohexane, 2-propenyl-	0.172	J			mg/kg dry	1	8/3/23 2:43
TIC_Diisoamylene	0.166	J			mg/kg dry	1	8/3/23 2:43
TIC_Octane, 1,1-oxybis-	0.121	J			mg/kg dry	1	8/3/23 2:43
TIC_Pulegone	0.165	J			mg/kg dry	1	8/3/23 2:43
TIC_Spiro[4.5]decane	0.163	J			mg/kg dry	1	8/3/23 2:43

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0336	D	0.00365	0.0100	mg/L	10	8/8/23 22:49

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	8.14	D	0.198	1.66	mg/kg dry	10	8/8/23 18:42
Reactive Cyanide	8.1	D	1.4	1.4	mg/kg dry	10	8/9/23 16:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.53				pH Units	1	7/28/23 11:57

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	18000		0.258	4.34	mg/kg dry	1	8/9/23 13:51
Arsenic	8.89		0.155	2.17	mg/kg dry	1	8/9/23 13:51
Barium	39.4		0.0657	0.869	mg/kg dry	1	8/9/23 13:51
Beryllium	1.05		0.00503	0.0434	mg/kg dry	1	8/9/23 13:51
Calcium	6540		4.88	43.4	mg/kg dry	1	8/9/23 13:51
Chromium	30.6		0.0490	0.434	mg/kg dry	1	8/9/23 13:51
Cobalt	9.34		0.0444	0.347	mg/kg dry	1	8/9/23 13:51
Copper	22.4		0.121	0.434	mg/kg dry	1	8/9/23 13:51
Iron	36500		1.23	8.69	mg/kg dry	1	8/9/23 13:51
Lead	38.3		0.181	2.17	mg/kg dry	1	8/9/23 13:51
Magnesium	7200		15.3	86.9	mg/kg dry	1	8/9/23 13:51
Manganese	416		0.0540	0.434	mg/kg dry	1	8/9/23 13:51
Nickel	27.4		0.0381	0.217	mg/kg dry	1	8/9/23 13:51

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Positive Results Only Summary

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Potassium	3800		51.6	174	mg/kg dry	1	8/9/23 13:51
Sodium	3200		8.28	86.9	mg/kg dry	1	8/9/23 13:51
Vanadium	36.3		0.0999	0.869	mg/kg dry	1	8/9/23 13:51
Zinc	87.3		0.133	1.30	mg/kg dry	1	8/9/23 13:51

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.438		0.00279	0.100	mg/L	1	8/10/23 10:02

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	34.2	J, B			mg/kg dry	1	8/3/23 20:11
TIC_Octadecanoic acid, butyl ester	20.1	J, B			mg/kg dry	1	8/3/23 20:11
TIC_unknown (01)	1.52	J			mg/kg dry	1	8/3/23 20:11
TIC_unknown (02)	1.04	J			mg/kg dry	1	8/3/23 20:11

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.00511		0.000307	0.00337	mg/kg dry	1	8/3/23 3:14
Carbon disulfide	0.0823		0.000484	0.00337	mg/kg dry	1	8/3/23 3:14
TIC_TIC:Naphthalene	0.0130	J			mg/kg dry	1	8/3/23 3:14

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0343	D	0.00365	0.0100	mg/L	10	8/8/23 23:15

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.07				pH Units	1	7/28/23 11:57

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5330		0.167	2.82	mg/kg dry	1	8/9/23 13:54
Arsenic	2.00		0.100	1.41	mg/kg dry	1	8/9/23 13:54
Barium	24.5		0.0426	0.563	mg/kg dry	1	8/9/23 13:54
Beryllium	0.477		0.00326	0.0282	mg/kg dry	1	8/9/23 13:54

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	5560		3.17	28.2	mg/kg dry	1	8/9/23 13:54
Chromium	12.3		0.0318	0.282	mg/kg dry	1	8/9/23 13:54
Cobalt	4.28		0.0288	0.225	mg/kg dry	1	8/9/23 13:54
Copper	18.8		0.0788	0.282	mg/kg dry	1	8/9/23 13:54
Iron	11900		0.798	5.63	mg/kg dry	1	8/9/23 13:54
Lead	7.64		0.118	1.41	mg/kg dry	1	8/9/23 13:54
Magnesium	4400		9.95	56.3	mg/kg dry	1	8/9/23 13:54
Manganese	264		0.0350	0.282	mg/kg dry	1	8/9/23 13:54
Nickel	15.0		0.0247	0.141	mg/kg dry	1	8/9/23 13:54
Potassium	1620		33.5	113	mg/kg dry	1	8/9/23 13:54
Sodium	611		5.37	56.3	mg/kg dry	1	8/9/23 13:54
Vanadium	17.6		0.0648	0.563	mg/kg dry	1	8/9/23 13:54
Zinc	28.7		0.0861	0.845	mg/kg dry	1	8/9/23 13:54

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.632		0.00279	0.100	mg/L	1	8/10/23 10:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2-Pentanone, 4-hydroxy-4-methyl-	11.1	J			mg/kg dry	1	8/3/23 21:04
TIC_Hexadecanoic acid, butyl ester	15.1	J, B			mg/kg dry	1	8/3/23 21:04
TIC_Octadecanoic acid, butyl ester	9.39	J, B			mg/kg dry	1	8/3/23 21:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.00243		0.000157	0.00172	mg/kg dry	1	8/3/23 15:56
Carbon disulfide	0.00354		0.000247	0.00172	mg/kg dry	1	8/3/23 15:56

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0342	D	0.00365	0.0100	mg/L	10	8/8/23 23:41

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.547		0.0155	0.130	mg/kg dry	1	8/8/23 18:42
Reactive Cyanide	0.55		0.11	0.11	mg/kg dry	1	8/9/23 16:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.02				pH Units	1	7/28/23 11:57

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.302		0.00632	0.0253	mg/kg dry	1	8/2/23 16:57

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6700		0.179	3.01	mg/kg dry	1	8/9/23 13:56
Arsenic	5.63		0.107	1.50	mg/kg dry	1	8/9/23 13:56
Barium	111		0.0455	0.601	mg/kg dry	1	8/9/23 13:56
Beryllium	0.480		0.00348	0.0301	mg/kg dry	1	8/9/23 13:56
Cadmium	0.304		0.0586	0.301	mg/kg dry	1	8/9/23 13:56
Calcium	33700	D	33.8	301	mg/kg dry	10	8/9/23 14:33
Chromium	12.9		0.0340	0.301	mg/kg dry	1	8/9/23 13:56
Cobalt	4.93		0.0307	0.241	mg/kg dry	1	8/9/23 13:56
Copper	92.6		0.0841	0.301	mg/kg dry	1	8/9/23 13:56
Iron	16600		0.852	6.01	mg/kg dry	1	8/9/23 13:56
Lead	185		0.125	1.50	mg/kg dry	1	8/9/23 13:56
Magnesium	2520		10.6	60.1	mg/kg dry	1	8/9/23 13:56
Manganese	243		0.0374	0.301	mg/kg dry	1	8/9/23 13:56
Nickel	13.2		0.0264	0.150	mg/kg dry	1	8/9/23 13:56
Potassium	826		35.8	120	mg/kg dry	1	8/9/23 13:56
Silver	0.454		0.0511	0.180	mg/kg dry	1	8/9/23 13:56
Sodium	486		5.73	60.1	mg/kg dry	1	8/9/23 13:56
Vanadium	17.7		0.0692	0.601	mg/kg dry	1	8/9/23 13:56
Zinc	158		0.0919	0.902	mg/kg dry	1	8/9/23 13:56

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.594		0.00279	0.100	mg/L	1	8/10/23 10:07

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.229	J	0.0403	0.253	mg/kg dry	1	8/3/23 20:43
Acenaphthene	1.18		0.00959	0.168	mg/kg dry	1	8/3/23 20:43
Acenaphthylene	2.94		0.00585	0.168	mg/kg dry	1	8/3/23 20:43

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	3.89		0.0244	0.168	mg/kg dry	1	8/3/23 20:43
Benzo(a)anthracene	3.66		0.0169	0.168	mg/kg dry	1	8/3/23 20:43
Benzo(a)pyrene	3.36		0.0293	0.168	mg/kg dry	1	8/3/23 20:43
Benzo(b)fluoranthene	2.64		0.0236	0.168	mg/kg dry	1	8/3/23 20:43
Benzo(g,h,i)perylene	2.56		0.0136	0.168	mg/kg dry	1	8/3/23 20:43
Benzo(k)fluoranthene	1.37		0.0193	0.168	mg/kg dry	1	8/3/23 20:43
Chrysene	3.68		0.0115	0.168	mg/kg dry	1	8/3/23 20:43
Dibenzo(a,h)anthracene	0.471		0.0167	0.168	mg/kg dry	1	8/3/23 20:43
Fluoranthene	5.78		0.0158	0.168	mg/kg dry	1	8/3/23 20:43
Fluorene	2.60		0.0140	0.168	mg/kg dry	1	8/3/23 20:43
Indeno(1,2,3-cd)pyrene	1.40		0.0181	0.168	mg/kg dry	1	8/3/23 20:43
Naphthalene	0.328		0.0125	0.168	mg/kg dry	1	8/3/23 20:43
Phenanthrene	3.02		0.0221	0.168	mg/kg dry	1	8/3/23 20:43
Pyrene	13.5	D	0.0618	0.840	mg/kg dry	5	8/4/23 22:16
TIC_1,3,5,7-Cyclooctatetraene	3.62	J			mg/kg dry	1	8/3/23 20:43
TIC_1H-Indene, 2-phenyl-	2.20	J			mg/kg dry	1	8/3/23 20:43
TIC_9,10-Dimethylanthracene	3.62	J			mg/kg dry	1	8/3/23 20:43
TIC_Benzene, 1,1-(1,1,2,2-tetramethyl-1,2-e	3.65	J			mg/kg dry	1	8/3/23 20:43
TIC_Benzene, 1-propenyl-, (E)-	4.36	J			mg/kg dry	1	8/3/23 20:43
TIC_Hexadecanoic acid, butyl ester	16.9	J, B			mg/kg dry	1	8/3/23 20:43
TIC_Naphthalene, 1,3-dimethyl-	2.73	J			mg/kg dry	1	8/3/23 20:43
TIC_Octadecanoic acid, butyl ester	11.4	J, B			mg/kg dry	1	8/3/23 20:43
TIC_unknown (01)	2.09	J			mg/kg dry	1	8/3/23 20:43
TIC_unknown (02)	2.13	J			mg/kg dry	1	8/3/23 20:43
TIC_unknown (03)	3.31	J			mg/kg dry	1	8/3/23 20:43
TIC_unknown (04)	7.19	J			mg/kg dry	1	8/3/23 20:43
TIC_unknown (05)	2.05	J			mg/kg dry	1	8/3/23 20:43
TIC_unknown (06)	2.33	J			mg/kg dry	1	8/3/23 20:43
TIC_unknown (07)	3.93	J			mg/kg dry	1	8/3/23 20:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetone	0.0784		0.000617	0.00509	mg/kg dry	1	8/3/23 16:28
Benzene	0.00127	J	0.000185	0.00204	mg/kg dry	1	8/3/23 16:28
Carbon disulfide	0.00433		0.000292	0.00204	mg/kg dry	1	8/3/23 16:28
Cyclohexane	0.00326		0.000451	0.00204	mg/kg dry	1	8/3/23 16:28
EthylBenzene	0.00235		0.000276	0.00204	mg/kg dry	1	8/3/23 16:28

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	0.00873		0.000320	0.00204	mg/kg dry	1	8/3/23 16:28
m+p-Xylenes	0.00335	J	0.000514	0.00407	mg/kg dry	1	8/3/23 16:28
Methylcyclohexane	0.0108		0.000328	0.00204	mg/kg dry	1	8/3/23 16:28
o-Xylene	0.00223		0.000262	0.00204	mg/kg dry	1	8/3/23 16:28
Toluene	0.00240		0.000164	0.00204	mg/kg dry	1	8/3/23 16:28
Total Xylenes	0.00558		0.000262	0.00204	mg/kg dry	1	8/3/23 16:28
TIC_1H-Indene, 2,3-dihydro-1,2-dimethyl-	0.0247	J			mg/kg dry	1	8/3/23 16:28
TIC_1H-Indene, 2,3-dihydro-1,6-dimethyl-	0.0188	J			mg/kg dry	1	8/3/23 16:28
TIC_Benzene, 1-ethenyl-4-ethyl-	0.0228	J			mg/kg dry	1	8/3/23 16:28
TIC_Benzene, 1-ethyl-2-methyl-	0.0370	J			mg/kg dry	1	8/3/23 16:28
TIC_Benzene, 1-ethyl-3-methyl-	0.0183	J			mg/kg dry	1	8/3/23 16:28
TIC_Benzene, diethylmethyl-	0.0173	J			mg/kg dry	1	8/3/23 16:28
TIC_Cyclohexane, 1,4-dimethyl-, trans-	0.0477	J			mg/kg dry	1	8/3/23 16:28
TIC_Cyclohexane, butyl-	0.0547	J			mg/kg dry	1	8/3/23 16:28
TIC_Cyclohexane, propyl-	0.0224	J			mg/kg dry	1	8/3/23 16:28
TIC_Cyclopentane, 1,2-dimethyl-3-(1-methylet	0.0174	J			mg/kg dry	1	8/3/23 16:28
TIC_Cyclopentane, 1-hexyl-3-methyl-	0.0409	J			mg/kg dry	1	8/3/23 16:28
TIC_Decane, 1,1-oxybis-	0.0233	J			mg/kg dry	1	8/3/23 16:28
TIC_Decane, 3-methyl-	0.0166	J			mg/kg dry	1	8/3/23 16:28
TIC_Nonane, 3-methyl-	0.0176	J			mg/kg dry	1	8/3/23 16:28
TIC_Octane, 2,3-dimethyl-	0.0238	J			mg/kg dry	1	8/3/23 16:28

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0320	D	0.00365	0.0100	mg/L	10	8/9/23 20:41

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.66				pH Units	1	7/28/23 11:57

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727**

SW 846 7473 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0396		0.00926	0.0370	mg/kg dry	1	8/2/23 17:07

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	18800		0.272	4.58	mg/kg dry	1	8/9/23 14:37
Arsenic	8.12		0.164	2.29	mg/kg dry	1	8/9/23 14:37
Barium	34.6		0.0693	0.917	mg/kg dry	1	8/9/23 14:37
Beryllium	1.10		0.00531	0.0458	mg/kg dry	1	8/9/23 14:37
Calcium	1980		5.16	45.8	mg/kg dry	1	8/9/23 14:37
Chromium	33.7		0.0518	0.458	mg/kg dry	1	8/9/23 14:37
Cobalt	9.12		0.0468	0.367	mg/kg dry	1	8/9/23 14:37
Copper	13.3		0.128	0.458	mg/kg dry	1	8/9/23 14:37
Iron	37700		1.30	9.17	mg/kg dry	1	8/9/23 14:37
Lead	14.0		0.191	2.29	mg/kg dry	1	8/9/23 14:37
Magnesium	7730		16.2	91.7	mg/kg dry	1	8/9/23 14:37
Manganese	346		0.0570	0.458	mg/kg dry	1	8/9/23 14:37
Nickel	27.1		0.0403	0.229	mg/kg dry	1	8/9/23 14:37
Potassium	4000		54.5	183	mg/kg dry	1	8/9/23 14:37
Sodium	3020		8.74	91.7	mg/kg dry	1	8/9/23 14:37
Vanadium	37.9		0.105	0.917	mg/kg dry	1	8/9/23 14:37
Zinc	75.2		0.140	1.38	mg/kg dry	1	8/9/23 14:37

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.526		0.00279	0.100	mg/L	1	8/10/23 10:09

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	35.6	J, B			mg/kg dry	1	8/3/23 21:14
TIC_Octadecanoic acid, butyl ester	21.2	J, B			mg/kg dry	1	8/3/23 21:14
TIC_unknown	1.26	J, B			mg/kg dry	1	8/3/23 21:14

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0428		0.000450	0.00314	mg/kg dry	1	8/4/23 16:43

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0325	D	0.00365	0.0100	mg/L	10	8/9/23 21:07

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	3.11		0.0245	0.206	mg/kg dry	1	8/9/23 9:45
Reactive Cyanide	3.1		0.17	0.17	mg/kg dry	1	8/9/23 16:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.09				pH Units	1	7/28/23 11:57

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4500		0.176	2.96	mg/kg dry	1	8/9/23 14:39
Arsenic	2.88		0.106	1.48	mg/kg dry	1	8/9/23 14:39
Barium	14.7		0.0447	0.592	mg/kg dry	1	8/9/23 14:39
Beryllium	0.375		0.00342	0.0296	mg/kg dry	1	8/9/23 14:39
Calcium	320		3.33	29.6	mg/kg dry	1	8/9/23 14:39
Chromium	8.31		0.0334	0.296	mg/kg dry	1	8/9/23 14:39
Cobalt	3.13		0.0302	0.237	mg/kg dry	1	8/9/23 14:39
Copper	4.32		0.0827	0.296	mg/kg dry	1	8/9/23 14:39
Iron	9670		0.838	5.92	mg/kg dry	1	8/9/23 14:39
Lead	3.54		0.123	1.48	mg/kg dry	1	8/9/23 14:39
Magnesium	1460		10.4	59.2	mg/kg dry	1	8/9/23 14:39
Manganese	73.5		0.0368	0.296	mg/kg dry	1	8/9/23 14:39
Nickel	7.25		0.0260	0.148	mg/kg dry	1	8/9/23 14:39
Potassium	1090		35.2	118	mg/kg dry	1	8/9/23 14:39
Sodium	863		5.64	59.2	mg/kg dry	1	8/9/23 14:39
Vanadium	11.7		0.0680	0.592	mg/kg dry	1	8/9/23 14:39
Zinc	22.4		0.0903	0.887	mg/kg dry	1	8/9/23 14:39

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.578		0.00279	0.100	mg/L	1	8/10/23 10:11

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.000273		3.27E-7	0.0000500	mg/L	1	8/10/23 22:03

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	74.1	D	0.387	2.43	mg/kg dry	10	8/4/23 23:51
Acenaphthene	34.0	D	0.0920	1.61	mg/kg dry	10	8/4/23 23:51
Acenaphthylene	5.96		0.00561	0.161	mg/kg dry	1	8/3/23 23:00
Anthracene	19.0	D	0.234	1.61	mg/kg dry	10	8/4/23 23:51
Benzo(a)anthracene	10.1	D	0.162	1.61	mg/kg dry	10	8/4/23 23:51
Benzo(a)pyrene	7.85		0.0281	0.161	mg/kg dry	1	8/3/23 23:00
Benzo(b)fluoranthene	5.40		0.0227	0.161	mg/kg dry	1	8/3/23 23:00
Benzo(g,h,i)perylene	3.06		0.0131	0.161	mg/kg dry	1	8/3/23 23:00
Benzo(k)fluoranthene	2.19		0.0186	0.161	mg/kg dry	1	8/3/23 23:00
Biphenyl	8.24		0.0142	0.161	mg/kg dry	1	8/3/23 23:00
Carbazole	0.525		0.0310	0.404	mg/kg dry	1	8/3/23 23:00
Chrysene	10.0		0.0111	0.161	mg/kg dry	1	8/3/23 23:00
Dibenzo(a,h)anthracene	0.921		0.0160	0.161	mg/kg dry	1	8/3/23 23:00
Dibenzofuran	2.57		0.00962	0.161	mg/kg dry	1	8/3/23 23:00
Fluoranthene	19.1	D	0.152	1.61	mg/kg dry	10	8/4/23 23:51
Fluorene	22.0	D	0.135	1.61	mg/kg dry	10	8/4/23 23:51
Indeno(1,2,3-cd)pyrene	2.24		0.0173	0.161	mg/kg dry	1	8/3/23 23:00
Naphthalene	81.1	D	0.120	1.61	mg/kg dry	10	8/4/23 23:51
Phenanthrene	61.0	D	0.212	1.61	mg/kg dry	10	8/4/23 23:51
Pyrene	24.8	D	0.119	1.61	mg/kg dry	10	8/4/23 23:51
TIC_Benzene, 1,2,4-trimethyl-	4.32	J			mg/kg dry	1	8/3/23 23:00
TIC_Benzene, 1-ethyl-2,3-dimethyl-	2.86	J			mg/kg dry	1	8/3/23 23:00
TIC_Benzene, 1-ethyl-2-methyl-	4.16	J			mg/kg dry	1	8/3/23 23:00
TIC_Indene	12.6	J			mg/kg dry	1	8/3/23 23:00
TIC_Naphthalene, 1,5-dimethyl-	14.2	J			mg/kg dry	1	8/3/23 23:00
TIC_Naphthalene, 1,8-dimethyl-	13.9	J			mg/kg dry	1	8/3/23 23:00
TIC_Naphthalene, 1-ethyl-	23.0	J			mg/kg dry	1	8/3/23 23:00
TIC_Naphthalene, 2,3,6-trimethyl-	10.2	J			mg/kg dry	1	8/3/23 23:00
TIC_Naphthalene, 2,3-dimethyl-	32.9	J			mg/kg dry	1	8/3/23 23:00
TIC_Naphthalene, 2,6-dimethyl-	24.9	J			mg/kg dry	1	8/3/23 23:00
TIC_unknown (01)	6.99	J			mg/kg dry	1	8/3/23 23:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (02)	6.57	J			mg/kg dry	1	8/3/23 23:00
TIC_unknown (03)	9.77	J			mg/kg dry	1	8/3/23 23:00
TIC_unknown (04)	3.60	J			mg/kg dry	1	8/3/23 23:00
TIC_unknown (05)	5.88	J			mg/kg dry	1	8/3/23 23:00

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	195	D	0.683	4.95	mg/kg dry	1428	8/8/23 10:30
Acetone	0.171		0.000557	0.00459	mg/kg dry	1	8/4/23 17:15
Benzene	38.9	D	0.450	4.95	mg/kg dry	1428	8/8/23 10:30
Carbon disulfide	0.00630		0.000264	0.00184	mg/kg dry	1	8/4/23 17:15
Cyclohexane	0.0705		0.000407	0.00184	mg/kg dry	1	8/4/23 17:15
EthylBenzene	274	D	0.670	4.95	mg/kg dry	1428	8/8/23 10:30
Isopropylbenzene	34.8	D	0.777	4.95	mg/kg dry	1428	8/8/23 10:30
m+p-Xylenes	245	D	1.25	9.89	mg/kg dry	1428	8/8/23 10:30
Methylcyclohexane	0.104		0.000296	0.00184	mg/kg dry	1	8/4/23 17:15
o-Xylene	116	D	0.636	4.95	mg/kg dry	1428	8/8/23 10:30
Toluene	172	D	0.398	4.95	mg/kg dry	1428	8/8/23 10:30
Total Xylenes	361	D	0.636	4.95	mg/kg dry	1428	8/8/23 10:30
TIC_1,3,5-Heptatriene, (E,E)-	0.0465	J			mg/kg dry	1	8/4/23 17:15
TIC_2-Decene, 8-methyl-, (Z)-	0.0459	J			mg/kg dry	1	8/4/23 17:15
TIC_Benzene, 1,3,5-trimethyl-	0.0459	J			mg/kg dry	1	8/4/23 17:15
TIC_Benzene, 1-ethyl-3-methyl-	0.215	J			mg/kg dry	1	8/4/23 17:15
TIC_Benzene, 1-ethynyl-4-methyl-	0.217	J			mg/kg dry	1	8/4/23 17:15
TIC_Benzene, cyclopropyl-	0.0490	J			mg/kg dry	1	8/4/23 17:15
TIC_Benzene, propyl-	0.0483	J			mg/kg dry	1	8/4/23 17:15
TIC_Cyclohexane, methyl-	0.0622	J			mg/kg dry	1	8/4/23 17:15
TIC_Cyclohexene, 1,2-dimethyl-	0.0525	J			mg/kg dry	1	8/4/23 17:15
TIC_Cyclohexene, 1-methyl-(01)	0.0660	J			mg/kg dry	1	8/4/23 17:15
TIC_Cyclohexene, 1-methyl-(02)	0.0488	J			mg/kg dry	1	8/4/23 17:15
TIC_Octane	0.0937	J			mg/kg dry	1	8/4/23 17:15
TIC_Octane, 3-methyl-	0.0658	J			mg/kg dry	1	8/4/23 17:15
TIC_Octane, 4-methyl-	0.0628	J			mg/kg dry	1	8/4/23 17:15
TIC_Pentalene, octahydro-1-methyl-	0.0449	J			mg/kg dry	1	8/4/23 17:15

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Positive Results Only Summary

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.0344	D	0.00129	0.0100	mg/L	10	8/9/23 21:33
Chloroform	0.0335	D	0.00365	0.0100	mg/L	10	8/9/23 21:33

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	0.13		0.12	0.12	mg/kg dry	1	8/9/23 16:47

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.50				pH Units	1	7/28/23 11:57

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5740		0.177	2.98	mg/kg dry	1	8/9/23 14:41
Barium	35.5		0.0450	0.595	mg/kg dry	1	8/9/23 14:41
Beryllium	0.465		0.00345	0.0298	mg/kg dry	1	8/9/23 14:41
Calcium	12300		3.35	29.8	mg/kg dry	1	8/9/23 14:41
Chromium	10.8		0.0336	0.298	mg/kg dry	1	8/9/23 14:41
Cobalt	4.82		0.0304	0.238	mg/kg dry	1	8/9/23 14:41
Copper	13.2		0.0833	0.298	mg/kg dry	1	8/9/23 14:41
Iron	11900		0.843	5.95	mg/kg dry	1	8/9/23 14:41
Lead	4.10		0.124	1.49	mg/kg dry	1	8/9/23 14:41
Magnesium	5920		10.5	59.5	mg/kg dry	1	8/9/23 14:41
Manganese	375		0.0370	0.298	mg/kg dry	1	8/9/23 14:41
Nickel	14.7		0.0262	0.149	mg/kg dry	1	8/9/23 14:41
Potassium	1390		35.4	119	mg/kg dry	1	8/9/23 14:41
Sodium	416		5.68	59.5	mg/kg dry	1	8/9/23 14:41
Vanadium	13.9		0.0685	0.595	mg/kg dry	1	8/9/23 14:41
Zinc	25.9		0.0910	0.893	mg/kg dry	1	8/9/23 14:41

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.04		0.00279	0.100	mg/L	1	8/10/23 10:13

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.320		0.0391	0.245	mg/kg dry	1	8/3/23 23:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.237		0.00931	0.163	mg/kg dry	1	8/3/23 23:30
Acenaphthylene	0.0739	J	0.00568	0.163	mg/kg dry	1	8/3/23 23:30
Anthracene	0.169		0.0237	0.163	mg/kg dry	1	8/3/23 23:30
Benzo(a)anthracene	0.0860	J	0.0164	0.163	mg/kg dry	1	8/3/23 23:30
Benzo(a)pyrene	0.0716	J	0.0285	0.163	mg/kg dry	1	8/3/23 23:30
Benzo(b)fluoranthene	0.0382	J	0.0229	0.163	mg/kg dry	1	8/3/23 23:30
Benzo(g,h,i)perylene	0.0311	J	0.0132	0.163	mg/kg dry	1	8/3/23 23:30
Biphenyl	0.0388	J	0.0144	0.163	mg/kg dry	1	8/3/23 23:30
Chrysene	0.0897	J	0.0112	0.163	mg/kg dry	1	8/3/23 23:30
Fluoranthene	0.134	J	0.0153	0.163	mg/kg dry	1	8/3/23 23:30
Fluorene	0.183		0.0136	0.163	mg/kg dry	1	8/3/23 23:30
Naphthalene	0.330		0.0121	0.163	mg/kg dry	1	8/3/23 23:30
Phenanthrene	0.527		0.0215	0.163	mg/kg dry	1	8/3/23 23:30
Pyrene	0.243		0.0120	0.163	mg/kg dry	1	8/3/23 23:30
TIC_Hexadecanoic acid, butyl ester	10.1	J			mg/kg dry	1	8/3/23 23:30
TIC_Octadecanoic acid, 2-methylpropyl ester	5.75	J			mg/kg dry	1	8/3/23 23:30

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	1.45	D	0.0584	0.423	mg/kg dry	131	8/8/23 12:30
Benzene	0.288		0.000164	0.00180	mg/kg dry	1	8/7/23 16:00
Carbon disulfide	0.00248		0.000259	0.00180	mg/kg dry	1	8/7/23 16:00
EthylBenzene	1.84	D	0.0573	0.423	mg/kg dry	131	8/8/23 12:30
Isopropylbenzene	0.126		0.000283	0.00180	mg/kg dry	1	8/7/23 16:00
m+p-Xylenes	1.69	D	0.107	0.846	mg/kg dry	131	8/8/23 12:30
Methylcyclohexane	0.00300		0.000290	0.00180	mg/kg dry	1	8/7/23 16:00
o-Xylene	0.776	D	0.0543	0.423	mg/kg dry	131	8/8/23 12:30
Toluene	1.15	D	0.0340	0.423	mg/kg dry	131	8/8/23 12:30
Total Xylenes	2.47	D	0.0543	0.423	mg/kg dry	131	8/8/23 12:30
TIC_1H-Indene, 1-methyl-	0.0841	J			mg/kg dry	1	8/7/23 16:00
TIC_2-Methylindene	0.0770	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1,2,3-trimethyl-	0.0578	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1,3,5-trimethyl-	0.0741	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1,3-diethyl-	0.0517	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1-ethenyl-2-methyl-	0.0439	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1-ethyl-2,3-dimethyl-	0.0622	J			mg/kg dry	1	8/7/23 16:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1-ethyl-2-methyl-	0.106	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1-ethyl-3-methyl-	0.250	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.0385	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	0.0489	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 1-propenyl-	0.0854	J			mg/kg dry	1	8/7/23 16:00
TIC_Benzene, 2-propenyl-	0.0404	J			mg/kg dry	1	8/7/23 16:00
TIC_Indene	0.472	J			mg/kg dry	1	8/7/23 16:00
TIC_TIC:Naphthalene	0.303	J			mg/kg dry	1	8/7/23 16:00

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0274	D	0.00365	0.0100	mg/L	10	8/9/23 21:58

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.05				pH Units	1	7/28/23 11:57

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.112	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1221	ND	U	0.221	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1232	ND	U	0.281	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1242	ND	U	0.165	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1248	ND	U	0.172	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1254 [2C]	**13.1**	D	**0.0783**	**0.838**	**mg/kg**	**20**	**8/7/23 11:54**	J, RC:3H
Aroclor-1260	ND	U	0.105	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1262	ND	U	0.226	0.838	mg/kg	20	8/7/23 11:54	
Aroclor-1268	ND	U	0.101	0.838	mg/kg	20	8/7/23 11:54	
Total PCBs	**13.1**	D	**0.0783**	**0.838**	**mg/kg**	**20**	**8/7/23 11:54**	J, RC:3H

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0124	0.127	mg/kg	1	8/9/23 11:47
2,4-D	ND	U	0.0211	0.127	mg/kg	1	8/9/23 11:47

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 10:34
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 10:34

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.306**		**0.00635**	**0.0254**	**mg/kg**	**1**	**8/2/23 15:04**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 14:54

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5530**		**0.187**	**3.14**	**mg/kg**	**1**	**8/9/23 13:36**
Antimony	**2.45**		**0.171**	**1.57**	**mg/kg**	**1**	**8/9/23 13:36**
Arsenic	**6.05**		**0.112**	**1.57**	**mg/kg**	**1**	**8/9/23 13:36**
Barium	**225**		**0.0475**	**0.629**	**mg/kg**	**1**	**8/9/23 13:36**
Beryllium	**0.387**		**0.00364**	**0.0314**	**mg/kg**	**1**	**8/9/23 13:36**
Cadmium	**1.91**		**0.0613**	**0.314**	**mg/kg**	**1**	**8/9/23 13:36**
Calcium	**143000**	D	**35.4**	**314**	**mg/kg**	**10**	**8/9/23 14:29**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**32.1**		**0.0355**	**0.314**	**mg/kg**	**1**	**8/9/23 13:36**
Cobalt	**4.81**		**0.0321**	**0.252**	**mg/kg**	**1**	**8/9/23 13:36**
Copper	**226**		**0.0880**	**0.314**	**mg/kg**	**1**	**8/9/23 13:36**
Iron	**20300**		**0.891**	**6.29**	**mg/kg**	**1**	**8/9/23 13:36**
Lead	**364**		**0.131**	**1.57**	**mg/kg**	**1**	**8/9/23 13:36**
Magnesium	**5590**		**11.1**	**62.9**	**mg/kg**	**1**	**8/9/23 13:36**
Manganese	**217**		**0.0391**	**0.314**	**mg/kg**	**1**	**8/9/23 13:36**
Nickel	**61.6**		**0.0276**	**0.157**	**mg/kg**	**1**	**8/9/23 13:36**
Potassium	**616**		**37.4**	**126**	**mg/kg**	**1**	**8/9/23 13:36**
Selenium	ND	U	0.302	1.57	mg/kg	1	8/9/23 13:36 UJ, RC:6L
Silver	**1.11**		**0.0535**	**0.189**	**mg/kg**	**1**	**8/9/23 13:36**
Sodium	**3690**		**6.00**	**62.9**	**mg/kg**	**1**	**8/9/23 13:36**
Thallium	ND	U	0.106	1.57	mg/kg	1	8/9/23 13:36
Vanadium	**46.5**		**0.0723**	**0.629**	**mg/kg**	**1**	**8/9/23 13:36**
Zinc	**591**	D	**0.960**	**9.43**	**mg/kg**	**10**	**8/9/23 14:29**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:40
Barium	**0.417**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:40**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:40
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:40
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:40
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:40
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:40

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000756	0.00165	mg/kg	1	8/8/23 0:42
4,4'-DDE	ND	U	0.000903	0.00165	mg/kg	1	8/8/23 0:42
4,4'-DDT	**0.218**		**0.00117**	**0.00165**	**mg/kg**	**1**	**8/8/23 0:42**
Aldrin	ND	U	0.000782	0.00165	mg/kg	1	8/8/23 0:42
alpha-BHC	ND	U	0.000492	0.00165	mg/kg	1	8/8/23 0:42
beta-BHC	ND	U	0.000789	0.00165	mg/kg	1	8/8/23 0:42
Chlordane	ND	U	0.000734	0.00165	mg/kg	1	8/8/23 0:42
delta-BHC	ND	U	0.000767	0.00165	mg/kg	1	8/8/23 0:42
Dieldrin	ND	U	0.000864	0.00165	mg/kg	1	8/8/23 0:42
Endosulfan I	ND	U	0.000780	0.00165	mg/kg	1	8/8/23 0:42

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000751	0.00165	mg/kg	1	8/8/23 0:42
Endosulfan sulfate	ND	U	0.000621	0.00165	mg/kg	1	8/8/23 0:42
Endosulfans, Total (alpha and beta)	ND	U	0.000751	0.00165	mg/kg	1	8/8/23 0:42
Endrin	ND	U	0.000570	0.00165	mg/kg	1	8/8/23 0:42
Endrin aldehyde	ND	U	0.000658	0.00165	mg/kg	1	8/8/23 0:42
Endrin ketone	ND	U	0.000582	0.00165	mg/kg	1	8/8/23 0:42
gamma-BHC (Lindane)	ND	U	0.000523	0.00165	mg/kg	1	8/8/23 0:42
Heptachlor	ND	U	0.000442	0.00165	mg/kg	1	8/8/23 0:42
Heptachlor Epoxide	ND	U	0.000833	0.00165	mg/kg	1	8/8/23 0:42
Methoxychlor	ND	U	0.000484	0.00165	mg/kg	1	8/8/23 0:42
Toxaphene	ND	U	0.0796	0.0838	mg/kg	1	8/8/23 0:42

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/9/23 22:29	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/9/23 22:29	UJ, RC:6L
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/9/23 22:29	UJ, RC:6L,SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/9/23 22:29	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/9/23 22:29	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/9/23 22:29	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/9/23 22:29	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/9/23 22:29	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/9/23 22:29	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/9/23 22:29	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/9/23 22:29	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/9/23 22:29	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/9/23 22:29	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/9/23 22:29	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/9/23 22:29	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/9/23 22:29	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/9/23 22:29	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/9/23 22:29	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/9/23 22:29	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/9/23 22:29	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00478	0.0423	mg/kg	1	8/3/23 18:02
2,3,4,6-Tetrachlorophenol	ND	U	0.0260	0.169	mg/kg	1	8/3/23 18:02
2,4,5-Trichlorophenol	ND	U	0.0230	0.169	mg/kg	1	8/3/23 18:02
2,4,6-Trichlorophenol	ND	U	0.0106	0.169	mg/kg	1	8/3/23 18:02
2,4-Dichlorophenol	ND	U	0.0170	0.169	mg/kg	1	8/3/23 18:02
2,4-Dimethylphenol	ND	U	0.0166	0.169	mg/kg	1	8/3/23 18:02
2,4-Dinitrophenol	ND	U	0.0244	0.847	mg/kg	1	8/3/23 18:02 R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0180	0.169	mg/kg	1	8/3/23 18:02
2,6-Dinitrotoluene	ND	U	0.0404	0.169	mg/kg	1	8/3/23 18:02
2-Chloronaphthalene	ND	U	0.0194	0.169	mg/kg	1	8/3/23 18:02
2-Chlorophenol	ND	U	0.0224	0.169	mg/kg	1	8/3/23 18:02
2-Methylnaphthalene	**0.516**		**0.0405**	**0.254**	**mg/kg**	**1**	**8/3/23 18:02**
2-Methylphenol	ND	U	0.0334	0.169	mg/kg	1	8/3/23 18:02
2-Nitroaniline	ND	U	0.0136	0.169	mg/kg	1	8/3/23 18:02
2-Nitrophenol	ND	U	0.0188	0.169	mg/kg	1	8/3/23 18:02
3,3'-Dichlorobenzidine	ND	U	0.0178	0.169	mg/kg	1	8/3/23 18:02
3+4-Methylphenol	ND	U	0.0310	0.169	mg/kg	1	8/3/23 18:02
3-Nitroaniline	ND	U	0.0314	0.169	mg/kg	1	8/3/23 18:02
4,6-Dinitro-2-methylphenol	ND	U	0.0319	0.423	mg/kg	1	8/3/23 18:02
4-Bromophenyl-phenyl ether	ND	U	0.0241	0.169	mg/kg	1	8/3/23 18:02
4-Chloro-3-methylphenol	ND	U	0.0267	0.169	mg/kg	1	8/3/23 18:02
4-Chloroaniline	ND	U	0.00592	0.169	mg/kg	1	8/3/23 18:02
4-Chlorophenyl phenyl ether	ND	U	0.00913	0.169	mg/kg	1	8/3/23 18:02
4-Nitroaniline	ND	U	0.0846	0.169	mg/kg	1	8/3/23 18:02
4-Nitrophenol	ND	U	0.0108	0.169	mg/kg	1	8/3/23 18:02
Acenaphthene	**1.54**		**0.00964**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Acenaphthylene	**0.503**		**0.00588**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Acetophenone	ND	U	0.0168	0.169	mg/kg	1	8/3/23 18:02
Anthracene	**3.97**		**0.0245**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Atrazine	ND	U	0.0159	0.169	mg/kg	1	8/3/23 18:02
Benzaldehyde	ND	U	0.0520	0.169	mg/kg	1	8/3/23 18:02
Benzo(a)anthracene	**10.5**		**0.0170**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Benzo(a)pyrene	**10.4**		**0.0295**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Benzo(b)fluoranthene	**9.29**		**0.0238**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Benzo(g,h,i)perylene	**0.0384**	J	**0.0137**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Benzo(k)fluoranthene	**6.90**		**0.0194**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Biphenyl	**0.150**	J	**0.0149**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
bis(2-chloroethoxy)methane	ND	U	0.0234	0.169	mg/kg	1	8/3/23 18:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0185	0.169	mg/kg	1	8/3/23 18:02
bis(2-chloroisopropyl)ether	ND	U	0.0608	0.169	mg/kg	1	8/3/23 18:02
bis(2-ethylhexyl)phthalate	**1.00**		**0.0338**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Butylbenzylphthalate	ND	U	0.0154	0.169	mg/kg	1	8/3/23 18:02
Caprolactam	ND	U	0.0218	0.169	mg/kg	1	8/3/23 18:02
Carbazole	**1.85**		**0.0325**	**0.423**	**mg/kg**	**1**	**8/3/23 18:02**
Chrysene	**9.79**		**0.0116**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Dibenzo(a,h)anthracene	**2.36**		**0.0168**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Dibenzofuran	**0.988**		**0.0101**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Diethylphthalate	ND	U	0.0328	0.169	mg/kg	1	8/3/23 18:02
Dimethylphthalate	ND	U	0.0105	0.169	mg/kg	1	8/3/23 18:02
Di-n-butylphthalate	ND	U	0.0691	0.169	mg/kg	1	8/3/23 18:02
Di-n-octylphthalate	ND	U	0.0347	0.169	mg/kg	1	8/3/23 18:02
Fluoranthene	**23.2**	D	**0.0794**	**0.845**	**mg/kg**	**5**	**8/4/23 21:45**
Fluorene	**1.91**		**0.0141**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Hexachlorobenzene	ND	U	0.0221	0.169	mg/kg	1	8/3/23 18:02
Hexachlorobutadiene	ND	U	0.0812	0.169	mg/kg	1	8/3/23 18:02
Hexachlorocyclopentadiene	ND	U	0.0705	0.423	mg/kg	1	8/3/23 18:02
Hexachloroethane	ND	U	0.0185	0.169	mg/kg	1	8/3/23 18:02
Indeno(1,2,3-cd)pyrene	**4.24**		**0.0182**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Isophorone	ND	U	0.0111	0.169	mg/kg	1	8/3/23 18:02
Naphthalene	**1.15**		**0.0125**	**0.169**	**mg/kg**	**1**	**8/3/23 18:02**
Nitrobenzene	ND	U	0.0287	0.169	mg/kg	1	8/3/23 18:02
n-Nitroso-di-n-propylamine	ND	U	0.00906	0.169	mg/kg	1	8/3/23 18:02
n-Nitrosodiphenylamine	ND	U	0.0361	0.169	mg/kg	1	8/3/23 18:02
Pentachlorophenol	ND	U	0.0232	0.423	mg/kg	1	8/3/23 18:02
Phenanthrene	**14.1**	D	**0.111**	**0.845**	**mg/kg**	**5**	**8/4/23 21:45**
Phenol	ND	U	0.0137	0.169	mg/kg	1	8/3/23 18:02
Pyrene	**15.3**	D	**0.0622**	**0.845**	**mg/kg**	**5**	**8/4/23 21:45**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Dibenzothiophene	0.759	10.87	J	mg/kg	1	8/3/23 18:02	
Hexadecanoic acid, butyl ester	~~12.5~~	12.33	J, B	mg/kg	1	8/3/23 18:02	R, RC:2
Octadecanoic acid, butyl ester	~~1.65~~	13.16	J, B	mg/kg	1	8/3/23 18:02	R, RC:2
unknown (01)	2.81	5.36	J	mg/kg	1	8/3/23 18:02	
unknown (02)	1.05	10.55	J	mg/kg	1	8/3/23 18:02	
unknown (03)	0.690	11.48	J	mg/kg	1	8/3/23 18:02	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (04)	1.83	11.51	J	mg/kg	1	8/3/23 18:02
unknown (05)	0.828	11.56	J	mg/kg	1	8/3/23 18:02
unknown (06)	3.94	11.61	J	mg/kg	1	8/3/23 18:02
unknown (07)	1.16	11.77	J	mg/kg	1	8/3/23 18:02
unknown (08)	1.10	11.82	J	mg/kg	1	8/3/23 18:02
unknown (09)	0.505	12.89	J	mg/kg	1	8/3/23 18:02
unknown (10)	0.449	12.97	J	mg/kg	1	8/3/23 18:02
unknown (11)	0.792	13.68	J	mg/kg	1	8/3/23 18:02
unknown (12)	0.603	14.20	J	mg/kg	1	8/3/23 18:02
TIC Total	~~30.7~~ 16.6					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 17:55	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 17:55	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 17:55	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 17:55	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 17:55	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 17:55	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 17:55	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 17:55	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 17:55	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 17:55	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 17:55	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000412	0.00282	mg/kg	1	8/3/23 15:24
1,1,2,2-Tetrachloroethane	ND	U	0.000390	0.00282	mg/kg	1	8/3/23 15:24
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00121	0.00282	mg/kg	1	8/3/23 15:24
1,1,2-Trichloroethane	ND	U	0.000476	0.00282	mg/kg	1	8/3/23 15:24
1,1-Dichloroethane	ND	U	0.000412	0.00282	mg/kg	1	8/3/23 15:24
1,1-Dichloroethene	ND	U	0.000522	0.00282	mg/kg	1	8/3/23 15:24
1,2,3-Trichlorobenzene	ND	U	0.000610	0.00282	mg/kg	1	8/3/23 15:24
1,2,4-Trichlorobenzene	ND	U	0.000752	0.00282	mg/kg	1	8/3/23 15:24
1,2,4-Trimethylbenzene	ND	U	0.000390	0.00282	mg/kg	1	8/3/23 15:24
1,2-Dibromo-3-chloropropane	ND	U	0.000689	0.00282	mg/kg	1	8/3/23 15:24

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromoethane	ND	U	0.000356	0.00282	mg/kg	1	8/3/23 15:24
1,2-Dichlorobenzene	ND	U	0.000498	0.00282	mg/kg	1	8/3/23 15:24
1,2-Dichloroethane	ND	U	0.000398	0.00282	mg/kg	1	8/3/23 15:24
1,2-Dichloropropane	ND	U	0.000463	0.00282	mg/kg	1	8/3/23 15:24
1,3-Dichlorobenzene	ND	U	0.000207	0.00282	mg/kg	1	8/3/23 15:24
1,4-Dichlorobenzene	ND	U	0.000406	0.00282	mg/kg	1	8/3/23 15:24
2-Butanone	ND	U	0.000460	0.00706	mg/kg	1	8/3/23 15:24
2-Hexanone	ND	U	0.000264	0.00282	mg/kg	1	8/3/23 15:24
4-Methyl-2-pentanone	ND	U	0.000353	0.00282	mg/kg	1	8/3/23 15:24
Acetone	**0.116**		**0.000855**	**0.00706**	**mg/kg**	**1**	**8/3/23 15:24**
Benzene	ND	U	0.000257	0.00282	mg/kg	1	8/3/23 15:24
Bromochloromethane	ND	U	0.000521	0.00282	mg/kg	1	8/3/23 15:24
Bromodichloromethane	ND	U	0.000354	0.00282	mg/kg	1	8/3/23 15:24
Bromoform	ND	U	0.000495	0.00282	mg/kg	1	8/3/23 15:24
Bromomethane	ND	U	0.000814	0.00282	mg/kg	1	8/3/23 15:24
Carbon disulfide	**0.00917**		**0.000405**	**0.00282**	**mg/kg**	**1**	**8/3/23 15:24**
Carbon Tetrachloride	ND	U	0.000425	0.00282	mg/kg	1	8/3/23 15:24
Chlorobenzene	ND	U	0.000409	0.00282	mg/kg	1	8/3/23 15:24
Chlorodibromomethane	ND	U	0.000347	0.00282	mg/kg	1	8/3/23 15:24
Chloroethane	ND	U	0.000481	0.00282	mg/kg	1	8/3/23 15:24
Chloroform	ND	U	0.000474	0.00282	mg/kg	1	8/3/23 15:24
Chloromethane	ND	U	0.00109	0.00282	mg/kg	1	8/3/23 15:24
cis-1,2-Dichloroethene	ND	U	0.000136	0.00282	mg/kg	1	8/3/23 15:24
cis-1,3-Dichloropropene	ND	U	0.000357	0.00282	mg/kg	1	8/3/23 15:24
Cyclohexane	ND	U	0.000625	0.00282	mg/kg	1	8/3/23 15:24
Dichlorodifluoromethane	ND	U	0.000953	0.00282	mg/kg	1	8/3/23 15:24
EthylBenzene	ND	U	0.000382	0.00282	mg/kg	1	8/3/23 15:24
Isopropylbenzene	ND	U	0.000443	0.00282	mg/kg	1	8/3/23 15:24
m+p-Xylenes	ND	U	0.000713	0.00565	mg/kg	1	8/3/23 15:24
Methyl Acetate	ND	U	0.000374	0.00282	mg/kg	1	8/3/23 15:24
Methyl tert-Butyl Ether	ND	U	0.000477	0.00282	mg/kg	1	8/3/23 15:24
Methylcyclohexane	ND	U	0.000454	0.00282	mg/kg	1	8/3/23 15:24
Methylene Chloride	ND	U	0.000848	0.00282	mg/kg	1	8/3/23 15:24
o-Xylene	ND	U	0.000363	0.00282	mg/kg	1	8/3/23 15:24
Styrene	ND	U	0.000404	0.00282	mg/kg	1	8/3/23 15:24
tert-Butyl alcohol	ND	U	0.00593	0.0282	mg/kg	1	8/3/23 15:24
Tetrachloroethene	ND	U	0.000279	0.00282	mg/kg	1	8/3/23 15:24
Toluene	ND	U	0.000227	0.00282	mg/kg	1	8/3/23 15:24

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total Xylenes	ND	U	0.000363	0.00282	mg/kg	1	8/3/23 15:24
trans-1,2-Dichloroethene	ND	U	0.000382	0.00282	mg/kg	1	8/3/23 15:24
trans-1,3-Dichloropropene	ND	U	0.000539	0.00282	mg/kg	1	8/3/23 15:24
Trichloroethene	ND	U	0.000415	0.00282	mg/kg	1	8/3/23 15:24
Trichlorofluoromethane	ND	U	0.000325	0.00282	mg/kg	1	8/3/23 15:24
Vinyl chloride	ND	U	0.000536	0.00282	mg/kg	1	8/3/23 15:24

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0150	5.26	J	mg/kg	1	8/3/23 15:24
TIC Total	**0.015**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 21:54
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 21:54
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 21:54
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 21:54
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/7/23 21:54
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 21:54
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 21:54
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 21:54
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 21:54
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 21:54
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 21:54

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**78.7**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-01 (Soil) Sample Name: **MR-105-6.0-8.0-20230726** Collected: **7/26/2023 7:00:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.544**		**0.0185**	**0.156**	**mg/kg**	**1**	**8/8/23 18:42**
Reactive Cyanide	**0.54**		**0.13**	**0.13**	**mg/kg**	**1**	**8/9/23 16:47**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	**0.254**		**0.127**	**0.127**	**mg/kg**	**1**	**8/1/23 11:04**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.56**				**pH Units**	**1**	**7/28/23 11:57**

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00707	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1221	ND	U	0.0139	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1232	ND	U	0.0177	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1242	ND	U	0.0104	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1248	ND	U	0.0108	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1254	ND	U	0.00851	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1260	ND	U	0.00660	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1262	ND	U	0.0142	0.0527	mg/kg	1	8/5/23 20:52
Aroclor-1268	ND	U	0.00638	0.0527	mg/kg	1	8/5/23 20:52
Total PCBs	ND	U	0.00492	0.0527	mg/kg	1	8/5/23 20:52

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0157	0.160	mg/kg	1	8/9/23 11:56
2,4-D	ND	U	0.0265	0.160	mg/kg	1	8/9/23 11:56

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 10:44
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 10:44

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0375**		**0.00799**	**0.0319**	**mg/kg**	**1**	**8/2/23 15:13**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 14:56

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**15500**		**0.235**	**3.95**	**mg/kg**	**1**	**8/9/23 13:38**	
Antimony	ND	U	0.215	1.98	mg/kg	1	8/9/23 13:38	
Arsenic	**7.11**		**0.141**	**1.98**	**mg/kg**	**1**	**8/9/23 13:38**	
Barium	**84.6**		**0.0598**	**0.791**	**mg/kg**	**1**	**8/9/23 13:38**	
Beryllium	**0.903**		**0.00458**	**0.0395**	**mg/kg**	**1**	**8/9/23 13:38**	
Cadmium	**0.759**		**0.0771**	**0.395**	**mg/kg**	**1**	**8/9/23 13:38**	
Calcium	**27400**		**4.45**	**39.5**	**mg/kg**	**1**	**8/9/23 13:38**	
Chromium	**33.5**		**0.0446**	**0.395**	**mg/kg**	**1**	**8/9/23 13:38**	
Cobalt	**8.03**		**0.0404**	**0.316**	**mg/kg**	**1**	**8/9/23 13:38**	
Copper	**78.7**		**0.111**	**0.395**	**mg/kg**	**1**	**8/9/23 13:38**	
Iron	**34200**		**1.12**	**7.91**	**mg/kg**	**1**	**8/9/23 13:38**	
Lead	**126**		**0.165**	**1.98**	**mg/kg**	**1**	**8/9/23 13:38**	
Magnesium	**7410**		**14.0**	**79.1**	**mg/kg**	**1**	**8/9/23 13:38**	
Manganese	**321**		**0.0492**	**0.395**	**mg/kg**	**1**	**8/9/23 13:38**	
Nickel	**39.1**		**0.0347**	**0.198**	**mg/kg**	**1**	**8/9/23 13:38**	
Potassium	**3210**		**47.0**	**158**	**mg/kg**	**1**	**8/9/23 13:38**	
Selenium	ND	U	0.380	1.98	mg/kg	1	8/9/23 13:38	UJ, RC:6L
Silver	**0.436**		**0.0672**	**0.237**	**mg/kg**	**1**	**8/9/23 13:38**	
Sodium	**3070**		**7.54**	**79.1**	**mg/kg**	**1**	**8/9/23 13:38**	
Thallium	ND	U	0.133	1.98	mg/kg	1	8/9/23 13:38	
Vanadium	**40.7**		**0.0909**	**0.791**	**mg/kg**	**1**	**8/9/23 13:38**	
Zinc	**162**		**0.121**	**1.19**	**mg/kg**	**1**	**8/9/23 13:38**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:42
Barium	**0.632**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:42**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:42
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:42
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 1311/6010D - TCLP Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:42
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:42

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000950	0.00208	mg/kg	1	8/8/23 1:04
4,4'-DDE	ND	U	0.00114	0.00208	mg/kg	1	8/8/23 1:04
4,4'-DDT	ND	U	0.00147	0.00208	mg/kg	1	8/8/23 1:04
Aldrin	ND	U	0.000984	0.00208	mg/kg	1	8/8/23 1:04
alpha-BHC	ND	U	0.000618	0.00208	mg/kg	1	8/8/23 1:04
beta-BHC	ND	U	0.000992	0.00208	mg/kg	1	8/8/23 1:04
Chlordane	ND	U	0.000923	0.00208	mg/kg	1	8/8/23 1:04
delta-BHC	ND	U	0.000965	0.00208	mg/kg	1	8/8/23 1:04
Dieldrin	ND	U	0.00109	0.00208	mg/kg	1	8/8/23 1:04
Endosulfan I	ND	U	0.000981	0.00208	mg/kg	1	8/8/23 1:04
Endosulfan II	ND	U	0.000944	0.00208	mg/kg	1	8/8/23 1:04
Endosulfan sulfate	ND	U	0.000781	0.00208	mg/kg	1	8/8/23 1:04
Endosulfans, Total (alpha and beta)	ND	U	0.000944	0.00208	mg/kg	1	8/8/23 1:04
Endrin	ND	U	0.000717	0.00208	mg/kg	1	8/8/23 1:04
Endrin aldehyde	ND	U	0.000827	0.00208	mg/kg	1	8/8/23 1:04
Endrin ketone	ND	U	0.000732	0.00208	mg/kg	1	8/8/23 1:04
gamma-BHC (Lindane)	ND	U	0.000658	0.00208	mg/kg	1	8/8/23 1:04
Heptachlor	ND	U	0.000556	0.00208	mg/kg	1	8/8/23 1:04
Heptachlor Epoxide	ND	U	0.00105	0.00208	mg/kg	1	8/8/23 1:04
Methoxychlor	ND	U	0.000609	0.00208	mg/kg	1	8/8/23 1:04
Toxaphene	ND	U	0.100	0.105	mg/kg	1	8/8/23 1:04

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/9/23 22:51	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/9/23 22:51	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/9/23 22:51	RC:SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/9/23 22:51	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/9/23 22:51	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/9/23 22:51	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/9/23 22:51	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/9/23 22:51	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/9/23 22:51	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/9/23 22:51	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/9/23 22:51	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/9/23 22:51	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/9/23 22:51	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/9/23 22:51	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/9/23 22:51	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/9/23 22:51	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/9/23 22:51	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/9/23 22:51	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/9/23 22:51	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/9/23 22:51	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00601	0.0532	mg/kg	1	8/3/23 18:34	
2,3,4,6-Tetrachlorophenol	ND	U	0.0327	0.212	mg/kg	1	8/3/23 18:34	
2,4,5-Trichlorophenol	ND	U	0.0289	0.212	mg/kg	1	8/3/23 18:34	
2,4,6-Trichlorophenol	ND	U	0.0133	0.212	mg/kg	1	8/3/23 18:34	
2,4-Dichlorophenol	ND	U	0.0214	0.212	mg/kg	1	8/3/23 18:34	
2,4-Dimethylphenol	ND	U	0.0209	0.212	mg/kg	1	8/3/23 18:34	
2,4-Dinitrophenol	ND	U	0.0307	1.07	mg/kg	1	8/3/23 18:34	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0227	0.212	mg/kg	1	8/3/23 18:34	
2,6-Dinitrotoluene	ND	U	0.0508	0.212	mg/kg	1	8/3/23 18:34	
2-Chloronaphthalene	ND	U	0.0244	0.212	mg/kg	1	8/3/23 18:34	
2-Chlorophenol	ND	U	0.0281	0.212	mg/kg	1	8/3/23 18:34	
2-Methylnaphthalene	ND	U	0.0510	0.319	mg/kg	1	8/3/23 18:34	
2-Methylphenol	ND	U	0.0420	0.212	mg/kg	1	8/3/23 18:34	
2-Nitroaniline	ND	U	0.0171	0.212	mg/kg	1	8/3/23 18:34	
2-Nitrophenol	ND	U	0.0236	0.212	mg/kg	1	8/3/23 18:34	
3,3'-Dichlorobenzidine	ND	U	0.0224	0.212	mg/kg	1	8/3/23 18:34	
3+4-Methylphenol	ND	U	0.0390	0.212	mg/kg	1	8/3/23 18:34	
3-Nitroaniline	ND	U	0.0395	0.212	mg/kg	1	8/3/23 18:34	
4,6-Dinitro-2-methylphenol	ND	U	0.0401	0.532	mg/kg	1	8/3/23 18:34	
4-Bromophenyl-phenyl ether	ND	U	0.0303	0.212	mg/kg	1	8/3/23 18:34	
4-Chloro-3-methylphenol	ND	U	0.0335	0.212	mg/kg	1	8/3/23 18:34	
4-Chloroaniline	ND	U	0.00744	0.212	mg/kg	1	8/3/23 18:34	
4-Chlorophenyl phenyl ether	ND	U	0.0115	0.212	mg/kg	1	8/3/23 18:34	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4-Nitroaniline	ND	U	0.106	0.212	mg/kg	1	8/3/23 18:34
4-Nitrophenol	ND	U	0.0136	0.212	mg/kg	1	8/3/23 18:34
Acenaphthene	ND	U	0.0121	0.212	mg/kg	1	8/3/23 18:34
Acenaphthylene	ND	U	0.00740	0.212	mg/kg	1	8/3/23 18:34
Acetophenone	ND	U	0.0211	0.212	mg/kg	1	8/3/23 18:34
Anthracene	ND	U	0.0308	0.212	mg/kg	1	8/3/23 18:34
Atrazine	ND	U	0.0200	0.212	mg/kg	1	8/3/23 18:34
Benzaldehyde	ND	U	0.0653	0.212	mg/kg	1	8/3/23 18:34
Benzo(a)anthracene	ND	U	0.0214	0.212	mg/kg	1	8/3/23 18:34
Benzo(a)pyrene	ND	U	0.0371	0.212	mg/kg	1	8/3/23 18:34
Benzo(b)fluoranthene	ND	U	0.0299	0.212	mg/kg	1	8/3/23 18:34
Benzo(g,h,i)perylene	ND	U	0.0173	0.212	mg/kg	1	8/3/23 18:34
Benzo(k)fluoranthene	ND	U	0.0244	0.212	mg/kg	1	8/3/23 18:34
Biphenyl	ND	U	0.0187	0.212	mg/kg	1	8/3/23 18:34
bis(2-chloroethoxy)methane	ND	U	0.0294	0.212	mg/kg	1	8/3/23 18:34
bis(2-chloroethyl)ether	ND	U	0.0233	0.212	mg/kg	1	8/3/23 18:34
bis(2-chloroisopropyl)ether	ND	U	0.0765	0.212	mg/kg	1	8/3/23 18:34
bis(2-ethylhexyl)phthalate	ND	U	0.0425	0.212	mg/kg	1	8/3/23 18:34
Butylbenzylphthalate	ND	U	0.0193	0.212	mg/kg	1	8/3/23 18:34
Caprolactam	ND	U	0.0275	0.212	mg/kg	1	8/3/23 18:34
Carbazole	ND	U	0.0409	0.532	mg/kg	1	8/3/23 18:34
Chrysene	ND	U	0.0146	0.212	mg/kg	1	8/3/23 18:34
Dibenzo(a,h)anthracene	ND	U	0.0211	0.212	mg/kg	1	8/3/23 18:34
Dibenzofuran	ND	U	0.0127	0.212	mg/kg	1	8/3/23 18:34
Diethylphthalate	ND	U	0.0412	0.212	mg/kg	1	8/3/23 18:34
Dimethylphthalate	ND	U	0.0132	0.212	mg/kg	1	8/3/23 18:34
Di-n-butylphthalate	ND	U	0.0869	0.212	mg/kg	1	8/3/23 18:34
Di-n-octylphthalate	ND	U	0.0436	0.212	mg/kg	1	8/3/23 18:34
Fluoranthene	ND	U	0.0200	0.212	mg/kg	1	8/3/23 18:34
Fluorene	ND	U	0.0177	0.212	mg/kg	1	8/3/23 18:34
Hexachlorobenzene	ND	U	0.0278	0.212	mg/kg	1	8/3/23 18:34
Hexachlorobutadiene	ND	U	0.102	0.212	mg/kg	1	8/3/23 18:34
Hexachlorocyclopentadiene	ND	U	0.0886	0.532	mg/kg	1	8/3/23 18:34
Hexachloroethane	ND	U	0.0233	0.212	mg/kg	1	8/3/23 18:34
Indeno(1,2,3-cd)pyrene	ND	U	0.0228	0.212	mg/kg	1	8/3/23 18:34
Isophorone	ND	U	0.0139	0.212	mg/kg	1	8/3/23 18:34
Naphthalene	ND	U	0.0157	0.212	mg/kg	1	8/3/23 18:34
Nitrobenzene	ND	U	0.0361	0.212	mg/kg	1	8/3/23 18:34

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
n-Nitroso-di-n-propylamine	ND	U	0.0114	0.212	mg/kg	1	8/3/23 18:34
n-Nitrosodiphenylamine	ND	U	0.0454	0.212	mg/kg	1	8/3/23 18:34
Pentachlorophenol	ND	U	0.0292	0.532	mg/kg	1	8/3/23 18:34
Phenanthrene	ND	U	0.0280	0.212	mg/kg	1	8/3/23 18:34
Phenol	ND	U	0.0173	0.212	mg/kg	1	8/3/23 18:34
Pyrene	ND	U	0.0156	0.212	mg/kg	1	8/3/23 18:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~20.7~~	12.33	J, B	mg/kg	1	8/3/23 18:34	R, RC:2
Octadecanoic acid, butyl ester	~~16.1~~	13.16	J, B	mg/kg	1	8/3/23 18:34	R, RC:2
TIC Total	~~42.8~~						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 18:28	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 18:28	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 18:28	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 18:28	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 18:28	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 18:28	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 18:28	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 18:28	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 18:28	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 18:28	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 18:28	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000424	0.00290	mg/kg	1	8/3/23 0:05
1,1,2,2-Tetrachloroethane	ND	U	0.000401	0.00290	mg/kg	1	8/3/23 0:05
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00124	0.00290	mg/kg	1	8/3/23 0:05
1,1,2-Trichloroethane	ND	U	0.000489	0.00290	mg/kg	1	8/3/23 0:05
1,1-Dichloroethane	ND	U	0.000424	0.00290	mg/kg	1	8/3/23 0:05
1,1-Dichloroethene	ND	U	0.000537	0.00290	mg/kg	1	8/3/23 0:05
1,2,3-Trichlorobenzene	ND	U	0.000627	0.00290	mg/kg	1	8/3/23 0:05
1,2,4-Trichlorobenzene	ND	U	0.000774	0.00290	mg/kg	1	8/3/23 0:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-202 30726** Collected: **7/26/2023 8:49:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	ND	U	0.000401	0.00290	mg/kg	1	8/3/23 0:05
1,2-Dibromo-3-chloropropane	ND	U	0.000709	0.00290	mg/kg	1	8/3/23 0:05
1,2-Dibromoethane	ND	U	0.000366	0.00290	mg/kg	1	8/3/23 0:05
1,2-Dichlorobenzene	ND	U	0.000513	0.00290	mg/kg	1	8/3/23 0:05
1,2-Dichloroethane	ND	U	0.000409	0.00290	mg/kg	1	8/3/23 0:05
1,2-Dichloropropane	ND	U	0.000476	0.00290	mg/kg	1	8/3/23 0:05
1,3-Dichlorobenzene	ND	U	0.000213	0.00290	mg/kg	1	8/3/23 0:05
1,4-Dichlorobenzene	ND	U	0.000418	0.00290	mg/kg	1	8/3/23 0:05
2-Butanone	ND	U	0.000473	0.00726	mg/kg	1	8/3/23 0:05
2-Hexanone	ND	U	0.000272	0.00290	mg/kg	1	8/3/23 0:05
4-Methyl-2-pentanone	ND	U	0.000363	0.00290	mg/kg	1	8/3/23 0:05
Acetone	ND	U	0.000880	0.00726	mg/kg	1	8/3/23 0:05
Benzene	ND	U	0.000264	0.00290	mg/kg	1	8/3/23 0:05
Bromochloromethane	ND	U	0.000536	0.00290	mg/kg	1	8/3/23 0:05
Bromodichloromethane	ND	U	0.000364	0.00290	mg/kg	1	8/3/23 0:05
Bromoform	ND	U	0.000510	0.00290	mg/kg	1	8/3/23 0:05
Bromomethane	ND	U	0.000838	0.00290	mg/kg	1	8/3/23 0:05
Carbon disulfide	**0.0160**		**0.000417**	**0.00290**	**mg/kg**	**1**	**8/3/23 0:05**
Carbon Tetrachloride	ND	U	0.000437	0.00290	mg/kg	1	8/3/23 0:05
Chlorobenzene	ND	U	0.000421	0.00290	mg/kg	1	8/3/23 0:05
Chlorodibromomethane	ND	U	0.000357	0.00290	mg/kg	1	8/3/23 0:05
Chloroethane	ND	U	0.000495	0.00290	mg/kg	1	8/3/23 0:05
Chloroform	ND	U	0.000488	0.00290	mg/kg	1	8/3/23 0:05
Chloromethane	ND	U	0.00112	0.00290	mg/kg	1	8/3/23 0:05
cis-1,2-Dichloroethene	ND	U	0.000140	0.00290	mg/kg	1	8/3/23 0:05
cis-1,3-Dichloropropene	ND	U	0.000367	0.00290	mg/kg	1	8/3/23 0:05
Cyclohexane	ND	U	0.000643	0.00290	mg/kg	1	8/3/23 0:05
Dichlorodifluoromethane	ND	U	0.000980	0.00290	mg/kg	1	8/3/23 0:05
EthylBenzene	ND	U	0.000394	0.00290	mg/kg	1	8/3/23 0:05
Isopropylbenzene	ND	U	0.000456	0.00290	mg/kg	1	8/3/23 0:05
m+p-Xylenes	ND	U	0.000733	0.00581	mg/kg	1	8/3/23 0:05
Methyl Acetate	ND	U	0.000385	0.00290	mg/kg	1	8/3/23 0:05
Methyl tert-Butyl Ether	ND	U	0.000491	0.00290	mg/kg	1	8/3/23 0:05
Methylcyclohexane	ND	U	0.000468	0.00290	mg/kg	1	8/3/23 0:05
Methylene Chloride	ND	U	0.000873	0.00290	mg/kg	1	8/3/23 0:05
o-Xylene	ND	U	0.000373	0.00290	mg/kg	1	8/3/23 0:05
Styrene	ND	U	0.000415	0.00290	mg/kg	1	8/3/23 0:05
tert-Butyl alcohol	ND	U	0.00610	0.0290	mg/kg	1	8/3/23 0:05

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Tetrachloroethene	ND	U	0.000288	0.00290	mg/kg	1	8/3/23 0:05
Toluene	ND	U	0.000234	0.00290	mg/kg	1	8/3/23 0:05
Total Xylenes	ND	U	0.000373	0.00290	mg/kg	1	8/3/23 0:05
trans-1,2-Dichloroethene	ND	U	0.000394	0.00290	mg/kg	1	8/3/23 0:05
trans-1,3-Dichloropropene	ND	U	0.000555	0.00290	mg/kg	1	8/3/23 0:05
Trichloroethene	ND	U	0.000427	0.00290	mg/kg	1	8/3/23 0:05
Trichlorofluoromethane	ND	U	0.000334	0.00290	mg/kg	1	8/3/23 0:05
Vinyl chloride	ND	U	0.000552	0.00290	mg/kg	1	8/3/23 0:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0226	5.26	J	mg/kg	1	8/3/23 0:05
TIC Total	**0.023**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 22:20
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 22:20
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 22:20
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 22:20
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/7/23 22:20
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 22:20
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 22:20
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 22:20
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 22:20
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 22:20
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 22:20

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**62.6**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-02 (Soil) Sample Name: **MR-105-20.0-22.0-20230726** Collected: **7/26/2023 8:49:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0233	0.196	mg/kg	1	8/8/23 18:42
Reactive Cyanide	ND	U	0.16	0.16	mg/kg	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.160	0.160	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.76**				**pH Units**	**1**	**7/28/23 11:57**

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00559	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1221	ND	U	0.0110	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1232	ND	U	0.0140	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1242	ND	U	0.00819	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1248	ND	U	0.00857	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1254	ND	U	0.00673	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1260	ND	U	0.00522	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1262	ND	U	0.0112	0.0417	mg/kg	1	8/5/23 21:14
Aroclor-1268	ND	U	0.00504	0.0417	mg/kg	1	8/5/23 21:14
Total PCBs	ND	U	0.00389	0.0417	mg/kg	1	8/5/23 21:14

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0124	0.126	mg/kg	1	8/9/23 15:00
2,4-D	ND	U	0.0210	0.126	mg/kg	1	8/9/23 15:00

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 10:53
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 10:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-202 30726** Collected: **7/26/2023 9:19:00AM**

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SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.0369**		**0.00631**	**0.0253**	**mg/kg**	**1**	**8/2/23 15:23**	

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 14:59	

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**9120**		**0.184**	**3.10**	**mg/kg**	**1**	**8/9/23 13:40**	
Antimony	ND	U	0.169	1.55	mg/kg	1	8/9/23 13:40	
Arsenic	**9.16**		**0.110**	**1.55**	**mg/kg**	**1**	**8/9/23 13:40**	
Barium	**71.2**		**0.0468**	**0.619**	**mg/kg**	**1**	**8/9/23 13:40**	
Beryllium	**0.689**		**0.00358**	**0.0310**	**mg/kg**	**1**	**8/9/23 13:40**	
Cadmium	ND	U	0.0603	0.310	mg/kg	1	8/9/23 13:40	
Calcium	**3310**		**3.48**	**31.0**	**mg/kg**	**1**	**8/9/23 13:40**	
Chromium	**17.3**		**0.0349**	**0.310**	**mg/kg**	**1**	**8/9/23 13:40**	
Cobalt	**6.78**		**0.0316**	**0.248**	**mg/kg**	**1**	**8/9/23 13:40**	
Copper	**15.8**		**0.0866**	**0.310**	**mg/kg**	**1**	**8/9/23 13:40**	
Iron	**20100**		**0.877**	**6.19**	**mg/kg**	**1**	**8/9/23 13:40**	
Lead	**16.7**		**0.129**	**1.55**	**mg/kg**	**1**	**8/9/23 13:40**	
Magnesium	**4170**		**10.9**	**61.9**	**mg/kg**	**1**	**8/9/23 13:40**	
Manganese	**176**		**0.0385**	**0.310**	**mg/kg**	**1**	**8/9/23 13:40**	
Nickel	**18.5**		**0.0272**	**0.155**	**mg/kg**	**1**	**8/9/23 13:40**	
Potassium	**1610**		**36.8**	**124**	**mg/kg**	**1**	**8/9/23 13:40**	
Selenium	ND	U	0.297	1.55	mg/kg	1	8/9/23 13:40	UJ, RC:6L
Silver	ND	U	0.0526	0.186	mg/kg	1	8/9/23 13:40	
Sodium	**1040**		**5.90**	**61.9**	**mg/kg**	**1**	**8/9/23 13:40**	
Thallium	ND	U	0.104	1.55	mg/kg	1	8/9/23 13:40	
Vanadium	**24.7**		**0.0712**	**0.619**	**mg/kg**	**1**	**8/9/23 13:40**	
Zinc	**51.7**		**0.0945**	**0.929**	**mg/kg**	**1**	**8/9/23 13:40**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:45	
Barium	**1.24**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:45**	
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:45	
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:45	
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:45	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 1311/6010D - TCLP Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:45
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:45

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000751	0.00164	mg/kg	1	8/8/23 1:27
4,4'-DDE	ND	U	0.000898	0.00164	mg/kg	1	8/8/23 1:27
4,4'-DDT	ND	U	0.00116	0.00164	mg/kg	1	8/8/23 1:27
Aldrin	ND	U	0.000778	0.00164	mg/kg	1	8/8/23 1:27
alpha-BHC	ND	U	0.000489	0.00164	mg/kg	1	8/8/23 1:27
beta-BHC	ND	U	0.000784	0.00164	mg/kg	1	8/8/23 1:27
Chlordane	**0.129**		**0.000730**	**0.00164**	**mg/kg**	**1**	**8/8/23 1:27**
delta-BHC	ND	U	0.000763	0.00164	mg/kg	1	8/8/23 1:27
Dieldrin	ND	U	0.000859	0.00164	mg/kg	1	8/8/23 1:27
Endosulfan I	ND	U	0.000775	0.00164	mg/kg	1	8/8/23 1:27
Endosulfan II	ND	U	0.000746	0.00164	mg/kg	1	8/8/23 1:27
Endosulfan sulfate	ND	U	0.000618	0.00164	mg/kg	1	8/8/23 1:27
Endosulfans, Total (alpha and beta)	ND	U	0.000746	0.00164	mg/kg	1	8/8/23 1:27
Endrin	ND	U	0.000567	0.00164	mg/kg	1	8/8/23 1:27
Endrin aldehyde	ND	U	0.000654	0.00164	mg/kg	1	8/8/23 1:27
Endrin ketone	ND	U	0.000578	0.00164	mg/kg	1	8/8/23 1:27
gamma-BHC (Lindane)	ND	U	0.000520	0.00164	mg/kg	1	8/8/23 1:27
Heptachlor	ND	U	0.000439	0.00164	mg/kg	1	8/8/23 1:27
Heptachlor Epoxide	ND	U	0.000828	0.00164	mg/kg	1	8/8/23 1:27
Methoxychlor	ND	U	0.000481	0.00164	mg/kg	1	8/8/23 1:27
Toxaphene	ND	U	0.0791	0.0833	mg/kg	1	8/8/23 1:27

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/9/23 23:13	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/9/23 23:13	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/9/23 23:13	RC:SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/9/23 23:13	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/9/23 23:13	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/9/23 23:13	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/9/23 23:13	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/9/23 23:13	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/9/23 23:13	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/9/23 23:13	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/9/23 23:13	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/9/23 23:13	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/9/23 23:13	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/9/23 23:13	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/9/23 23:13	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/9/23 23:13	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/9/23 23:13	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/9/23 23:13	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/9/23 23:13	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/9/23 23:13	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00475	0.0421	mg/kg	1	8/3/23 19:30	
2,3,4,6-Tetrachlorophenol	ND	U	0.0259	0.168	mg/kg	1	8/3/23 19:30	
2,4,5-Trichlorophenol	ND	U	0.0229	0.168	mg/kg	1	8/3/23 19:30	
2,4,6-Trichlorophenol	ND	U	0.0105	0.168	mg/kg	1	8/3/23 19:30	
2,4-Dichlorophenol	ND	U	0.0169	0.168	mg/kg	1	8/3/23 19:30	
2,4-Dimethylphenol	ND	U	0.0165	0.168	mg/kg	1	8/3/23 19:30	
2,4-Dinitrophenol	ND	U	0.0242	0.842	mg/kg	1	8/3/23 19:30	R, RC:6L
2,4-Dinitrotoluene	ND	U	0.0179	0.168	mg/kg	1	8/3/23 19:30	
2,6-Dinitrotoluene	ND	U	0.0402	0.168	mg/kg	1	8/3/23 19:30	
2-Chloronaphthalene	ND	U	0.0193	0.168	mg/kg	1	8/3/23 19:30	
2-Chlorophenol	ND	U	0.0222	0.168	mg/kg	1	8/3/23 19:30	
2-Methylnaphthalene	ND	U	0.0403	0.253	mg/kg	1	8/3/23 19:30	
2-Methylphenol	ND	U	0.0332	0.168	mg/kg	1	8/3/23 19:30	
2-Nitroaniline	ND	U	0.0135	0.168	mg/kg	1	8/3/23 19:30	
2-Nitrophenol	ND	U	0.0187	0.168	mg/kg	1	8/3/23 19:30	
3,3'-Dichlorobenzidine	ND	U	0.0177	0.168	mg/kg	1	8/3/23 19:30	
3+4-Methylphenol	ND	U	0.0308	0.168	mg/kg	1	8/3/23 19:30	
3-Nitroaniline	ND	U	0.0312	0.168	mg/kg	1	8/3/23 19:30	
4,6-Dinitro-2-methylphenol	ND	U	0.0317	0.421	mg/kg	1	8/3/23 19:30	
4-Bromophenyl-phenyl ether	ND	U	0.0240	0.168	mg/kg	1	8/3/23 19:30	
4-Chloro-3-methylphenol	ND	U	0.0265	0.168	mg/kg	1	8/3/23 19:30	
4-Chloroaniline	ND	U	0.00588	0.168	mg/kg	1	8/3/23 19:30	
4-Chlorophenyl phenyl ether	ND	U	0.00908	0.168	mg/kg	1	8/3/23 19:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Nitroaniline	ND	U	0.0841	0.168	mg/kg	1	8/3/23 19:30	
4-Nitrophenol	ND	U	0.0108	0.168	mg/kg	1	8/3/23 19:30	
Acenaphthene	ND	U	0.00958	0.168	mg/kg	1	8/3/23 19:30	
Acenaphthylene	ND	U	0.00585	0.168	mg/kg	1	8/3/23 19:30	
Acetophenone	ND	U	0.0167	0.168	mg/kg	1	8/3/23 19:30	
Anthracene	ND	U	0.0244	0.168	mg/kg	1	8/3/23 19:30	
Atrazine	ND	U	0.0158	0.168	mg/kg	1	8/3/23 19:30	
Benzaldehyde	ND	U	0.0516	0.168	mg/kg	1	8/3/23 19:30	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0169	0.168	mg/kg	1	8/3/23 19:30	
Benzo(a)pyrene	ND	U	0.0293	0.168	mg/kg	1	8/3/23 19:30	
Benzo(b)fluoranthene	ND	U	0.0236	0.168	mg/kg	1	8/3/23 19:30	
Benzo(g,h,i)perylene	ND	U	0.0136	0.168	mg/kg	1	8/3/23 19:30	
Benzo(k)fluoranthene	ND	U	0.0193	0.168	mg/kg	1	8/3/23 19:30	
Biphenyl	ND	U	0.0148	0.168	mg/kg	1	8/3/23 19:30	
bis(2-chloroethoxy)methane	ND	U	0.0232	0.168	mg/kg	1	8/3/23 19:30	
bis(2-chloroethyl)ether	ND	U	0.0184	0.168	mg/kg	1	8/3/23 19:30	
bis(2-chloroisopropyl)ether	ND	U	0.0605	0.168	mg/kg	1	8/3/23 19:30	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0336	0.168	mg/kg	1	8/3/23 19:30	
Butylbenzylphthalate	ND	U	0.0153	0.168	mg/kg	1	8/3/23 19:30	
Caprolactam	ND	U	0.0217	0.168	mg/kg	1	8/3/23 19:30	
Carbazole	ND	U	0.0323	0.421	mg/kg	1	8/3/23 19:30	
Chrysene	ND	U	0.0115	0.168	mg/kg	1	8/3/23 19:30	
Dibenzo(a,h)anthracene	ND	U	0.0167	0.168	mg/kg	1	8/3/23 19:30	
Dibenzofuran	ND	U	0.0100	0.168	mg/kg	1	8/3/23 19:30	
Diethylphthalate	ND	U	0.0326	0.168	mg/kg	1	8/3/23 19:30	
Dimethylphthalate	ND	U	0.0104	0.168	mg/kg	1	8/3/23 19:30	
Di-n-butylphthalate	ND	U	0.0687	0.168	mg/kg	1	8/3/23 19:30	
Di-n-octylphthalate	ND	U	0.0345	0.168	mg/kg	1	8/3/23 19:30	
Fluoranthene	ND	U	0.0158	0.168	mg/kg	1	8/3/23 19:30	
Fluorene	ND	U	0.0140	0.168	mg/kg	1	8/3/23 19:30	
Hexachlorobenzene	ND	U	0.0220	0.168	mg/kg	1	8/3/23 19:30	
Hexachlorobutadiene	ND	U	0.0807	0.168	mg/kg	1	8/3/23 19:30	
Hexachlorocyclopentadiene	ND	U	0.0701	0.421	mg/kg	1	8/3/23 19:30	UJ, RC:SL
Hexachloroethane	ND	U	0.0184	0.168	mg/kg	1	8/3/23 19:30	
Indeno(1,2,3-cd)pyrene	ND	U	0.0181	0.168	mg/kg	1	8/3/23 19:30	
Isophorone	ND	U	0.0110	0.168	mg/kg	1	8/3/23 19:30	
Naphthalene	ND	U	0.0125	0.168	mg/kg	1	8/3/23 19:30	
Nitrobenzene	ND	U	0.0285	0.168	mg/kg	1	8/3/23 19:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
n-Nitroso-di-n-propylamine	ND	U	0.00900	0.168	mg/kg	1	8/3/23 19:30
n-Nitrosodiphenylamine	ND	U	0.0359	0.168	mg/kg	1	8/3/23 19:30
Pentachlorophenol	ND	U	0.0231	0.421	mg/kg	1	8/3/23 19:30
Phenanthrene	ND	U	0.0221	0.168	mg/kg	1	8/3/23 19:30
Phenol	ND	U	0.0136	0.168	mg/kg	1	8/3/23 19:30
Pyrene	ND	U	0.0124	0.168	mg/kg	1	8/3/23 19:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	12.8	4.93	J	mg/kg	1	8/3/23 19:30	
5-Octadecene, (E)-	0.419	13.78	J	mg/kg	1	8/3/23 19:30	
Hexadecanoic acid, butyl ester	~~25.2~~	12.54	J, B	mg/kg	1	8/3/23 19:30	R, RC:2
Octadecanoic acid, butyl ester	~~15.4~~	13.33	J, B	mg/kg	1	8/3/23 19:30	R, RC:2
TIC Total	~~53.8~~ 13.2						

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 19:00	UJ, RC:3L
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 19:00	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 19:00	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 19:00	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 19:00	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 19:00	
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 19:00	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 19:00	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 19:00	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 19:00	
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 19:00	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000284	0.00194	mg/kg	1	8/3/23 0:37
1,1,2,2-Tetrachloroethane	ND	U	0.000268	0.00194	mg/kg	1	8/3/23 0:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000832	0.00194	mg/kg	1	8/3/23 0:37
1,1,2-Trichloroethane	ND	U	0.000327	0.00194	mg/kg	1	8/3/23 0:37
1,1-Dichloroethane	ND	U	0.000284	0.00194	mg/kg	1	8/3/23 0:37
1,1-Dichloroethene	ND	U	0.000359	0.00194	mg/kg	1	8/3/23 0:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-202 30726** Collected: **7/26/2023 9:19:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,3-Trichlorobenzene	ND	U	0.000420	0.00194	mg/kg	1	8/3/23 0:37
1,2,4-Trichlorobenzene	ND	U	0.000518	0.00194	mg/kg	1	8/3/23 0:37
1,2,4-Trimethylbenzene	**0.181**		**0.000268**	**0.00194**	**mg/kg**	**1**	**8/3/23 0:37**
1,2-Dibromo-3-chloropropane	ND	U	0.000474	0.00194	mg/kg	1	8/3/23 0:37
1,2-Dibromoethane	ND	U	0.000245	0.00194	mg/kg	1	8/3/23 0:37
1,2-Dichlorobenzene	ND	U	0.000343	0.00194	mg/kg	1	8/3/23 0:37
1,2-Dichloroethane	ND	U	0.000274	0.00194	mg/kg	1	8/3/23 0:37
1,2-Dichloropropane	ND	U	0.000319	0.00194	mg/kg	1	8/3/23 0:37
1,3-Dichlorobenzene	ND	U	0.000143	0.00194	mg/kg	1	8/3/23 0:37
1,4-Dichlorobenzene	ND	U	0.000280	0.00194	mg/kg	1	8/3/23 0:37
2-Butanone	**0.0418**		**0.000317**	**0.00486**	**mg/kg**	**1**	**8/3/23 0:37**
2-Hexanone	ND	U	0.000182	0.00194	mg/kg	1	8/3/23 0:37
4-Methyl-2-pentanone	ND	U	0.000243	0.00194	mg/kg	1	8/3/23 0:37
Acetone	**0.123**		**0.000589**	**0.00486**	**mg/kg**	**1**	**8/3/23 0:37**
Benzene	**873**	D	**11.7**	**129**	**mg/kg**	**7143**	**8/8/23 6:38**
Bromochloromethane	ND	U	0.000358	0.00194	mg/kg	1	8/3/23 0:37
Bromodichloromethane	ND	U	0.000244	0.00194	mg/kg	1	8/3/23 0:37
Bromoform	ND	U	0.000341	0.00194	mg/kg	1	8/3/23 0:37
Bromomethane	ND	U	0.000560	0.00194	mg/kg	1	8/3/23 0:37
Carbon disulfide	**0.0127**		**0.000279**	**0.00194**	**mg/kg**	**1**	**8/3/23 0:37**
Carbon Tetrachloride	ND	U	0.000292	0.00194	mg/kg	1	8/3/23 0:37
Chlorobenzene	ND	U	0.000282	0.00194	mg/kg	1	8/3/23 0:37
Chlorodibromomethane	ND	U	0.000239	0.00194	mg/kg	1	8/3/23 0:37
Chloroethane	ND	U	0.000331	0.00194	mg/kg	1	8/3/23 0:37
Chloroform	ND	U	0.000326	0.00194	mg/kg	1	8/3/23 0:37
Chloromethane	ND	U	0.000748	0.00194	mg/kg	1	8/3/23 0:37
cis-1,2-Dichloroethene	ND	U	0.0000939	0.00194	mg/kg	1	8/3/23 0:37
cis-1,3-Dichloropropene	ND	U	0.000246	0.00194	mg/kg	1	8/3/23 0:37
Cyclohexane	ND	U	0.000430	0.00194	mg/kg	1	8/3/23 0:37
Dichlorodifluoromethane	ND	U	0.000656	0.00194	mg/kg	1	8/3/23 0:37
EthylBenzene	**9940**	D	**17.5**	**129**	**mg/kg**	**7143**	**8/8/23 6:38**
Isopropylbenzene	**0.115**		**0.000305**	**0.00194**	**mg/kg**	**1**	**8/3/23 0:37**
m+p-Xylenes	**8210**	D	**32.5**	**258**	**mg/kg**	**7143**	**8/8/23 6:38**
Methyl Acetate	ND	U	0.000257	0.00194	mg/kg	1	8/3/23 0:37
Methyl tert-Butyl Ether	ND	U	0.000328	0.00194	mg/kg	1	8/3/23 0:37
Methylcyclohexane	**0.00371**		**0.000313**	**0.00194**	**mg/kg**	**1**	**8/3/23 0:37**
Methylene Chloride	ND	U	0.000584	0.00194	mg/kg	1	8/3/23 0:37
o-Xylene	**3820**	D	**16.6**	**129**	**mg/kg**	**7143**	**8/8/23 6:38**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Styrene	ND	U	0.000278	0.00194	mg/kg	1	8/3/23 0:37
tert-Butyl alcohol	ND	U	0.00408	0.0194	mg/kg	1	8/3/23 0:37
Tetrachloroethene	ND	U	0.000192	0.00194	mg/kg	1	8/3/23 0:37
Toluene	**4870**	D	**10.4**	**129**	**mg/kg**	**7143**	**8/8/23 6:38**
Total Xylenes	**12000**	D	**16.6**	**129**	**mg/kg**	**7143**	**8/8/23 6:38**
trans-1,2-Dichloroethene	ND	U	0.000263	0.00194	mg/kg	1	8/3/23 0:37
trans-1,3-Dichloropropene	ND	U	0.000371	0.00194	mg/kg	1	8/3/23 0:37
Trichloroethene	ND	U	0.000286	0.00194	mg/kg	1	8/3/23 0:37
Trichlorofluoromethane	ND	U	0.000223	0.00194	mg/kg	1	8/3/23 0:37
Vinyl chloride	ND	U	0.000369	0.00194	mg/kg	1	8/3/23 0:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 2,3-dihydro-	0.0984	19.91	J	mg/kg	1	8/3/23 0:37
1H-Indene, 3-methyl-	0.0585	22.43	J	mg/kg	1	8/3/23 0:37
Azulene	0.414	23.16	J	mg/kg	1	8/3/23 0:37
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0421	22.29	J	mg/kg	1	8/3/23 0:37
Benzene, (1-methylethyl)-	0.0166	18.55	J	mg/kg	1	8/3/23 0:37
Benzene, 1,1-(1-ethenyl-1,3-propanediyl (01)	0.0271	18.97	J	mg/kg	1	8/3/23 0:37
Benzene, 1,1-(1-ethenyl-1,3-propanediyl (02)	0.0199	19.67	J	mg/kg	1	8/3/23 0:37
Benzene, 1,2,3,4-tetramethyl-	0.0322	22.14	J	mg/kg	1	8/3/23 0:37
Benzene, 1,3,5-trimethyl-	0.114	18.87	J	mg/kg	1	8/3/23 0:37
Benzene, 1-ethyl-3-methyl-	0.186	18.06	J	mg/kg	1	8/3/23 0:37
Benzene, 1-ethyl-4-methyl-	0.0486	19.57	J	mg/kg	1	8/3/23 0:37
Benzene, 1-methyl-3-(1-methylethyl)-	0.0278	20.68	J	mg/kg	1	8/3/23 0:37
Benzene, 1-propynyl-	0.343	20.29	J	mg/kg	1	8/3/23 0:37
Benzene, 2-ethyl-1,4-dimethyl-	0.0174	20.04	J	mg/kg	1	8/3/23 0:37
Benzene, 4-ethenyl-1,2-dimethyl-	0.0152	20.98	J	mg/kg	1	8/3/23 0:37
TIC Total	**1.46**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-03 (Soil) Sample Name: **MR-105-35.0-37.0-20230726** Collected: **7/26/2023 9:19:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/7/23 22:45
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/7/23 22:45
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/7/23 22:45
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/7/23 22:45
Benzene	**0.179**	D	**0.00129**	**0.0100**	**mg/L**	**10**	**8/7/23 22:45**
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/7/23 22:45
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/7/23 22:45
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/7/23 22:45
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/7/23 22:45
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/7/23 22:45
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/7/23 22:45

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.2**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0177	0.149	mg/kg	1	8/8/23 18:42
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.126	0.126	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.19**				**pH Units**	**1**	**7/28/23 11:57**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726** Collected: **7/26/2023 10:03:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00560	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1221	ND	U	0.0110	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1232	ND	U	0.0140	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1242	ND	U	0.00821	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1248	ND	U	0.00859	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1254	ND	U	0.00674	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1260	ND	U	0.00523	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1262	ND	U	0.0112	0.0418	mg/kg	1	8/5/23 21:36
Aroclor-1268	ND	U	0.00506	0.0418	mg/kg	1	8/5/23 21:36
Total PCBs	ND	U	0.00390	0.0418	mg/kg	1	8/5/23 21:36

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0124	0.127	mg/kg	1	8/9/23 15:09
2,4-D	ND	U	0.0210	0.127	mg/kg	1	8/9/23 15:09

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:02
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:02

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00633	0.0253	mg/kg	1	8/2/23 15:33

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7370**		**0.191**	**3.21**	**mg/kg**	**1**	**8/9/23 13:43**
Antimony	ND	U	0.175	1.61	mg/kg	1	8/9/23 13:43
Arsenic	**4.27**		**0.115**	**1.61**	**mg/kg**	**1**	**8/9/23 13:43**
Barium	**28.5**		**0.0486**	**0.643**	**mg/kg**	**1**	**8/9/23 13:43**
Beryllium	**0.494**		**0.00372**	**0.0321**	**mg/kg**	**1**	**8/9/23 13:43**
Cadmium	ND	U	0.0627	0.321	mg/kg	1	8/9/23 13:43
Calcium	**4000**		**3.62**	**32.1**	**mg/kg**	**1**	**8/9/23 13:43**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726** Collected: **7/26/2023 10:03:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**14.6**		**0.0363**	**0.321**	**mg/kg**	**1**	**8/9/23 13:43**	
Cobalt	**4.66**		**0.0328**	**0.257**	**mg/kg**	**1**	**8/9/23 13:43**	
Copper	**11.2**		**0.0899**	**0.321**	**mg/kg**	**1**	**8/9/23 13:43**	
Iron	**16800**		**0.910**	**6.43**	**mg/kg**	**1**	**8/9/23 13:43**	
Lead	**13.3**		**0.134**	**1.61**	**mg/kg**	**1**	**8/9/23 13:43**	
Magnesium	**3620**		**11.4**	**64.3**	**mg/kg**	**1**	**8/9/23 13:43**	
Manganese	**189**		**0.0400**	**0.321**	**mg/kg**	**1**	**8/9/23 13:43**	
Nickel	**14.5**		**0.0282**	**0.161**	**mg/kg**	**1**	**8/9/23 13:43**	
Potassium	**1490**		**38.2**	**129**	**mg/kg**	**1**	**8/9/23 13:43**	
Selenium	ND	U	0.309	1.61	mg/kg	1	8/9/23 13:43	UJ, RC:6L
Silver	ND	U	0.0547	0.193	mg/kg	1	8/9/23 13:43	
Sodium	**751**		**6.13**	**64.3**	**mg/kg**	**1**	**8/9/23 13:43**	
Thallium	ND	U	0.108	1.61	mg/kg	1	8/9/23 13:43	
Vanadium	**17.2**		**0.0739**	**0.643**	**mg/kg**	**1**	**8/9/23 13:43**	
Zinc	**40.2**		**0.0982**	**0.964**	**mg/kg**	**1**	**8/9/23 13:43**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:47
Barium	**0.761**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:47**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:47
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:47
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:47
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:47
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:47

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000753	0.00165	mg/kg	1	8/8/23 1:49
4,4'-DDE	ND	U	0.000900	0.00165	mg/kg	1	8/8/23 1:49
4,4'-DDT	ND	U	0.00116	0.00165	mg/kg	1	8/8/23 1:49
Aldrin	ND	U	0.000780	0.00165	mg/kg	1	8/8/23 1:49
alpha-BHC	ND	U	0.000490	0.00165	mg/kg	1	8/8/23 1:49
beta-BHC	ND	U	0.000786	0.00165	mg/kg	1	8/8/23 1:49
Chlordane	ND	U	0.000732	0.00165	mg/kg	1	8/8/23 1:49
delta-BHC	ND	U	0.000765	0.00165	mg/kg	1	8/8/23 1:49
Dieldrin	ND	U	0.000861	0.00165	mg/kg	1	8/8/23 1:49
Endosulfan I	ND	U	0.000778	0.00165	mg/kg	1	8/8/23 1:49

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726** Collected: **7/26/2023 10:03:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000748	0.00165	mg/kg	1	8/8/23 1:49
Endosulfan sulfate	ND	U	0.000619	0.00165	mg/kg	1	8/8/23 1:49
Endosulfans, Total (alpha and beta)	ND	U	0.000748	0.00165	mg/kg	1	8/8/23 1:49
Endrin	ND	U	0.000569	0.00165	mg/kg	1	8/8/23 1:49
Endrin aldehyde	ND	U	0.000656	0.00165	mg/kg	1	8/8/23 1:49
Endrin ketone	ND	U	0.000580	0.00165	mg/kg	1	8/8/23 1:49
gamma-BHC (Lindane)	ND	U	0.000522	0.00165	mg/kg	1	8/8/23 1:49
Heptachlor	ND	U	0.000441	0.00165	mg/kg	1	8/8/23 1:49
Heptachlor Epoxide	ND	U	0.000831	0.00165	mg/kg	1	8/8/23 1:49
Methoxychlor	ND	U	0.000482	0.00165	mg/kg	1	8/8/23 1:49
Toxaphene	ND	U	0.0793	0.0836	mg/kg	1	8/8/23 1:49

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/9/23 23:36	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/9/23 23:36	UJ, RC:6L
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/9/23 23:36	UJ, RC:6L,SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/9/23 23:36	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/9/23 23:36	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/9/23 23:36	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/9/23 23:36	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/9/23 23:36	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/9/23 23:36	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/9/23 23:36	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/9/23 23:36	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/9/23 23:36	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/9/23 23:36	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/9/23 23:36	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/9/23 23:36	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/9/23 23:36	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/9/23 23:36	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/9/23 23:36	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/9/23 23:36	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/9/23 23:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726** Collected: **7/26/2023 10:03:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00476	0.0422	mg/kg	1	8/3/23 20:01	
2,3,4,6-Tetrachlorophenol	ND	U	0.0260	0.168	mg/kg	1	8/3/23 20:01	
2,4,5-Trichlorophenol	ND	U	0.0229	0.168	mg/kg	1	8/3/23 20:01	
2,4,6-Trichlorophenol	ND	U	0.0105	0.168	mg/kg	1	8/3/23 20:01	
2,4-Dichlorophenol	ND	U	0.0170	0.168	mg/kg	1	8/3/23 20:01	
2,4-Dimethylphenol	ND	U	0.0166	0.168	mg/kg	1	8/3/23 20:01	
2,4-Dinitrophenol	ND	U	0.0243	0.845	mg/kg	1	8/3/23 20:01	R, RC:6L
2,4-Dinitrotoluene	ND	U	0.0180	0.168	mg/kg	1	8/3/23 20:01	
2,6-Dinitrotoluene	ND	U	0.0403	0.168	mg/kg	1	8/3/23 20:01	
2-Chloronaphthalene	ND	U	0.0194	0.168	mg/kg	1	8/3/23 20:01	
2-Chlorophenol	ND	U	0.0223	0.168	mg/kg	1	8/3/23 20:01	
2-Methylnaphthalene	**10.1**		**0.0404**	**0.253**	**mg/kg**	**1**	**8/3/23 20:01**	
2-Methylphenol	ND	U	0.0333	0.168	mg/kg	1	8/3/23 20:01	
2-Nitroaniline	ND	U	0.0135	0.168	mg/kg	1	8/3/23 20:01	
2-Nitrophenol	ND	U	0.0187	0.168	mg/kg	1	8/3/23 20:01	
3,3'-Dichlorobenzidine	ND	U	0.0177	0.168	mg/kg	1	8/3/23 20:01	
3+4-Methylphenol	ND	U	0.0309	0.168	mg/kg	1	8/3/23 20:01	
3-Nitroaniline	ND	U	0.0313	0.168	mg/kg	1	8/3/23 20:01	
4,6-Dinitro-2-methylphenol	ND	U	0.0318	0.422	mg/kg	1	8/3/23 20:01	
4-Bromophenyl-phenyl ether	ND	U	0.0241	0.168	mg/kg	1	8/3/23 20:01	
4-Chloro-3-methylphenol	ND	U	0.0266	0.168	mg/kg	1	8/3/23 20:01	
4-Chloroaniline	ND	U	0.00590	0.168	mg/kg	1	8/3/23 20:01	
4-Chlorophenyl phenyl ether	ND	U	0.00910	0.168	mg/kg	1	8/3/23 20:01	
4-Nitroaniline	ND	U	0.0843	0.168	mg/kg	1	8/3/23 20:01	
4-Nitrophenol	ND	U	0.0108	0.168	mg/kg	1	8/3/23 20:01	
Acenaphthene	**4.00**		**0.00961**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Acenaphthylene	**3.38**		**0.00586**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Acetophenone	ND	U	0.0167	0.168	mg/kg	1	8/3/23 20:01	
Anthracene	**3.80**		**0.0244**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Atrazine	ND	U	0.0158	0.168	mg/kg	1	8/3/23 20:01	
Benzaldehyde	ND	U	0.0518	0.168	mg/kg	1	8/3/23 20:01	UJ, RC:SL
Benzo(a)anthracene	**2.25**		**0.0170**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Benzo(a)pyrene	**1.66**		**0.0294**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Benzo(b)fluoranthene	**1.16**		**0.0237**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Benzo(g,h,i)perylene	**0.600**		**0.0137**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Benzo(k)fluoranthene	**0.467**		**0.0194**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Biphenyl	**1.29**		**0.0148**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
bis(2-chloroethoxy)methane	ND	U	0.0233	0.168	mg/kg	1	8/3/23 20:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-202 30726** Collected: **7/26/2023 10:03:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0185	0.168	mg/kg	1	8/3/23 20:01	
bis(2-chloroisopropyl)ether	ND	U	0.0607	0.168	mg/kg	1	8/3/23 20:01	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0337	0.168	mg/kg	1	8/3/23 20:01	
Butylbenzylphthalate	ND	U	0.0153	0.168	mg/kg	1	8/3/23 20:01	
Caprolactam	ND	U	0.0218	0.168	mg/kg	1	8/3/23 20:01	
Carbazole	**0.0897**	J	**0.0324**	**0.422**	**mg/kg**	**1**	**8/3/23 20:01**	
Chrysene	**2.14**		**0.0115**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Dibenzo(a,h)anthracene	**0.191**		**0.0167**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Dibenzofuran	**0.427**		**0.0100**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Diethylphthalate	ND	U	0.0327	0.168	mg/kg	1	8/3/23 20:01	
Dimethylphthalate	ND	U	0.0105	0.168	mg/kg	1	8/3/23 20:01	
Di-n-butylphthalate	ND	U	0.0689	0.168	mg/kg	1	8/3/23 20:01	
Di-n-octylphthalate	ND	U	0.0346	0.168	mg/kg	1	8/3/23 20:01	
Fluoranthene	**3.85**		**0.0158**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Fluorene	**4.60**		**0.0141**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Hexachlorobenzene	ND	U	0.0220	0.168	mg/kg	1	8/3/23 20:01	
Hexachlorobutadiene	ND	U	0.0809	0.168	mg/kg	1	8/3/23 20:01	
Hexachlorocyclopentadiene	ND	U	0.0703	0.422	mg/kg	1	8/3/23 20:01	UJ, RC:SL
Hexachloroethane	ND	U	0.0185	0.168	mg/kg	1	8/3/23 20:01	
Indeno(1,2,3-cd)pyrene	**0.477**		**0.0181**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Isophorone	ND	U	0.0110	0.168	mg/kg	1	8/3/23 20:01	
Naphthalene	**8.31**		**0.0125**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	
Nitrobenzene	ND	U	0.0286	0.168	mg/kg	1	8/3/23 20:01	
n-Nitroso-di-n-propylamine	ND	U	0.00903	0.168	mg/kg	1	8/3/23 20:01	
n-Nitrosodiphenylamine	ND	U	0.0360	0.168	mg/kg	1	8/3/23 20:01	
Pentachlorophenol	ND	U	0.0232	0.422	mg/kg	1	8/3/23 20:01	
Phenanthrene	**13.7**	D	**0.111**	**0.842**	**mg/kg**	**5**	**8/4/23 22:48**	
Phenol	ND	U	0.0137	0.168	mg/kg	1	8/3/23 20:01	
Pyrene	**5.29**		**0.0124**	**0.168**	**mg/kg**	**1**	**8/3/23 20:01**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1,4-Methanonaphthalene, 1,4-dihydro-	8.05	8.76	J	mg/kg	1	8/3/23 20:01	
2-Pentanone, 4-hydroxy-4-methyl-	11.8	4.93	J	mg/kg	1	8/3/23 20:01	
Hexadecanoic acid, butyl ester	~~24.0~~	12.54	J, B	mg/kg	1	8/3/23 20:01	R, RC:2
Naphthalene, 1,7-dimethyl-	2.24	9.39	J	mg/kg	1	8/3/23 20:01	
Naphthalene, 1-ethyl-	2.30	9.21	J	mg/kg	1	8/3/23 20:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-202 30726** Collected: **7/26/2023 10:03:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 2,3-dimethyl-	4.12	9.36	J	mg/kg	1	8/3/23 20:01
Naphthalene, 2,6-dimethyl-	3.38	9.28	J	mg/kg	1	8/3/23 20:01
Octadecanoic acid, butyl ester	~~8.46~~	13.33	J, B	mg/kg	1	8/3/23 20:01 R, RC:2
unknown (01)	2.20	9.48	J	mg/kg	1	8/3/23 20:01
unknown (02)	1.70	10.01	J	mg/kg	1	8/3/23 20:01
unknown (03)	2.99	11.72	J	mg/kg	1	8/3/23 20:01
unknown (04)	3.32	11.75	J	mg/kg	1	8/3/23 20:01
unknown (05)	1.83	11.80	J	mg/kg	1	8/3/23 20:01
unknown (06)	6.44	11.85	J	mg/kg	1	8/3/23 20:01
unknown (07)	2.22	12.28	J	mg/kg	1	8/3/23 20:01
TIC Total	~~85.1~~ 52.5					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 19:33
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 19:33
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 19:33
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 19:33
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 19:33
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 19:33
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 19:33
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 19:33
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 19:33
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 19:33
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 19:33

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000284	0.00195	mg/kg	1	8/3/23 1:08
1,1,2,2-Tetrachloroethane	ND	U	0.000269	0.00195	mg/kg	1	8/3/23 1:08
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000834	0.00195	mg/kg	1	8/3/23 1:08
1,1,2-Trichloroethane	ND	U	0.000328	0.00195	mg/kg	1	8/3/23 1:08
1,1-Dichloroethane	ND	U	0.000284	0.00195	mg/kg	1	8/3/23 1:08
1,1-Dichloroethene	ND	U	0.000360	0.00195	mg/kg	1	8/3/23 1:08
1,2,3-Trichlorobenzene	ND	U	0.000421	0.00195	mg/kg	1	8/3/23 1:08
1,2,4-Trichlorobenzene	ND	U	0.000519	0.00195	mg/kg	1	8/3/23 1:08
1,2,4-Trimethylbenzene	**0.189**		**0.000269**	**0.00195**	**mg/kg**	**1**	**8/3/23 1:08**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-202 30726** Collected: **7/26/2023 10:03:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromo-3-chloropropane	ND	U	0.000475	0.00195	mg/kg	1	8/3/23 1:08
1,2-Dibromoethane	ND	U	0.000245	0.00195	mg/kg	1	8/3/23 1:08
1,2-Dichlorobenzene	ND	U	0.000344	0.00195	mg/kg	1	8/3/23 1:08
1,2-Dichloroethane	ND	U	0.000275	0.00195	mg/kg	1	8/3/23 1:08
1,2-Dichloropropane	ND	U	0.000320	0.00195	mg/kg	1	8/3/23 1:08
1,3-Dichlorobenzene	ND	U	0.000143	0.00195	mg/kg	1	8/3/23 1:08
1,4-Dichlorobenzene	ND	U	0.000281	0.00195	mg/kg	1	8/3/23 1:08
2-Butanone	ND	U	0.000318	0.00487	mg/kg	1	8/3/23 1:08
2-Hexanone	ND	U	0.000182	0.00195	mg/kg	1	8/3/23 1:08
4-Methyl-2-pentanone	ND	U	0.000244	0.00195	mg/kg	1	8/3/23 1:08
Acetone	ND	U	0.000590	0.00487	mg/kg	1	8/3/23 1:08
Benzene	**0.108**		**0.000177**	**0.00195**	**mg/kg**	**1**	**8/3/23 1:08**
Bromochloromethane	ND	U	0.000359	0.00195	mg/kg	1	8/3/23 1:08
Bromodichloromethane	ND	U	0.000245	0.00195	mg/kg	1	8/3/23 1:08
Bromoform	ND	U	0.000342	0.00195	mg/kg	1	8/3/23 1:08
Bromomethane	ND	U	0.000562	0.00195	mg/kg	1	8/3/23 1:08
Carbon disulfide	**0.0162**		**0.000280**	**0.00195**	**mg/kg**	**1**	**8/3/23 1:08**
Carbon Tetrachloride	ND	U	0.000293	0.00195	mg/kg	1	8/3/23 1:08
Chlorobenzene	ND	U	0.000282	0.00195	mg/kg	1	8/3/23 1:08
Chlorodibromomethane	ND	U	0.000240	0.00195	mg/kg	1	8/3/23 1:08
Chloroethane	ND	U	0.000332	0.00195	mg/kg	1	8/3/23 1:08
Chloroform	ND	U	0.000327	0.00195	mg/kg	1	8/3/23 1:08
Chloromethane	ND	U	0.000750	0.00195	mg/kg	1	8/3/23 1:08
cis-1,2-Dichloroethene	ND	U	0.0000942	0.00195	mg/kg	1	8/3/23 1:08
cis-1,3-Dichloropropene	ND	U	0.000246	0.00195	mg/kg	1	8/3/23 1:08
Cyclohexane	ND	U	0.000432	0.00195	mg/kg	1	8/3/23 1:08
Dichlorodifluoromethane	ND	U	0.000658	0.00195	mg/kg	1	8/3/23 1:08
EthylBenzene	**1.44**	D	**0.0198**	**0.146**	**mg/kg**	**76**	**8/8/23 7:07**
Isopropylbenzene	**0.0864**		**0.000306**	**0.00195**	**mg/kg**	**1**	**8/3/23 1:08**
m+p-Xylenes	**1.26**	D	**0.0368**	**0.292**	**mg/kg**	**76**	**8/8/23 7:07**
Methyl Acetate	ND	U	0.000258	0.00195	mg/kg	1	8/3/23 1:08
Methyl tert-Butyl Ether	ND	U	0.000329	0.00195	mg/kg	1	8/3/23 1:08
Methylcyclohexane	**0.00232**		**0.000314**	**0.00195**	**mg/kg**	**1**	**8/3/23 1:08**
Methylene Chloride	ND	U	0.000585	0.00195	mg/kg	1	8/3/23 1:08
o-Xylene	**0.580**	D	**0.0187**	**0.146**	**mg/kg**	**76**	**8/8/23 7:07**
Styrene	ND	U	0.000279	0.00195	mg/kg	1	8/3/23 1:08
tert-Butyl alcohol	ND	U	0.00409	0.0195	mg/kg	1	8/3/23 1:08
Tetrachloroethene	ND	U	0.000193	0.00195	mg/kg	1	8/3/23 1:08

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726** Collected: **7/26/2023 10:03:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	**0.563**	D	**0.0117**	**0.146**	**mg/kg**	**76**	**8/8/23 7:07**
Total Xylenes	**1.84**	D	**0.0187**	**0.146**	**mg/kg**	**76**	**8/8/23 7:07**
trans-1,2-Dichloroethene	ND	U	0.000264	0.00195	mg/kg	1	8/3/23 1:08
trans-1,3-Dichloropropene	ND	U	0.000372	0.00195	mg/kg	1	8/3/23 1:08
Trichloroethene	ND	U	0.000286	0.00195	mg/kg	1	8/3/23 1:08
Trichlorofluoromethane	ND	U	0.000224	0.00195	mg/kg	1	8/3/23 1:08
Vinyl chloride	ND	U	0.000370	0.00195	mg/kg	1	8/3/23 1:08

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methylene-	0.576	23.19	J	mg/kg	1	8/3/23 1:08
1H-Indene, 3-methyl-	0.0589	22.45	J	mg/kg	1	8/3/23 1:08
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0527	22.29	J	mg/kg	1	8/3/23 1:08
Benzene, 1,2,3,4-tetramethyl-	0.0406	22.14	J	mg/kg	1	8/3/23 1:08
Benzene, 1,2-propadienyl-	0.315	20.29	J	mg/kg	1	8/3/23 1:08
Benzene, 1,3,5-trimethyl-	0.118	18.87	J	mg/kg	1	8/3/23 1:08
Benzene, 1-ethenyl-3,5-dimethyl-	0.0435	20.98	J	mg/kg	1	8/3/23 1:08
Benzene, 1-ethenyl-4-methyl-	0.0593	18.97	J	mg/kg	1	8/3/23 1:08
Benzene, 1-ethyl-2-methyl-	0.0219	18.56	J	mg/kg	1	8/3/23 1:08
Benzene, 1-ethyl-3,5-dimethyl-	0.0358	20.68	J	mg/kg	1	8/3/23 1:08
Benzene, 1-ethyl-3-methyl-	0.144	18.06	J	mg/kg	1	8/3/23 1:08
Benzene, 1-ethyl-4-methyl-	0.0487	19.57	J	mg/kg	1	8/3/23 1:08
Benzene, 1-methyl-3-(1-methylethyl)-	0.0213	20.04	J	mg/kg	1	8/3/23 1:08
Benzene, 4-ethenyl-1,2-dimethyl-	0.0221	21.68	J	mg/kg	1	8/3/23 1:08
Benzene, cyclopropyl-	0.0521	19.91	J	mg/kg	1	8/3/23 1:08
TIC Total	**1.61**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/8/23 21:32
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/8/23 21:32
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/8/23 21:32
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/8/23 21:32
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/8/23 21:32
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/8/23 21:32
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/8/23 21:32

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-04 (Soil) Sample Name: **MR-105-50.0-52.0-20230726** Collected: **7/26/2023 10:03:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	**0.0363**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/8/23 21:32**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/8/23 21:32
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/8/23 21:32
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/8/23 21:32

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.0**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.310**		**0.0185**	**0.155**	**mg/kg**	**1**	**8/8/23 18:42**
Reactive Cyanide	**0.31**		**0.13**	**0.13**	**mg/kg**	**1**	**8/9/23 16:47**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.127	0.127	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.20**				**pH Units**	**1**	**7/28/23 11:57**

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00549	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1221	ND	U	0.0108	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1232	ND	U	0.0137	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1242	ND	U	0.00805	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1248	ND	U	0.00841	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1254	ND	U	0.00661	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1260	ND	U	0.00513	0.0409	mg/kg	1	8/5/23 21:58

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1262	ND	U	0.0110	0.0409	mg/kg	1	8/5/23 21:58
Aroclor-1268	ND	U	0.00495	0.0409	mg/kg	1	8/5/23 21:58
Total PCBs	ND	U	0.00382	0.0409	mg/kg	1	8/5/23 21:58

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.124	mg/kg	1	8/9/23 15:19
2,4-D	ND	U	0.0206	0.124	mg/kg	1	8/9/23 15:19

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:12
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:12

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00620	0.0248	mg/kg	1	8/2/23 15:43

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:09

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3900**		**0.190**	**3.20**	**mg/kg**	**1**	**8/9/23 13:45**
Antimony	ND	U	0.174	1.60	mg/kg	1	8/9/23 13:45
Arsenic	ND	U	0.114	1.60	mg/kg	1	8/9/23 13:45
Barium	**29.4**		**0.0483**	**0.639**	**mg/kg**	**1**	**8/9/23 13:45**
Beryllium	**0.331**		**0.00370**	**0.0320**	**mg/kg**	**1**	**8/9/23 13:45**
Cadmium	ND	U	0.0623	0.320	mg/kg	1	8/9/23 13:45
Calcium	**7910**		**3.60**	**32.0**	**mg/kg**	**1**	**8/9/23 13:45**
Chromium	**8.03**		**0.0361**	**0.320**	**mg/kg**	**1**	**8/9/23 13:45**
Cobalt	**3.29**		**0.0327**	**0.256**	**mg/kg**	**1**	**8/9/23 13:45**
Copper	**8.41**		**0.0895**	**0.320**	**mg/kg**	**1**	**8/9/23 13:45**
Iron	**8310**		**0.906**	**6.39**	**mg/kg**	**1**	**8/9/23 13:45**
Lead	**6.84**		**0.133**	**1.60**	**mg/kg**	**1**	**8/9/23 13:45**
Magnesium	**4200**		**11.3**	**63.9**	**mg/kg**	**1**	**8/9/23 13:45**
Manganese	**167**		**0.0398**	**0.320**	**mg/kg**	**1**	**8/9/23 13:45**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Nickel	**16.1**		**0.0281**	**0.160**	**mg/kg**	**1**	**8/9/23 13:45**	
Potassium	**964**		**38.0**	**128**	**mg/kg**	**1**	**8/9/23 13:45**	
Selenium	ND	U	0.307	1.60	mg/kg	1	8/9/23 13:45	UJ, RC:6L
Silver	ND	U	0.0544	0.192	mg/kg	1	8/9/23 13:45	
Sodium	**349**		**6.10**	**63.9**	**mg/kg**	**1**	**8/9/23 13:45**	
Thallium	ND	U	0.108	1.60	mg/kg	1	8/9/23 13:45	
Vanadium	**10.6**		**0.0735**	**0.639**	**mg/kg**	**1**	**8/9/23 13:45**	
Zinc	**20.9**		**0.0977**	**0.959**	**mg/kg**	**1**	**8/9/23 13:45**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:49
Barium	**0.822**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:49**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:49
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:49
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:49
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:49
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:49

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000738	0.00161	mg/kg	1	8/10/23 2:11	
4,4'-DDE	ND	U	0.000882	0.00161	mg/kg	1	8/10/23 2:11	
4,4'-DDT	ND	U	0.00114	0.00161	mg/kg	1	8/10/23 2:11	UJ, RC:SL
Aldrin	ND	U	0.000764	0.00161	mg/kg	1	8/10/23 2:11	
alpha-BHC	ND	U	0.000480	0.00161	mg/kg	1	8/10/23 2:11	
beta-BHC	ND	U	0.000770	0.00161	mg/kg	1	8/10/23 2:11	
Chlordane	ND	U	0.000717	0.00161	mg/kg	1	8/10/23 2:11	
delta-BHC	ND	U	0.000749	0.00161	mg/kg	1	8/10/23 2:11	
Dieldrin	ND	U	0.000844	0.00161	mg/kg	1	8/10/23 2:11	
Endosulfan I	ND	U	0.000762	0.00161	mg/kg	1	8/10/23 2:11	
Endosulfan II	ND	U	0.000733	0.00161	mg/kg	1	8/10/23 2:11	
Endosulfan sulfate	ND	U	0.000607	0.00161	mg/kg	1	8/10/23 2:11	
Endosulfans, Total (alpha and beta)	ND	U	0.000733	0.00161	mg/kg	1	8/10/23 2:11	
Endrin	ND	U	0.000557	0.00161	mg/kg	1	8/10/23 2:11	
Endrin aldehyde	ND	U	0.000643	0.00161	mg/kg	1	8/10/23 2:11	
Endrin ketone	ND	U	0.000568	0.00161	mg/kg	1	8/10/23 2:11	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
gamma-BHC (Lindane)	ND	U	0.000511	0.00161	mg/kg	1	8/10/23 2:11	
Heptachlor	ND	U	0.000432	0.00161	mg/kg	1	8/10/23 2:11	
Heptachlor Epoxide	ND	U	0.000814	0.00161	mg/kg	1	8/10/23 2:11	
Methoxychlor	ND	U	0.000473	0.00161	mg/kg	1	8/10/23 2:11	UJ, RC:SL
Toxaphene	ND	U	0.0777	0.0819	mg/kg	1	8/10/23 2:11	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/9/23 23:58	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/9/23 23:58	UJ, RC:6L
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/9/23 23:58	UJ, RC:6L,SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/9/23 23:58	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/9/23 23:58	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/9/23 23:58	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/9/23 23:58	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/9/23 23:58	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/9/23 23:58	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/9/23 23:58	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/9/23 23:58	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/9/23 23:58	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/9/23 23:58	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/9/23 23:58	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/9/23 23:58	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/9/23 23:58	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/9/23 23:58	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/9/23 23:58	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/9/23 23:58	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/9/23 23:58	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00466	0.0413	mg/kg	1	8/3/23 20:33	
2,3,4,6-Tetrachlorophenol	ND	U	0.0254	0.165	mg/kg	1	8/3/23 20:33	
2,4,5-Trichlorophenol	ND	U	0.0225	0.165	mg/kg	1	8/3/23 20:33	
2,4,6-Trichlorophenol	ND	U	0.0103	0.165	mg/kg	1	8/3/23 20:33	
2,4-Dichlorophenol	ND	U	0.0166	0.165	mg/kg	1	8/3/23 20:33	
2,4-Dimethylphenol	ND	U	0.0163	0.165	mg/kg	1	8/3/23 20:33	
2,4-Dinitrophenol	~~ND~~	~~U~~	~~0.0238~~	~~0.827~~	mg/kg	1	8/3/23 20:33	R, RC:6L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dinitrotoluene	ND	U	0.0176	0.165	mg/kg	1	8/3/23 20:33	
2,6-Dinitrotoluene	ND	U	0.0395	0.165	mg/kg	1	8/3/23 20:33	
2-Chloronaphthalene	ND	U	0.0190	0.165	mg/kg	1	8/3/23 20:33	
2-Chlorophenol	ND	U	0.0218	0.165	mg/kg	1	8/3/23 20:33	
2-Methylnaphthalene	**0.310**		**0.0396**	**0.248**	**mg/kg**	**1**	**8/3/23 20:33**	
2-Methylphenol	ND	U	0.0326	0.165	mg/kg	1	8/3/23 20:33	
2-Nitroaniline	ND	U	0.0133	0.165	mg/kg	1	8/3/23 20:33	
2-Nitrophenol	ND	U	0.0184	0.165	mg/kg	1	8/3/23 20:33	
3,3'-Dichlorobenzidine	ND	U	0.0174	0.165	mg/kg	1	8/3/23 20:33	
3+4-Methylphenol	ND	U	0.0303	0.165	mg/kg	1	8/3/23 20:33	
3-Nitroaniline	ND	U	0.0306	0.165	mg/kg	1	8/3/23 20:33	
4,6-Dinitro-2-methylphenol	ND	U	0.0311	0.413	mg/kg	1	8/3/23 20:33	
4-Bromophenyl-phenyl ether	ND	U	0.0236	0.165	mg/kg	1	8/3/23 20:33	
4-Chloro-3-methylphenol	ND	U	0.0261	0.165	mg/kg	1	8/3/23 20:33	
4-Chloroaniline	ND	U	0.00578	0.165	mg/kg	1	8/3/23 20:33	
4-Chlorophenyl phenyl ether	ND	U	0.00892	0.165	mg/kg	1	8/3/23 20:33	
4-Nitroaniline	ND	U	0.0826	0.165	mg/kg	1	8/3/23 20:33	
4-Nitrophenol	ND	U	0.0106	0.165	mg/kg	1	8/3/23 20:33	
Acenaphthene	**0.699**		**0.00942**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Acenaphthylene	**0.311**		**0.00574**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Acetophenone	ND	U	0.0164	0.165	mg/kg	1	8/3/23 20:33	
Anthracene	**0.591**		**0.0239**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Atrazine	ND	U	0.0155	0.165	mg/kg	1	8/3/23 20:33	
Benzaldehyde	ND	U	0.0507	0.165	mg/kg	1	8/3/23 20:33	UJ, RC:SL
Benzo(a)anthracene	**0.384**		**0.0166**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Benzo(a)pyrene	**0.305**		**0.0288**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Benzo(b)fluoranthene	**0.203**		**0.0232**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Benzo(g,h,i)perylene	**0.103**	J	**0.0134**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Benzo(k)fluoranthene	**0.0734**	J	**0.0190**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Biphenyl	**0.176**		**0.0145**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
bis(2-chloroethoxy)methane	ND	U	0.0228	0.165	mg/kg	1	8/3/23 20:33	
bis(2-chloroethyl)ether	ND	U	0.0181	0.165	mg/kg	1	8/3/23 20:33	
bis(2-chloroisopropyl)ether	ND	U	0.0594	0.165	mg/kg	1	8/3/23 20:33	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0330	0.165	mg/kg	1	8/3/23 20:33	
Butylbenzylphthalate	ND	U	0.0150	0.165	mg/kg	1	8/3/23 20:33	
Caprolactam	ND	U	0.0213	0.165	mg/kg	1	8/3/23 20:33	
Carbazole	ND	U	0.0318	0.413	mg/kg	1	8/3/23 20:33	
Chrysene	**0.363**		**0.0113**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Dibenzo(a,h)anthracene	ND	U	0.0164	0.165	mg/kg	1	8/3/23 20:33	
Dibenzofuran	**0.0622**	J	**0.00984**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Diethylphthalate	ND	U	0.0320	0.165	mg/kg	1	8/3/23 20:33	
Dimethylphthalate	ND	U	0.0102	0.165	mg/kg	1	8/3/23 20:33	
Di-n-butylphthalate	ND	U	0.0675	0.165	mg/kg	1	8/3/23 20:33	
Di-n-octylphthalate	ND	U	0.0339	0.165	mg/kg	1	8/3/23 20:33	
Fluoranthene	**0.677**		**0.0155**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Fluorene	**0.714**		**0.0138**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Hexachlorobenzene	ND	U	0.0216	0.165	mg/kg	1	8/3/23 20:33	
Hexachlorobutadiene	ND	U	0.0793	0.165	mg/kg	1	8/3/23 20:33	
Hexachlorocyclopentadiene	ND	U	0.0689	0.413	mg/kg	1	8/3/23 20:33	UJ, RC:SL
Hexachloroethane	ND	U	0.0181	0.165	mg/kg	1	8/3/23 20:33	
Indeno(1,2,3-cd)pyrene	**0.0800**	J	**0.0177**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Isophorone	ND	U	0.0108	0.165	mg/kg	1	8/3/23 20:33	
Naphthalene	**0.270**		**0.0122**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Nitrobenzene	ND	U	0.0280	0.165	mg/kg	1	8/3/23 20:33	
n-Nitroso-di-n-propylamine	ND	U	0.00885	0.165	mg/kg	1	8/3/23 20:33	
n-Nitrosodiphenylamine	ND	U	0.0352	0.165	mg/kg	1	8/3/23 20:33	
Pentachlorophenol	ND	U	0.0227	0.413	mg/kg	1	8/3/23 20:33	
Phenanthrene	**2.16**		**0.0217**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	
Phenol	ND	U	0.0134	0.165	mg/kg	1	8/3/23 20:33	
Pyrene	**0.925**		**0.0121**	**0.165**	**mg/kg**	**1**	**8/3/23 20:33**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	13.2	4.93	J	mg/kg	1	8/3/23 20:33	
Hexadecanoic acid, butyl ester	~~27.6~~	12.54	J, B	mg/kg	1	8/3/23 20:33	R, RC:2
Naphthalene, 1-methyl-	0.746	8.76	J	mg/kg	1	8/3/23 20:33	
Naphthalene, 2,3-dimethyl-	0.603	9.36	J	mg/kg	1	8/3/23 20:33	
Naphthalene, 2,6-dimethyl-	0.523	9.28	J	mg/kg	1	8/3/23 20:33	
Octadecanoic acid, butyl ester	~~15.1~~	13.33	J, B	mg/kg	1	8/3/23 20:33	R, RC:2
unknown (01)	0.469	11.72	J	mg/kg	1	8/3/23 20:33	
unknown (02)	0.646	11.75	J	mg/kg	1	8/3/23 20:33	
unknown (03)	0.940	11.85	J	mg/kg	1	8/3/23 20:33	
TIC Total	~~59.8~~ 17.1						

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 20:05
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 20:05
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 20:05
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 20:05
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 20:05
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 20:05
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 20:05
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 20:05
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 20:05
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 20:05
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 20:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000259	0.00177	mg/kg	1	8/3/23 1:40
1,1,2,2-Tetrachloroethane	ND	U	0.000245	0.00177	mg/kg	1	8/3/23 1:40
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000759	0.00177	mg/kg	1	8/3/23 1:40
1,1,2-Trichloroethane	ND	U	0.000299	0.00177	mg/kg	1	8/3/23 1:40
1,1-Dichloroethane	ND	U	0.000259	0.00177	mg/kg	1	8/3/23 1:40
1,1-Dichloroethene	ND	U	0.000328	0.00177	mg/kg	1	8/3/23 1:40
1,2,3-Trichlorobenzene	ND	U	0.000383	0.00177	mg/kg	1	8/3/23 1:40
1,2,4-Trichlorobenzene	ND	U	0.000472	0.00177	mg/kg	1	8/3/23 1:40
1,2,4-Trimethylbenzene	**0.0971**		**0.000245**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
1,2-Dibromo-3-chloropropane	ND	U	0.000432	0.00177	mg/kg	1	8/3/23 1:40
1,2-Dibromoethane	ND	U	0.000223	0.00177	mg/kg	1	8/3/23 1:40
1,2-Dichlorobenzene	ND	U	0.000313	0.00177	mg/kg	1	8/3/23 1:40
1,2-Dichloroethane	ND	U	0.000250	0.00177	mg/kg	1	8/3/23 1:40
1,2-Dichloropropane	ND	U	0.000291	0.00177	mg/kg	1	8/3/23 1:40
1,3-Dichlorobenzene	ND	U	0.000130	0.00177	mg/kg	1	8/3/23 1:40
1,4-Dichlorobenzene	ND	U	0.000255	0.00177	mg/kg	1	8/3/23 1:40
2-Butanone	ND	U	0.000289	0.00443	mg/kg	1	8/3/23 1:40
2-Hexanone	ND	U	0.000166	0.00177	mg/kg	1	8/3/23 1:40
4-Methyl-2-pentanone	ND	U	0.000222	0.00177	mg/kg	1	8/3/23 1:40
Acetone	ND	U	0.000537	0.00443	mg/kg	1	8/3/23 1:40
Benzene	**0.0257**		**0.000161**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
Bromochloromethane	ND	U	0.000327	0.00177	mg/kg	1	8/3/23 1:40
Bromodichloromethane	ND	U	0.000222	0.00177	mg/kg	1	8/3/23 1:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000311	0.00177	mg/kg	1	8/3/23 1:40
Bromomethane	ND	U	0.000511	0.00177	mg/kg	1	8/3/23 1:40
Carbon disulfide	**0.00436**		**0.000254**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
Carbon Tetrachloride	ND	U	0.000267	0.00177	mg/kg	1	8/3/23 1:40
Chlorobenzene	ND	U	0.000257	0.00177	mg/kg	1	8/3/23 1:40
Chlorodibromomethane	ND	U	0.000218	0.00177	mg/kg	1	8/3/23 1:40
Chloroethane	ND	U	0.000302	0.00177	mg/kg	1	8/3/23 1:40
Chloroform	ND	U	0.000298	0.00177	mg/kg	1	8/3/23 1:40
Chloromethane	ND	U	0.000682	0.00177	mg/kg	1	8/3/23 1:40
cis-1,2-Dichloroethene	ND	U	0.0000857	0.00177	mg/kg	1	8/3/23 1:40
cis-1,3-Dichloropropene	ND	U	0.000224	0.00177	mg/kg	1	8/3/23 1:40
Cyclohexane	ND	U	0.000393	0.00177	mg/kg	1	8/3/23 1:40
Dichlorodifluoromethane	ND	U	0.000598	0.00177	mg/kg	1	8/3/23 1:40
EthylBenzene	**9.42**	J, D	**1.71**	**12.7**	**mg/kg**	**714**	**8/8/23 8:08**
Isopropylbenzene	**0.0453**		**0.000278**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
m+p-Xylenes	**0.280**		**0.000447**	**0.00354**	**mg/kg**	**1**	**8/3/23 1:40**
Methyl Acetate	ND	U	0.000235	0.00177	mg/kg	1	8/3/23 1:40
Methyl tert-Butyl Ether	ND	U	0.000300	0.00177	mg/kg	1	8/3/23 1:40
Methylcyclohexane	**0.000590**	J	**0.000285**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
Methylene Chloride	ND	U	0.000533	0.00177	mg/kg	1	8/3/23 1:40
o-Xylene	**0.165**		**0.000228**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
Styrene	ND	U	0.000253	0.00177	mg/kg	1	8/3/23 1:40
tert-Butyl alcohol	ND	U	0.00372	0.0177	mg/kg	1	8/3/23 1:40
Tetrachloroethene	ND	U	0.000175	0.00177	mg/kg	1	8/3/23 1:40
Toluene	**0.131**		**0.000143**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
Total Xylenes	**0.446**		**0.000228**	**0.00177**	**mg/kg**	**1**	**8/3/23 1:40**
trans-1,2-Dichloroethene	ND	U	0.000240	0.00177	mg/kg	1	8/3/23 1:40
trans-1,3-Dichloropropene	ND	U	0.000339	0.00177	mg/kg	1	8/3/23 1:40
Trichloroethene	ND	U	0.000261	0.00177	mg/kg	1	8/3/23 1:40
Trichlorofluoromethane	ND	U	0.000204	0.00177	mg/kg	1	8/3/23 1:40
Vinyl chloride	ND	U	0.000337	0.00177	mg/kg	1	8/3/23 1:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	0.0806	22.45	J	mg/kg	1	8/3/23 1:40
1H-Indene, 1-methylene-	0.787	23.19	J	mg/kg	1	8/3/23 1:40
1H-Indene, 2,3-dihydro-	0.0720	19.91	J	mg/kg	1	8/3/23 1:40

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (1-methyl-1-propenyl)-, (Z)-	0.0490	22.15	J	mg/kg	1	8/3/23 1:40
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0653	22.29	J	mg/kg	1	8/3/23 1:40
Benzene, (1-methylethyl)-	0.0558	18.12	J	mg/kg	1	8/3/23 1:40
Benzene, 1,2,3-trimethyl-	0.0887	18.87	J	mg/kg	1	8/3/23 1:40
Benzene, 1-ethyl-2,4-dimethyl-	0.0267	20.68	J	mg/kg	1	8/3/23 1:40
Benzene, 1-ethyl-2-methyl-	0.0233	18.56	J	mg/kg	1	8/3/23 1:40
Benzene, 1-ethyl-3-methyl-	0.0857	18.07	J	mg/kg	1	8/3/23 1:40
Benzene, 1-ethyl-4-methyl-	0.0443	19.57	J	mg/kg	1	8/3/23 1:40
Benzene, 1-propynyl-	0.225	20.29	J	mg/kg	1	8/3/23 1:40
Benzene, 2-ethenyl-1,4-dimethyl-	0.0238	20.98	J	mg/kg	1	8/3/23 1:40
Benzene, ethenylmethyl-	0.0328	18.97	J	mg/kg	1	8/3/23 1:40
Benzo[b]thiophene	0.0305	23.34	J	mg/kg	1	8/3/23 1:40
TIC Total	**1.69**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/8/23 21:58
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/8/23 21:58
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/8/23 21:58
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/8/23 21:58
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/8/23 21:58
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/8/23 21:58
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/8/23 21:58
Chloroform	**0.0334**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/8/23 21:58**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/8/23 21:58
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/8/23 21:58
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/8/23 21:58

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.6**				**%**	**1**	**7/28/23 12:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-05 (Soil) Sample Name: **MR-105-65.0-67.0-20230726** Collected: **7/26/2023 11:08:00AM**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0161	0.135	mg/kg	1	8/8/23 18:42
Reactive Cyanide	ND	U	0.11	0.11	mg/kg	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.124	0.124	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.19**				**pH Units**	**1**	**7/28/23 11:57**

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00541	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1221	ND	U	0.0106	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1232	ND	U	0.0135	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1242	ND	U	0.00793	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1248	ND	U	0.00829	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1254	ND	U	0.00651	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1260	ND	U	0.00505	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1262	ND	U	0.0109	0.0403	mg/kg	1	8/5/23 22:20
Aroclor-1268	ND	U	0.00488	0.0403	mg/kg	1	8/5/23 22:20
Total PCBs	ND	U	0.00377	0.0403	mg/kg	1	8/5/23 22:20

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0120	0.122	mg/kg	1	8/9/23 15:28
2,4-D	ND	U	0.0203	0.122	mg/kg	1	8/9/23 15:28

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:21
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:21

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.669**		**0.00611**	**0.0244**	**mg/kg**	**1**	**8/2/23 15:52**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:11

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5640**		**0.176**	**2.97**	**mg/kg**	**1**	**8/9/23 13:47**	
Antimony	ND	U	0.162	1.48	mg/kg	1	8/9/23 13:47	
Arsenic	**4.32**		**0.106**	**1.48**	**mg/kg**	**1**	**8/9/23 13:47**	
Barium	**64.1**		**0.0449**	**0.593**	**mg/kg**	**1**	**8/9/23 13:47**	
Beryllium	**0.423**		**0.00344**	**0.0297**	**mg/kg**	**1**	**8/9/23 13:47**	
Cadmium	**0.332**		**0.0578**	**0.297**	**mg/kg**	**1**	**8/9/23 13:47**	
Calcium	**14800**		**3.34**	**29.7**	**mg/kg**	**1**	**8/9/23 13:47**	
Chromium	**11.1**		**0.0335**	**0.297**	**mg/kg**	**1**	**8/9/23 13:47**	
Cobalt	**4.03**		**0.0303**	**0.237**	**mg/kg**	**1**	**8/9/23 13:47**	
Copper	**41.5**		**0.0830**	**0.297**	**mg/kg**	**1**	**8/9/23 13:47**	
Iron	**12100**		**0.840**	**5.93**	**mg/kg**	**1**	**8/9/23 13:47**	
Lead	**197**		**0.124**	**1.48**	**mg/kg**	**1**	**8/9/23 13:47**	
Magnesium	**2530**		**10.5**	**59.3**	**mg/kg**	**1**	**8/9/23 13:47**	
Manganese	**144**		**0.0369**	**0.297**	**mg/kg**	**1**	**8/9/23 13:47**	
Nickel	**15.5**		**0.0261**	**0.148**	**mg/kg**	**1**	**8/9/23 13:47**	
Potassium	**687**		**35.3**	**119**	**mg/kg**	**1**	**8/9/23 13:47**	
Selenium	ND	U	0.285	1.48	mg/kg	1	8/9/23 13:47	UJ, RC:6L
Silver	**0.239**		**0.0505**	**0.178**	**mg/kg**	**1**	**8/9/23 13:47**	
Sodium	**507**		**5.66**	**59.3**	**mg/kg**	**1**	**8/9/23 13:47**	
Thallium	ND	U	0.0998	1.48	mg/kg	1	8/9/23 13:47	
Vanadium	**17.3**		**0.0682**	**0.593**	**mg/kg**	**1**	**8/9/23 13:47**	
Zinc	**83.4**		**0.0906**	**0.890**	**mg/kg**	**1**	**8/9/23 13:47**	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:51
Barium	**0.795**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:51**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:51
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:51
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:51
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:51
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:51

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000727	0.00159	mg/kg	1	8/10/23 2:34	UJ, RC:3L
4,4'-DDE	ND	U	0.000869	0.00159	mg/kg	1	8/10/23 2:34	
4,4'-DDT	ND	U	0.00112	0.00159	mg/kg	1	8/10/23 2:34	RC:SL
Aldrin	ND	U	0.000753	0.00159	mg/kg	1	8/10/23 2:34	
alpha-BHC	ND	U	0.000473	0.00159	mg/kg	1	8/10/23 2:34	
beta-BHC	ND	U	0.000759	0.00159	mg/kg	1	8/10/23 2:34	
Chlordane	ND	U	0.000706	0.00159	mg/kg	1	8/10/23 2:34	
delta-BHC	ND	U	0.000738	0.00159	mg/kg	1	8/10/23 2:34	
Dieldrin	ND	U	0.000831	0.00159	mg/kg	1	8/10/23 2:34	
Endosulfan I	ND	U	0.000750	0.00159	mg/kg	1	8/10/23 2:34	
Endosulfan II	ND	U	0.000722	0.00159	mg/kg	1	8/10/23 2:34	
Endosulfan sulfate	ND	U	0.000598	0.00159	mg/kg	1	8/10/23 2:34	
Endosulfans, Total (alpha and beta)	ND	U	0.000722	0.00159	mg/kg	1	8/10/23 2:34	
Endrin	ND	U	0.000549	0.00159	mg/kg	1	8/10/23 2:34	
Endrin aldehyde	ND	U	0.000633	0.00159	mg/kg	1	8/10/23 2:34	
Endrin ketone	ND	U	0.000560	0.00159	mg/kg	1	8/10/23 2:34	
gamma-BHC (Lindane)	ND	U	0.000504	0.00159	mg/kg	1	8/10/23 2:34	
Heptachlor	ND	U	0.000425	0.00159	mg/kg	1	8/10/23 2:34	
Heptachlor Epoxide	ND	U	0.000802	0.00159	mg/kg	1	8/10/23 2:34	
Methoxychlor	ND	U	0.000466	0.00159	mg/kg	1	8/10/23 2:34	RC:SL
Toxaphene	ND	U	0.0765	0.0807	mg/kg	1	8/10/23 2:34	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L,6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 0:20	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 0:20	RC:SL

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L,6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 0:20	UJ, RC:3L,6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 0:20	UJ, RC:3L,6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 0:20	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 0:20	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 0:20	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 0:20	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 0:20	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 0:20	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 0:20	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 0:20	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 0:20	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 0:20	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00460	0.0407	mg/kg	1	8/3/23 19:07	
2,3,4,6-Tetrachlorophenol	ND	U	0.0251	0.163	mg/kg	1	8/3/23 19:07	
2,4,5-Trichlorophenol	ND	U	0.0221	0.163	mg/kg	1	8/3/23 19:07	
2,4,6-Trichlorophenol	ND	U	0.0102	0.163	mg/kg	1	8/3/23 19:07	
2,4-Dichlorophenol	ND	U	0.0164	0.163	mg/kg	1	8/3/23 19:07	
2,4-Dimethylphenol	ND	U	0.0160	0.163	mg/kg	1	8/3/23 19:07	
2,4-Dinitrophenol	~~ND~~	~~U~~	~~0.0235~~	~~0.815~~	mg/kg	1	8/3/23 19:07	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0174	0.163	mg/kg	1	8/3/23 19:07	
2,6-Dinitrotoluene	ND	U	0.0389	0.163	mg/kg	1	8/3/23 19:07	
2-Chloronaphthalene	ND	U	0.0187	0.163	mg/kg	1	8/3/23 19:07	
2-Chlorophenol	ND	U	0.0215	0.163	mg/kg	1	8/3/23 19:07	
2-Methylnaphthalene	**0.518**		**0.0390**	**0.244**	**mg/kg**	**1**	**8/3/23 19:07**	
2-Methylphenol	ND	U	0.0321	0.163	mg/kg	1	8/3/23 19:07	
2-Nitroaniline	ND	U	0.0131	0.163	mg/kg	1	8/3/23 19:07	
2-Nitrophenol	ND	U	0.0181	0.163	mg/kg	1	8/3/23 19:07	
3,3'-Dichlorobenzidine	ND	U	0.0171	0.163	mg/kg	1	8/3/23 19:07	
3+4-Methylphenol	ND	U	0.0298	0.163	mg/kg	1	8/3/23 19:07	
3-Nitroaniline	ND	U	0.0302	0.163	mg/kg	1	8/3/23 19:07	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,6-Dinitro-2-methylphenol	ND	U	0.0307	0.407	mg/kg	1	8/3/23 19:07
4-Bromophenyl-phenyl ether	ND	U	0.0232	0.163	mg/kg	1	8/3/23 19:07
4-Chloro-3-methylphenol	ND	U	0.0257	0.163	mg/kg	1	8/3/23 19:07
4-Chloroaniline	ND	U	0.00570	0.163	mg/kg	1	8/3/23 19:07
4-Chlorophenyl phenyl ether	ND	U	0.00879	0.163	mg/kg	1	8/3/23 19:07
4-Nitroaniline	ND	U	0.0814	0.163	mg/kg	1	8/3/23 19:07
4-Nitrophenol	ND	U	0.0104	0.163	mg/kg	1	8/3/23 19:07
Acenaphthene	**0.967**		**0.00928**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Acenaphthylene	**1.14**		**0.00566**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Acetophenone	ND	U	0.0161	0.163	mg/kg	1	8/3/23 19:07
Anthracene	**2.52**		**0.0236**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Atrazine	ND	U	0.0153	0.163	mg/kg	1	8/3/23 19:07
Benzaldehyde	ND	U	0.0500	0.163	mg/kg	1	8/3/23 19:07
Benzo(a)anthracene	**3.59**		**0.0164**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Benzo(a)pyrene	**3.65**		**0.0284**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Benzo(b)fluoranthene	**4.07**		**0.0229**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Benzo(g,h,i)perylene	**2.44**		**0.0132**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Benzo(k)fluoranthene	**1.28**		**0.0187**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Biphenyl	ND	U	0.0143	0.163	mg/kg	1	8/3/23 19:07
bis(2-chloroethoxy)methane	ND	U	0.0225	0.163	mg/kg	1	8/3/23 19:07
bis(2-chloroethyl)ether	ND	U	0.0178	0.163	mg/kg	1	8/3/23 19:07
bis(2-chloroisopropyl)ether	ND	U	0.0585	0.163	mg/kg	1	8/3/23 19:07
bis(2-ethylhexyl)phthalate	ND	U	0.0325	0.163	mg/kg	1	8/3/23 19:07
Butylbenzylphthalate	ND	U	0.0148	0.163	mg/kg	1	8/3/23 19:07
Caprolactam	ND	U	0.0210	0.163	mg/kg	1	8/3/23 19:07
Carbazole	ND	U	0.0313	0.407	mg/kg	1	8/3/23 19:07
Chrysene	**3.20**		**0.0111**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Dibenzo(a,h)anthracene	ND	U	0.0161	0.163	mg/kg	1	8/3/23 19:07
Dibenzofuran	**0.605**		**0.00969**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Diethylphthalate	ND	U	0.0315	0.163	mg/kg	1	8/3/23 19:07
Dimethylphthalate	ND	U	0.0101	0.163	mg/kg	1	8/3/23 19:07
Di-n-butylphthalate	ND	U	0.0665	0.163	mg/kg	1	8/3/23 19:07
Di-n-octylphthalate	ND	U	0.0334	0.163	mg/kg	1	8/3/23 19:07
Fluoranthene	**5.37**		**0.0153**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Fluorene	**1.13**		**0.0136**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Hexachlorobenzene	ND	U	0.0213	0.163	mg/kg	1	8/3/23 19:07
Hexachlorobutadiene	ND	U	0.0781	0.163	mg/kg	1	8/3/23 19:07
Hexachlorocyclopentadiene	ND	U	0.0678	0.407	mg/kg	1	8/3/23 19:07

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachloroethane	ND	U	0.0178	0.163	mg/kg	1	8/3/23 19:07
Indeno(1,2,3-cd)pyrene	**1.78**		**0.0175**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Isophorone	ND	U	0.0107	0.163	mg/kg	1	8/3/23 19:07
Naphthalene	**0.780**		**0.0121**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Nitrobenzene	ND	U	0.0276	0.163	mg/kg	1	8/3/23 19:07
n-Nitroso-di-n-propylamine	ND	U	0.00871	0.163	mg/kg	1	8/3/23 19:07
n-Nitrosodiphenylamine	ND	U	0.0347	0.163	mg/kg	1	8/3/23 19:07
Pentachlorophenol	ND	U	0.0224	0.407	mg/kg	1	8/3/23 19:07
Phenanthrene	**2.34**		**0.0214**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**
Phenol	ND	U	0.0132	0.163	mg/kg	1	8/3/23 19:07
Pyrene	**6.55**		**0.0120**	**0.163**	**mg/kg**	**1**	**8/3/23 19:07**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (1-chloroethyl)-	2.74	7.24	J	mg/kg	1	8/3/23 19:07
Benzene, 1-ethenyl-3-methyl-	3.23	6.24	J	mg/kg	1	8/3/23 19:07
Decane, 2,6,7-trimethyl-	2.31	8.03	J	mg/kg	1	8/3/23 19:07
Decane, 2-methyl-	3.07	9.09	J	mg/kg	1	8/3/23 19:07
Dodecane, 2,6,10-trimethyl-	6.16	8.64	J	mg/kg	1	8/3/23 19:07
Heptadecane, 2-methyl-	4.54	10.77	J	mg/kg	1	8/3/23 19:07
Hexadecanoic acid, butyl ester	~~26.2~~	12.34	J, B	mg/kg	1	8/3/23 19:07 R, RC:2
Indene	4.18	6.67	J	mg/kg	1	8/3/23 19:07
Naphthalene, 1,2,3,4-tetrahydro-1,4-dime	2.35	8.61	J	mg/kg	1	8/3/23 19:07
Naphthalene, 1,4,6-trimethyl-	2.57	9.77	J	mg/kg	1	8/3/23 19:07
Octadecanoic acid, butyl ester	~~7.14~~	13.17	J, B	mg/kg	1	8/3/23 19:07 R, RC:2
unknown (01)	4.51	5.36	J	mg/kg	1	8/3/23 19:07
unknown (02)	2.32	8.49	J	mg/kg	1	8/3/23 19:07
unknown (03)	4.85	10.09	J	mg/kg	1	8/3/23 19:07
unknown (04)	4.58	10.61	J	mg/kg	1	8/3/23 19:07
TIC Total	~~80.8~~ 47.5					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 20:37
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 20:37
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 20:37
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 20:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 20:37
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 20:37
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 20:37
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 20:37
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 20:37
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 20:37
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 20:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000255	0.00175	mg/kg	1	8/3/23 2:11
1,1,2,2-Tetrachloroethane	ND	U	0.000241	0.00175	mg/kg	1	8/3/23 2:11
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000747	0.00175	mg/kg	1	8/3/23 2:11
1,1,2-Trichloroethane	ND	U	0.000294	0.00175	mg/kg	1	8/3/23 2:11
1,1-Dichloroethane	ND	U	0.000255	0.00175	mg/kg	1	8/3/23 2:11
1,1-Dichloroethene	ND	U	0.000323	0.00175	mg/kg	1	8/3/23 2:11
1,2,3-Trichlorobenzene	ND	U	0.000377	0.00175	mg/kg	1	8/3/23 2:11
1,2,4-Trichlorobenzene	ND	U	0.000465	0.00175	mg/kg	1	8/3/23 2:11
1,2,4-Trimethylbenzene	ND	U	0.000241	0.00175	mg/kg	1	8/3/23 2:11
1,2-Dibromo-3-chloropropane	ND	U	0.000426	0.00175	mg/kg	1	8/3/23 2:11
1,2-Dibromoethane	ND	U	0.000220	0.00175	mg/kg	1	8/3/23 2:11
1,2-Dichlorobenzene	ND	U	0.000308	0.00175	mg/kg	1	8/3/23 2:11
1,2-Dichloroethane	ND	U	0.000246	0.00175	mg/kg	1	8/3/23 2:11
1,2-Dichloropropane	ND	U	0.000286	0.00175	mg/kg	1	8/3/23 2:11
1,3-Dichlorobenzene	ND	U	0.000128	0.00175	mg/kg	1	8/3/23 2:11
1,4-Dichlorobenzene	ND	U	0.000251	0.00175	mg/kg	1	8/3/23 2:11
2-Butanone	**0.0345**		**0.000285**	**0.00436**	**mg/kg**	**1**	**8/3/23 2:11**
2-Hexanone	ND	U	0.000163	0.00175	mg/kg	1	8/3/23 2:11
4-Methyl-2-pentanone	ND	U	0.000218	0.00175	mg/kg	1	8/3/23 2:11
Acetone	**0.0835**		**0.000529**	**0.00436**	**mg/kg**	**1**	**8/3/23 2:11**
Benzene	**0.0215**		**0.000159**	**0.00175**	**mg/kg**	**1**	**8/3/23 2:11**
Bromochloromethane	ND	U	0.000322	0.00175	mg/kg	1	8/3/23 2:11
Bromodichloromethane	ND	U	0.000219	0.00175	mg/kg	1	8/3/23 2:11
Bromoform	ND	U	0.000306	0.00175	mg/kg	1	8/3/23 2:11
Bromomethane	ND	U	0.000504	0.00175	mg/kg	1	8/3/23 2:11
Carbon disulfide	**0.0165**		**0.000251**	**0.00175**	**mg/kg**	**1**	**8/3/23 2:11**
Carbon Tetrachloride	ND	U	0.000263	0.00175	mg/kg	1	8/3/23 2:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.000253	0.00175	mg/kg	1	8/3/23 2:11
Chlorodibromomethane	ND	U	0.000215	0.00175	mg/kg	1	8/3/23 2:11
Chloroethane	ND	U	0.000298	0.00175	mg/kg	1	8/3/23 2:11
Chloroform	ND	U	0.000293	0.00175	mg/kg	1	8/3/23 2:11
Chloromethane	ND	U	0.000672	0.00175	mg/kg	1	8/3/23 2:11
cis-1,2-Dichloroethene	ND	U	0.0000844	0.00175	mg/kg	1	8/3/23 2:11
cis-1,3-Dichloropropene	ND	U	0.000221	0.00175	mg/kg	1	8/3/23 2:11
Cyclohexane	ND	U	0.000387	0.00175	mg/kg	1	8/3/23 2:11
Dichlorodifluoromethane	ND	U	0.000589	0.00175	mg/kg	1	8/3/23 2:11
EthylBenzene	**0.00502**		**0.000237**	**0.00175**	**mg/kg**	**1**	**8/3/23 2:11**
Isopropylbenzene	**0.0131**		**0.000274**	**0.00175**	**mg/kg**	**1**	**8/3/23 2:11**
m+p-Xylenes	ND	U	0.000441	0.00349	mg/kg	1	8/3/23 2:11
Methyl Acetate	ND	U	0.000231	0.00175	mg/kg	1	8/3/23 2:11
Methyl tert-Butyl Ether	ND	U	0.000295	0.00175	mg/kg	1	8/3/23 2:11
Methylcyclohexane	**0.0681**		**0.000281**	**0.00175**	**mg/kg**	**1**	**8/3/23 2:11**
Methylene Chloride	ND	U	0.000525	0.00175	mg/kg	1	8/3/23 2:11
o-Xylene	ND	U	0.000224	0.00175	mg/kg	1	8/3/23 2:11
Styrene	ND	U	0.000250	0.00175	mg/kg	1	8/3/23 2:11
tert-Butyl alcohol	ND	U	0.00367	0.0175	mg/kg	1	8/3/23 2:11
Tetrachloroethene	ND	U	0.000173	0.00175	mg/kg	1	8/3/23 2:11
Toluene	**0.00385**		**0.000141**	**0.00175**	**mg/kg**	**1**	**8/3/23 2:11**
Total Xylenes	ND	U	0.000224	0.00175	mg/kg	1	8/3/23 2:11
trans-1,2-Dichloroethene	ND	U	0.000237	0.00175	mg/kg	1	8/3/23 2:11
trans-1,3-Dichloropropene	ND	U	0.000333	0.00175	mg/kg	1	8/3/23 2:11
Trichloroethene	ND	U	0.000257	0.00175	mg/kg	1	8/3/23 2:11
Trichlorofluoromethane	ND	U	0.000201	0.00175	mg/kg	1	8/3/23 2:11
Vinyl chloride	ND	U	0.000332	0.00175	mg/kg	1	8/3/23 2:11

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
4-Nonene, 3-methyl-, (Z)-	0.226	17.84	J	mg/kg	1	8/3/23 2:11
Benzene, (1-methylpropyl)-	0.146	19.14	J	mg/kg	1	8/3/23 2:11
Bicyclo[4.1.0]heptan-3-one, 4,7,7-trimet	0.205	21.60	J	mg/kg	1	8/3/23 2:11
Cyclohexane, 1,1-(1-methylethylidene)bi	0.153	17.32	J	mg/kg	1	8/3/23 2:11
Cyclohexane, 1,1,3-trimethyl-	0.214	14.69	J	mg/kg	1	8/3/23 2:11
Cyclohexane, 1,3,5-trimethyl-, (1.alpha.	0.190	15.11	J	mg/kg	1	8/3/23 2:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, 1-ethyl-2-methyl-, trans-	0.230	16.52	J	mg/kg	1	8/3/23 2:11
Cyclohexane, ethyl-	0.129	14.59	J	mg/kg	1	8/3/23 2:11
Cyclohexanone, 3,3,5,5-tetramethyl-	0.147	20.59	J	mg/kg	1	8/3/23 2:11
Cyclohexanone, 5-methyl-2-(1-methylethyl	0.181	21.28	J	mg/kg	1	8/3/23 2:11
Heptane, 2,6-dimethyl-	0.123	14.14	J	mg/kg	1	8/3/23 2:11
m-Menthane, (1S,3S)-(+)-	0.136	18.04	J	mg/kg	1	8/3/23 2:11
Naphthalene, decahydro-	0.162	20.18	J	mg/kg	1	8/3/23 2:11
Nonane, 4-methyl-	0.166	16.95	J	mg/kg	1	8/3/23 2:11
Octane, 3,6-dimethyl-	0.211	16.82	J	mg/kg	1	8/3/23 2:11
TIC Total	**2.62**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/8/23 22:23
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/8/23 22:23
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/8/23 22:23
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/8/23 22:23
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/8/23 22:23
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/8/23 22:23
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/8/23 22:23
Chloroform	**0.0290**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/8/23 22:23**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/8/23 22:23
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/8/23 22:23
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/8/23 22:23

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.8**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-06 (Soil) Sample Name: **MR-201-4.0-6.0-20230726** Collected: **7/26/2023 9:55:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0178	0.150	mg/kg	1	8/8/23 18:42
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.122	0.122	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.81**				**pH Units**	**1**	**7/28/23 11:57**

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00600	0.0448	mg/kg	1	8/5/23 22:42	UJ, RC:3L
Aroclor-1221	ND	U	0.0118	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1232	ND	U	0.0150	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1242	ND	U	0.00880	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1248	ND	U	0.00920	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1254	ND	U	0.00722	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1260	ND	U	0.00560	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1262	ND	U	0.0120	0.0448	mg/kg	1	8/5/23 22:42	
Aroclor-1268	ND	U	0.00541	0.0448	mg/kg	1	8/5/23 22:42	
Total PCBs	ND	U	0.00418	0.0448	mg/kg	1	8/5/23 22:42	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0133	0.136	mg/kg	1	8/9/23 15:38
2,4-D	ND	U	0.0225	0.136	mg/kg	1	8/9/23 15:38

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:31
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:31

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**3.15**		**0.00678**	**0.0271**	**mg/kg**	**1**	**8/2/23 16:02**	

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:14	

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5550**		**0.198**	**3.34**	**mg/kg**	**1**	**8/9/23 13:49**	
Antimony	**1.79**		**0.182**	**1.67**	**mg/kg**	**1**	**8/9/23 13:49**	
Arsenic	**5.69**		**0.119**	**1.67**	**mg/kg**	**1**	**8/9/23 13:49**	
Barium	**59.4**		**0.0505**	**0.668**	**mg/kg**	**1**	**8/9/23 13:49**	
Beryllium	**0.414**		**0.00387**	**0.0334**	**mg/kg**	**1**	**8/9/23 13:49**	
Cadmium	ND	U	0.0651	0.334	mg/kg	1	8/9/23 13:49	
Calcium	**34100**	D	**37.6**	**334**	**mg/kg**	**10**	**8/9/23 14:31**	
Chromium	**11.3**		**0.0377**	**0.334**	**mg/kg**	**1**	**8/9/23 13:49**	
Cobalt	**4.48**		**0.0341**	**0.267**	**mg/kg**	**1**	**8/9/23 13:49**	
Copper	**59.1**		**0.0935**	**0.334**	**mg/kg**	**1**	**8/9/23 13:49**	
Iron	**13800**		**0.946**	**6.68**	**mg/kg**	**1**	**8/9/23 13:49**	
Lead	**172**		**0.139**	**1.67**	**mg/kg**	**1**	**8/9/23 13:49**	
Magnesium	**2360**		**11.8**	**66.8**	**mg/kg**	**1**	**8/9/23 13:49**	
Manganese	**165**		**0.0416**	**0.334**	**mg/kg**	**1**	**8/9/23 13:49**	
Nickel	**14.4**		**0.0293**	**0.167**	**mg/kg**	**1**	**8/9/23 13:49**	
Potassium	**822**		**39.7**	**134**	**mg/kg**	**1**	**8/9/23 13:49**	
Selenium	ND	U	0.321	1.67	mg/kg	1	8/9/23 13:49	UJ, RC:6L
Silver	**0.436**		**0.0568**	**0.200**	**mg/kg**	**1**	**8/9/23 13:49**	
Sodium	**722**		**6.37**	**66.8**	**mg/kg**	**1**	**8/9/23 13:49**	
Thallium	ND	U	0.112	1.67	mg/kg	1	8/9/23 13:49	
Vanadium	**14.9**		**0.0768**	**0.668**	**mg/kg**	**1**	**8/9/23 13:49**	
Zinc	**83.8**		**0.102**	**1.00**	**mg/kg**	**1**	**8/9/23 13:49**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 9:53
Barium	**0.332**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 9:53**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 9:53
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 9:53
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 9:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 1311/6010D - TCLP Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 9:53	
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 9:53	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000807	0.00176	mg/kg	1	8/10/23 2:56	
4,4'-DDE	ND	U	0.000964	0.00176	mg/kg	1	8/10/23 2:56	
4,4'-DDT	ND	U	0.00125	0.00176	mg/kg	1	8/10/23 2:56	RC:SL
Aldrin	ND	U	0.000835	0.00176	mg/kg	1	8/10/23 2:56	
alpha-BHC	ND	U	0.000525	0.00176	mg/kg	1	8/10/23 2:56	
beta-BHC	ND	U	0.000842	0.00176	mg/kg	1	8/10/23 2:56	
Chlordane	ND	U	0.000784	0.00176	mg/kg	1	8/10/23 2:56	
delta-BHC	ND	U	0.000819	0.00176	mg/kg	1	8/10/23 2:56	
Dieldrin	ND	U	0.000922	0.00176	mg/kg	1	8/10/23 2:56	
Endosulfan I	ND	U	0.000833	0.00176	mg/kg	1	8/10/23 2:56	
Endosulfan II	ND	U	0.000802	0.00176	mg/kg	1	8/10/23 2:56	
Endosulfan sulfate	ND	U	0.000663	0.00176	mg/kg	1	8/10/23 2:56	
Endosulfans, Total (alpha and beta)	ND	U	0.000802	0.00176	mg/kg	1	8/10/23 2:56	
Endrin	ND	U	0.000609	0.00176	mg/kg	1	8/10/23 2:56	
Endrin aldehyde	ND	U	0.000703	0.00176	mg/kg	1	8/10/23 2:56	
Endrin ketone	ND	U	0.000621	0.00176	mg/kg	1	8/10/23 2:56	
gamma-BHC (Lindane)	ND	U	0.000559	0.00176	mg/kg	1	8/10/23 2:56	
Heptachlor	ND	U	0.000472	0.00176	mg/kg	1	8/10/23 2:56	
Heptachlor Epoxide	ND	U	0.000890	0.00176	mg/kg	1	8/10/23 2:56	
Methoxychlor	ND	U	0.000517	0.00176	mg/kg	1	8/10/23 2:56	RC:SL
Toxaphene	ND	U	0.0849	0.0895	mg/kg	1	8/10/23 2:56	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 0:42	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 0:42	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 0:42	RC:SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 0:42	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 0:42	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 0:42	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 0:42	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 0:42	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 0:42	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 0:42	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 0:42	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 0:42	
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 0:42	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 0:42	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 0:42	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 0:42	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 0:42	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 0:42	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 0:42	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 0:42	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00510	0.0452	mg/kg	1	8/3/23 19:39	
2,3,4,6-Tetrachlorophenol	ND	U	0.0278	0.180	mg/kg	1	8/3/23 19:39	
2,4,5-Trichlorophenol	ND	U	0.0245	0.180	mg/kg	1	8/3/23 19:39	
2,4,6-Trichlorophenol	ND	U	0.0113	0.180	mg/kg	1	8/3/23 19:39	
2,4-Dichlorophenol	ND	U	0.0182	0.180	mg/kg	1	8/3/23 19:39	
2,4-Dimethylphenol	ND	U	0.0178	0.180	mg/kg	1	8/3/23 19:39	
2,4-Dinitrophenol	ND	U	0.0260	0.905	mg/kg	1	8/3/23 19:39	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0193	0.180	mg/kg	1	8/3/23 19:39	
2,6-Dinitrotoluene	ND	U	0.0431	0.180	mg/kg	1	8/3/23 19:39	
2-Chloronaphthalene	ND	U	0.0208	0.180	mg/kg	1	8/3/23 19:39	
2-Chlorophenol	ND	U	0.0239	0.180	mg/kg	1	8/3/23 19:39	
2-Methylnaphthalene	**0.0848**	J	**0.0433**	**0.271**	**mg/kg**	**1**	**8/3/23 19:39**	J, RC:3H
2-Methylphenol	ND	U	0.0357	0.180	mg/kg	1	8/3/23 19:39	
2-Nitroaniline	ND	U	0.0145	0.180	mg/kg	1	8/3/23 19:39	
2-Nitrophenol	ND	U	0.0201	0.180	mg/kg	1	8/3/23 19:39	
3,3'-Dichlorobenzidine	ND	U	0.0190	0.180	mg/kg	1	8/3/23 19:39	
3+4-Methylphenol	ND	U	0.0331	0.180	mg/kg	1	8/3/23 19:39	
3-Nitroaniline	ND	U	0.0335	0.180	mg/kg	1	8/3/23 19:39	
4,6-Dinitro-2-methylphenol	ND	U	0.0340	0.452	mg/kg	1	8/3/23 19:39	
4-Bromophenyl-phenyl ether	ND	U	0.0258	0.180	mg/kg	1	8/3/23 19:39	
4-Chloro-3-methylphenol	ND	U	0.0285	0.180	mg/kg	1	8/3/23 19:39	
4-Chloroaniline	ND	U	0.00632	0.180	mg/kg	1	8/3/23 19:39	
4-Chlorophenyl phenyl ether	ND	U	0.00975	0.180	mg/kg	1	8/3/23 19:39	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4-Nitroaniline	ND	U	0.0903	0.180	mg/kg	1	8/3/23 19:39
4-Nitrophenol	ND	U	0.0116	0.180	mg/kg	1	8/3/23 19:39
Acenaphthene	**0.227**		**0.0103**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Acenaphthylene	**0.104**	J	**0.00628**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Acetophenone	ND	U	0.0179	0.180	mg/kg	1	8/3/23 19:39
Anthracene	**0.549**		**0.0262**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Atrazine	ND	U	0.0170	0.180	mg/kg	1	8/3/23 19:39
Benzaldehyde	ND	U	0.0555	0.180	mg/kg	1	8/3/23 19:39
Benzo(a)anthracene	**1.46**		**0.0182**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Benzo(a)pyrene	**1.50**		**0.0315**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Benzo(b)fluoranthene	**2.05**		**0.0254**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Benzo(g,h,i)perylene	ND	U	0.0146	0.180	mg/kg	1	8/3/23 19:39
Benzo(k)fluoranthene	**0.457**		**0.0208**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Biphenyl	ND	U	0.0159	0.180	mg/kg	1	8/3/23 19:39
bis(2-chloroethoxy)methane	ND	U	0.0250	0.180	mg/kg	1	8/3/23 19:39
bis(2-chloroethyl)ether	ND	U	0.0198	0.180	mg/kg	1	8/3/23 19:39
bis(2-chloroisopropyl)ether	ND	U	0.0650	0.180	mg/kg	1	8/3/23 19:39
bis(2-ethylhexyl)phthalate	ND	U	0.0361	0.180	mg/kg	1	8/3/23 19:39
Butylbenzylphthalate	ND	U	0.0164	0.180	mg/kg	1	8/3/23 19:39
Caprolactam	ND	U	0.0233	0.180	mg/kg	1	8/3/23 19:39
Carbazole	ND	U	0.0347	0.452	mg/kg	1	8/3/23 19:39
Chrysene	**1.35**		**0.0124**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Dibenzo(a,h)anthracene	**0.165**	J	**0.0179**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Dibenzofuran	**0.106**	J	**0.0108**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Diethylphthalate	ND	U	0.0350	0.180	mg/kg	1	8/3/23 19:39
Dimethylphthalate	ND	U	0.0112	0.180	mg/kg	1	8/3/23 19:39
Di-n-butylphthalate	ND	U	0.0738	0.180	mg/kg	1	8/3/23 19:39
Di-n-octylphthalate	ND	U	0.0370	0.180	mg/kg	1	8/3/23 19:39
Fluoranthene	**2.30**		**0.0170**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Fluorene	**0.168**	J	**0.0151**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Hexachlorobenzene	ND	U	0.0236	0.180	mg/kg	1	8/3/23 19:39
Hexachlorobutadiene	ND	U	0.0867	0.180	mg/kg	1	8/3/23 19:39
Hexachlorocyclopentadiene	ND	U	0.0753	0.452	mg/kg	1	8/3/23 19:39
Hexachloroethane	ND	U	0.0198	0.180	mg/kg	1	8/3/23 19:39
Indeno(1,2,3-cd)pyrene	**0.787**		**0.0194**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Isophorone	ND	U	0.0118	0.180	mg/kg	1	8/3/23 19:39
Naphthalene	**0.207**		**0.0134**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Nitrobenzene	ND	U	0.0307	0.180	mg/kg	1	8/3/23 19:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
n-Nitroso-di-n-propylamine	ND	U	0.00967	0.180	mg/kg	1	8/3/23 19:39
n-Nitrosodiphenylamine	ND	U	0.0385	0.180	mg/kg	1	8/3/23 19:39
Pentachlorophenol	ND	U	0.0248	0.452	mg/kg	1	8/3/23 19:39
Phenanthrene	**1.25**		**0.0237**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**
Phenol	ND	U	0.0146	0.180	mg/kg	1	8/3/23 19:39
Pyrene	**2.59**		**0.0133**	**0.180**	**mg/kg**	**1**	**8/3/23 19:39**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	~~16.0~~	12.33	J, B	mg/kg	1	8/3/23 19:39 R, RC:2
Octadecanoic acid, 2-methylpropyl ester	8.47	13.16	J	mg/kg	1	8/3/23 19:39
unknown (01)	0.501	12.89	J	mg/kg	1	8/3/23 19:39
unknown (02)	0.377	12.97	J	mg/kg	1	8/3/23 19:39
TIC Total	~~25.4~~ 9.4					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 21:09
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 21:09
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 21:09
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 21:09
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 21:09
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 21:09
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 21:09
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 21:09
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 21:09
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 21:09
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 21:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000261	0.00178	mg/kg	1	8/3/23 2:43
1,1,2,2-Tetrachloroethane	ND	U	0.000246	0.00178	mg/kg	1	8/3/23 2:43
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000764	0.00178	mg/kg	1	8/3/23 2:43
1,1,2-Trichloroethane	ND	U	0.000301	0.00178	mg/kg	1	8/3/23 2:43
1,1-Dichloroethane	ND	U	0.000261	0.00178	mg/kg	1	8/3/23 2:43
1,1-Dichloroethene	ND	U	0.000330	0.00178	mg/kg	1	8/3/23 2:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,3-Trichlorobenzene	ND	U	0.000385	0.00178	mg/kg	1	8/3/23 2:43
1,2,4-Trichlorobenzene	ND	U	0.000476	0.00178	mg/kg	1	8/3/23 2:43
1,2,4-Trimethylbenzene	ND	U	0.000246	0.00178	mg/kg	1	8/3/23 2:43
1,2-Dibromo-3-chloropropane	ND	U	0.000435	0.00178	mg/kg	1	8/3/23 2:43
1,2-Dibromoethane	ND	U	0.000225	0.00178	mg/kg	1	8/3/23 2:43
1,2-Dichlorobenzene	ND	U	0.000315	0.00178	mg/kg	1	8/3/23 2:43
1,2-Dichloroethane	ND	U	0.000252	0.00178	mg/kg	1	8/3/23 2:43
1,2-Dichloropropane	ND	U	0.000293	0.00178	mg/kg	1	8/3/23 2:43
1,3-Dichlorobenzene	ND	U	0.000131	0.00178	mg/kg	1	8/3/23 2:43
1,4-Dichlorobenzene	ND	U	0.000257	0.00178	mg/kg	1	8/3/23 2:43
2-Butanone	ND	U	0.000291	0.00446	mg/kg	1	8/3/23 2:43
2-Hexanone	ND	U	0.000167	0.00178	mg/kg	1	8/3/23 2:43
4-Methyl-2-pentanone	ND	U	0.000223	0.00178	mg/kg	1	8/3/23 2:43
Acetone	ND	U	0.000541	0.00446	mg/kg	1	8/3/23 2:43
Benzene	**0.0301**		**0.000162**	**0.00178**	**mg/kg**	**1**	**8/3/23 2:43** J, RC:3H
Bromochloromethane	ND	U	0.000329	0.00178	mg/kg	1	8/3/23 2:43
Bromodichloromethane	ND	U	0.000224	0.00178	mg/kg	1	8/3/23 2:43
Bromoform	ND	U	0.000313	0.00178	mg/kg	1	8/3/23 2:43
Bromomethane	ND	U	0.000515	0.00178	mg/kg	1	8/3/23 2:43
Carbon disulfide	**0.00940**		**0.000256**	**0.00178**	**mg/kg**	**1**	**8/3/23 2:43** J, RC:3H
Carbon Tetrachloride	ND	U	0.000269	0.00178	mg/kg	1	8/3/23 2:43
Chlorobenzene	ND	U	0.000259	0.00178	mg/kg	1	8/3/23 2:43
Chlorodibromomethane	ND	U	0.000220	0.00178	mg/kg	1	8/3/23 2:43
Chloroethane	ND	U	0.000304	0.00178	mg/kg	1	8/3/23 2:43
Chloroform	ND	U	0.000300	0.00178	mg/kg	1	8/3/23 2:43
Chloromethane	ND	U	0.000687	0.00178	mg/kg	1	8/3/23 2:43
cis-1,2-Dichloroethene	ND	U	0.0000863	0.00178	mg/kg	1	8/3/23 2:43
cis-1,3-Dichloropropene	ND	U	0.000226	0.00178	mg/kg	1	8/3/23 2:43
Cyclohexane	ND	U	0.000395	0.00178	mg/kg	1	8/3/23 2:43
Dichlorodifluoromethane	ND	U	0.000602	0.00178	mg/kg	1	8/3/23 2:43
EthylBenzene	**0.00908**		**0.000242**	**0.00178**	**mg/kg**	**1**	**8/3/23 2:43** J, RC:3H
Isopropylbenzene	ND	U	0.000280	0.00178	mg/kg	1	8/3/23 2:43
m+p-Xylenes	ND	U	0.000451	0.00357	mg/kg	1	8/3/23 2:43
Methyl Acetate	ND	U	0.000236	0.00178	mg/kg	1	8/3/23 2:43
Methyl tert-Butyl Ether	ND	U	0.000302	0.00178	mg/kg	1	8/3/23 2:43
Methylcyclohexane	**0.0410**		**0.000287**	**0.00178**	**mg/kg**	**1**	**8/3/23 2:43** J, RC:3H
Methylene Chloride	ND	U	0.000536	0.00178	mg/kg	1	8/3/23 2:43
o-Xylene	ND	U	0.000229	0.00178	mg/kg	1	8/3/23 2:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Styrene	ND	U	0.000255	0.00178	mg/kg	1	8/3/23 2:43
tert-Butyl alcohol	ND	U	0.00375	0.0178	mg/kg	1	8/3/23 2:43
Tetrachloroethene	ND	U	0.000177	0.00178	mg/kg	1	8/3/23 2:43
Toluene	**0.00380**		**0.000144**	**0.00178**	**mg/kg**	**1**	**8/3/23 2:43** J, RC:3H
Total Xylenes	ND	U	0.000229	0.00178	mg/kg	1	8/3/23 2:43
trans-1,2-Dichloroethene	ND	U	0.000242	0.00178	mg/kg	1	8/3/23 2:43
trans-1,3-Dichloropropene	ND	U	0.000341	0.00178	mg/kg	1	8/3/23 2:43
Trichloroethene	ND	U	0.000262	0.00178	mg/kg	1	8/3/23 2:43
Trichlorofluoromethane	ND	U	0.000205	0.00178	mg/kg	1	8/3/23 2:43
Vinyl chloride	ND	U	0.000339	0.00178	mg/kg	1	8/3/23 2:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3-Cyclohexanediamine	0.141	16.70	J	mg/kg	1	8/3/23 2:43
9-Borabicyclo[3.3.1]nonane, 9-hydroxy-	0.144	20.18	J	mg/kg	1	8/3/23 2:43
Camphor	0.117	21.62	J	mg/kg	1	8/3/23 2:43
Cycloheptane, methyl-	0.124	19.13	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 1,1,3-trimethyl-	0.212	14.69	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 1,3,5-trimethyl-	0.246	15.11	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 1,3,5-trimethyl-2-octadecyl	0.204	17.34	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 1-ethyl-2,3-dimethyl-	0.211	17.22	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 1-ethyl-4-methyl-, trans-	0.166	16.52	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.177	18.05	J	mg/kg	1	8/3/23 2:43
Cyclohexane, 2-propenyl-	0.172	20.61	J	mg/kg	1	8/3/23 2:43
Diisoamylene	0.166	16.95	J	mg/kg	1	8/3/23 2:43
Octane, 1,1-oxybis-	0.121	16.83	J	mg/kg	1	8/3/23 2:43
Pulegone	0.165	21.28	J	mg/kg	1	8/3/23 2:43
Spiro[4.5]decane	0.163	18.18	J	mg/kg	1	8/3/23 2:43
TIC Total	**2.53**					

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-07 (Soil) Sample Name: **MR-201-12.0-14.0-20230726** Collected: **7/26/2023 10:25:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/8/23 22:49
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/8/23 22:49
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/8/23 22:49
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/8/23 22:49
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/8/23 22:49
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/8/23 22:49
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/8/23 22:49
Chloroform	**0.0336**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/8/23 22:49**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/8/23 22:49
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/8/23 22:49
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/8/23 22:49

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**73.7**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**8.14**	D	**0.198**	**1.66**	**mg/kg**	**10**	**8/8/23 18:42**
Reactive Cyanide	**8.1**	D	**1.4**	**1.4**	**mg/kg**	**10**	**8/9/23 16:47**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.136	0.136	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.53**				**pH Units**	**1**	**7/28/23 11:57**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00761	0.0568	mg/kg	1	8/5/23 23:04	UJ, RC:3L
Aroclor-1221	ND	U	0.0150	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1232	ND	U	0.0190	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1242	ND	U	0.0112	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1248	ND	U	0.0117	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1254	ND	U	0.00916	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1260	ND	U	0.00711	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1262	ND	U	0.0153	0.0568	mg/kg	1	8/5/23 23:04	
Aroclor-1268	ND	U	0.00687	0.0568	mg/kg	1	8/5/23 23:04	
Total PCBs	ND	U	0.00530	0.0568	mg/kg	1	8/5/23 23:04	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0169	0.172	mg/kg	1	8/9/23 15:47
2,4-D	ND	U	0.0285	0.172	mg/kg	1	8/9/23 15:47

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:40
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:40

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00860	0.0344	mg/kg	1	8/2/23 16:15

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:16

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**18000**		**0.258**	**4.34**	**mg/kg**	**1**	**8/9/23 13:51**
Antimony	ND	U	0.237	2.17	mg/kg	1	8/9/23 13:51
Arsenic	**8.89**		**0.155**	**2.17**	**mg/kg**	**1**	**8/9/23 13:51**
Barium	**39.4**		**0.0657**	**0.869**	**mg/kg**	**1**	**8/9/23 13:51**
Beryllium	**1.05**		**0.00503**	**0.0434**	**mg/kg**	**1**	**8/9/23 13:51**
Cadmium	ND	U	0.0847	0.434	mg/kg	1	8/9/23 13:51
Calcium	**6540**		**4.88**	**43.4**	**mg/kg**	**1**	**8/9/23 13:51**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**30.6**		**0.0490**	**0.434**	**mg/kg**	**1**	**8/9/23 13:51**	
Cobalt	**9.34**		**0.0444**	**0.347**	**mg/kg**	**1**	**8/9/23 13:51**	
Copper	**22.4**		**0.121**	**0.434**	**mg/kg**	**1**	**8/9/23 13:51**	
Iron	**36500**		**1.23**	**8.69**	**mg/kg**	**1**	**8/9/23 13:51**	
Lead	**38.3**		**0.181**	**2.17**	**mg/kg**	**1**	**8/9/23 13:51**	
Magnesium	**7200**		**15.3**	**86.9**	**mg/kg**	**1**	**8/9/23 13:51**	
Manganese	**416**		**0.0540**	**0.434**	**mg/kg**	**1**	**8/9/23 13:51**	
Nickel	**27.4**		**0.0381**	**0.217**	**mg/kg**	**1**	**8/9/23 13:51**	
Potassium	**3800**		**51.6**	**174**	**mg/kg**	**1**	**8/9/23 13:51**	
Selenium	ND	U	0.417	2.17	mg/kg	1	8/9/23 13:51	UJ, RC:6L
Silver	ND	U	0.0739	0.261	mg/kg	1	8/9/23 13:51	
Sodium	**3200**		**8.28**	**86.9**	**mg/kg**	**1**	**8/9/23 13:51**	
Thallium	ND	U	0.146	2.17	mg/kg	1	8/9/23 13:51	
Vanadium	**36.3**		**0.0999**	**0.869**	**mg/kg**	**1**	**8/9/23 13:51**	
Zinc	**87.3**		**0.133**	**1.30**	**mg/kg**	**1**	**8/9/23 13:51**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:02
Barium	**0.438**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:02**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:02
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:02
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:02
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:02
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:02

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.00102	0.00224	mg/kg	1	8/10/23 20:50
4,4'-DDE	ND	U	0.00122	0.00224	mg/kg	1	8/10/23 20:50
4,4'-DDT	ND	U	0.00158	0.00224	mg/kg	1	8/10/23 20:50
Aldrin	ND	U	0.00106	0.00224	mg/kg	1	8/10/23 20:50
alpha-BHC	ND	U	0.000666	0.00224	mg/kg	1	8/10/23 20:50
beta-BHC	ND	U	0.00107	0.00224	mg/kg	1	8/10/23 20:50
Chlordane	ND	U	0.000994	0.00224	mg/kg	1	8/10/23 20:50
delta-BHC	ND	U	0.00104	0.00224	mg/kg	1	8/10/23 20:50
Dieldrin	ND	U	0.00117	0.00224	mg/kg	1	8/10/23 20:50
Endosulfan I	ND	U	0.00106	0.00224	mg/kg	1	8/10/23 20:50

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.00102	0.00224	mg/kg	1	8/10/23 20:50
Endosulfan sulfate	ND	U	0.000841	0.00224	mg/kg	1	8/10/23 20:50
Endosulfans, Total (alpha and beta)	ND	U	0.00102	0.00224	mg/kg	1	8/10/23 20:50
Endrin	ND	U	0.000772	0.00224	mg/kg	1	8/10/23 20:50
Endrin aldehyde	ND	U	0.000891	0.00224	mg/kg	1	8/10/23 20:50
Endrin ketone	ND	U	0.000788	0.00224	mg/kg	1	8/10/23 20:50
gamma-BHC (Lindane)	ND	U	0.000709	0.00224	mg/kg	1	8/10/23 20:50
Heptachlor	ND	U	0.000598	0.00224	mg/kg	1	8/10/23 20:50
Heptachlor Epoxide	ND	U	0.00113	0.00224	mg/kg	1	8/10/23 20:50
Methoxychlor	ND	U	0.000655	0.00224	mg/kg	1	8/10/23 20:50
Toxaphene	ND	U	0.108	0.114	mg/kg	1	8/10/23 20:50

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 1:05	UJ, RC:3L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 1:05	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 1:05	RC:SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 1:05	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 1:05	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 1:05	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 1:05	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 1:05	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 1:05	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 1:05	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 1:05	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 1:05	RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 1:05	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 1:05	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 1:05	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 1:05	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 1:05	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 1:05	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 1:05	RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 1:05	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00647	0.0573	mg/kg	1	8/3/23 20:11	
2,3,4,6-Tetrachlorophenol	ND	U	0.0353	0.229	mg/kg	1	8/3/23 20:11	
2,4,5-Trichlorophenol	ND	U	0.0311	0.229	mg/kg	1	8/3/23 20:11	
2,4,6-Trichlorophenol	ND	U	0.0143	0.229	mg/kg	1	8/3/23 20:11	
2,4-Dichlorophenol	ND	U	0.0230	0.229	mg/kg	1	8/3/23 20:11	
2,4-Dimethylphenol	ND	U	0.0225	0.229	mg/kg	1	8/3/23 20:11	
2,4-Dinitrophenol	ND	U	0.0330	1.15	mg/kg	1	8/3/23 20:11	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0244	0.229	mg/kg	1	8/3/23 20:11	
2,6-Dinitrotoluene	ND	U	0.0547	0.229	mg/kg	1	8/3/23 20:11	
2-Chloronaphthalene	ND	U	0.0263	0.229	mg/kg	1	8/3/23 20:11	
2-Chlorophenol	ND	U	0.0303	0.229	mg/kg	1	8/3/23 20:11	
2-Methylnaphthalene	ND	U	0.0549	0.344	mg/kg	1	8/3/23 20:11	
2-Methylphenol	ND	U	0.0452	0.229	mg/kg	1	8/3/23 20:11	
2-Nitroaniline	ND	U	0.0184	0.229	mg/kg	1	8/3/23 20:11	
2-Nitrophenol	ND	U	0.0255	0.229	mg/kg	1	8/3/23 20:11	
3,3'-Dichlorobenzidine	ND	U	0.0241	0.229	mg/kg	1	8/3/23 20:11	
3+4-Methylphenol	ND	U	0.0420	0.229	mg/kg	1	8/3/23 20:11	
3-Nitroaniline	ND	U	0.0425	0.229	mg/kg	1	8/3/23 20:11	
4,6-Dinitro-2-methylphenol	ND	U	0.0432	0.573	mg/kg	1	8/3/23 20:11	
4-Bromophenyl-phenyl ether	ND	U	0.0327	0.229	mg/kg	1	8/3/23 20:11	
4-Chloro-3-methylphenol	ND	U	0.0361	0.229	mg/kg	1	8/3/23 20:11	
4-Chloroaniline	ND	U	0.00801	0.229	mg/kg	1	8/3/23 20:11	
4-Chlorophenyl phenyl ether	ND	U	0.0124	0.229	mg/kg	1	8/3/23 20:11	
4-Nitroaniline	ND	U	0.115	0.229	mg/kg	1	8/3/23 20:11	
4-Nitrophenol	ND	U	0.0147	0.229	mg/kg	1	8/3/23 20:11	
Acenaphthene	ND	U	0.0131	0.229	mg/kg	1	8/3/23 20:11	
Acenaphthylene	ND	U	0.00796	0.229	mg/kg	1	8/3/23 20:11	
Acetophenone	ND	U	0.0227	0.229	mg/kg	1	8/3/23 20:11	
Anthracene	ND	U	0.0332	0.229	mg/kg	1	8/3/23 20:11	
Atrazine	ND	U	0.0215	0.229	mg/kg	1	8/3/23 20:11	
Benzaldehyde	ND	U	0.0703	0.229	mg/kg	1	8/3/23 20:11	
Benzo(a)anthracene	ND	U	0.0230	0.229	mg/kg	1	8/3/23 20:11	
Benzo(a)pyrene	ND	U	0.0399	0.229	mg/kg	1	8/3/23 20:11	
Benzo(b)fluoranthene	ND	U	0.0322	0.229	mg/kg	1	8/3/23 20:11	
Benzo(g,h,i)perylene	ND	U	0.0186	0.229	mg/kg	1	8/3/23 20:11	
Benzo(k)fluoranthene	ND	U	0.0263	0.229	mg/kg	1	8/3/23 20:11	
Biphenyl	ND	U	0.0201	0.229	mg/kg	1	8/3/23 20:11	
bis(2-chloroethoxy)methane	ND	U	0.0316	0.229	mg/kg	1	8/3/23 20:11	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0251	0.229	mg/kg	1	8/3/23 20:11
bis(2-chloroisopropyl)ether	ND	U	0.0824	0.229	mg/kg	1	8/3/23 20:11
bis(2-ethylhexyl)phthalate	ND	U	0.0457	0.229	mg/kg	1	8/3/23 20:11
Butylbenzylphthalate	ND	U	0.0208	0.229	mg/kg	1	8/3/23 20:11
Caprolactam	ND	U	0.0296	0.229	mg/kg	1	8/3/23 20:11
Carbazole	ND	U	0.0440	0.573	mg/kg	1	8/3/23 20:11
Chrysene	ND	U	0.0157	0.229	mg/kg	1	8/3/23 20:11
Dibenzo(a,h)anthracene	ND	U	0.0227	0.229	mg/kg	1	8/3/23 20:11
Dibenzofuran	ND	U	0.0136	0.229	mg/kg	1	8/3/23 20:11
Diethylphthalate	ND	U	0.0444	0.229	mg/kg	1	8/3/23 20:11
Dimethylphthalate	ND	U	0.0142	0.229	mg/kg	1	8/3/23 20:11
Di-n-butylphthalate	ND	U	0.0936	0.229	mg/kg	1	8/3/23 20:11
Di-n-octylphthalate	ND	U	0.0469	0.229	mg/kg	1	8/3/23 20:11
Fluoranthene	ND	U	0.0215	0.229	mg/kg	1	8/3/23 20:11
Fluorene	ND	U	0.0191	0.229	mg/kg	1	8/3/23 20:11
Hexachlorobenzene	ND	U	0.0299	0.229	mg/kg	1	8/3/23 20:11
Hexachlorobutadiene	ND	U	0.110	0.229	mg/kg	1	8/3/23 20:11
Hexachlorocyclopentadiene	ND	U	0.0954	0.573	mg/kg	1	8/3/23 20:11
Hexachloroethane	ND	U	0.0251	0.229	mg/kg	1	8/3/23 20:11
Indeno(1,2,3-cd)pyrene	ND	U	0.0246	0.229	mg/kg	1	8/3/23 20:11
Isophorone	ND	U	0.0150	0.229	mg/kg	1	8/3/23 20:11
Naphthalene	ND	U	0.0170	0.229	mg/kg	1	8/3/23 20:11
Nitrobenzene	ND	U	0.0389	0.229	mg/kg	1	8/3/23 20:11
n-Nitroso-di-n-propylamine	ND	U	0.0123	0.229	mg/kg	1	8/3/23 20:11
n-Nitrosodiphenylamine	ND	U	0.0488	0.229	mg/kg	1	8/3/23 20:11
Pentachlorophenol	ND	U	0.0315	0.573	mg/kg	1	8/3/23 20:11
Phenanthrene	ND	U	0.0301	0.229	mg/kg	1	8/3/23 20:11
Phenol	ND	U	0.0186	0.229	mg/kg	1	8/3/23 20:11
Pyrene	ND	U	0.0168	0.229	mg/kg	1	8/3/23 20:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	~~34.2~~	12.34	J, B	mg/kg	1	8/3/23 20:11 R, RC:2
Octadecanoic acid, butyl ester	~~20.1~~	13.17	J, B	mg/kg	1	8/3/23 20:11 R, RC:2
unknown (01)	1.52	13.64	J	mg/kg	1	8/3/23 20:11
unknown (02)	1.04	14.54	J	mg/kg	1	8/3/23 20:11
TIC Total	~~56.9~~ 2.6					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 21:41
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 21:41
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 21:41
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 21:41
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 21:41
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 21:41
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 21:41
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 21:41
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 21:41
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 21:41
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 21:41

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000492	0.00337	mg/kg	1	8/3/23 3:14
1,1,2,2-Tetrachloroethane	ND	U	0.000465	0.00337	mg/kg	1	8/3/23 3:14
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00144	0.00337	mg/kg	1	8/3/23 3:14
1,1,2-Trichloroethane	ND	U	0.000568	0.00337	mg/kg	1	8/3/23 3:14
1,1-Dichloroethane	ND	U	0.000492	0.00337	mg/kg	1	8/3/23 3:14
1,1-Dichloroethene	ND	U	0.000624	0.00337	mg/kg	1	8/3/23 3:14
1,2,3-Trichlorobenzene	ND	U	0.000728	0.00337	mg/kg	1	8/3/23 3:14
1,2,4-Trichlorobenzene	ND	U	0.000899	0.00337	mg/kg	1	8/3/23 3:14
1,2,4-Trimethylbenzene	ND	U	0.000465	0.00337	mg/kg	1	8/3/23 3:14
1,2-Dibromo-3-chloropropane	ND	U	0.000823	0.00337	mg/kg	1	8/3/23 3:14
1,2-Dibromoethane	ND	U	0.000425	0.00337	mg/kg	1	8/3/23 3:14
1,2-Dichlorobenzene	ND	U	0.000595	0.00337	mg/kg	1	8/3/23 3:14
1,2-Dichloroethane	ND	U	0.000475	0.00337	mg/kg	1	8/3/23 3:14
1,2-Dichloropropane	ND	U	0.000553	0.00337	mg/kg	1	8/3/23 3:14
1,3-Dichlorobenzene	ND	U	0.000248	0.00337	mg/kg	1	8/3/23 3:14
1,4-Dichlorobenzene	ND	U	0.000486	0.00337	mg/kg	1	8/3/23 3:14
2-Butanone	ND	U	0.000550	0.00843	mg/kg	1	8/3/23 3:14
2-Hexanone	ND	U	0.000315	0.00337	mg/kg	1	8/3/23 3:14
4-Methyl-2-pentanone	ND	U	0.000422	0.00337	mg/kg	1	8/3/23 3:14
Acetone	ND	U	0.00102	0.00843	mg/kg	1	8/3/23 3:14
Benzene	**0.00511**		**0.000307**	**0.00337**	**mg/kg**	**1**	**8/3/23 3:14**
Bromochloromethane	ND	U	0.000622	0.00337	mg/kg	1	8/3/23 3:14
Bromodichloromethane	ND	U	0.000423	0.00337	mg/kg	1	8/3/23 3:14

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000592	0.00337	mg/kg	1	8/3/23 3:14
Bromomethane	ND	U	0.000973	0.00337	mg/kg	1	8/3/23 3:14
Carbon disulfide	**0.0823**		**0.000484**	**0.00337**	**mg/kg**	**1**	**8/3/23 3:14**
Carbon Tetrachloride	ND	U	0.000507	0.00337	mg/kg	1	8/3/23 3:14
Chlorobenzene	ND	U	0.000489	0.00337	mg/kg	1	8/3/23 3:14
Chlorodibromomethane	ND	U	0.000415	0.00337	mg/kg	1	8/3/23 3:14
Chloroethane	ND	U	0.000575	0.00337	mg/kg	1	8/3/23 3:14
Chloroform	ND	U	0.000566	0.00337	mg/kg	1	8/3/23 3:14
Chloromethane	ND	U	0.00130	0.00337	mg/kg	1	8/3/23 3:14
cis-1,2-Dichloroethene	ND	U	0.000163	0.00337	mg/kg	1	8/3/23 3:14
cis-1,3-Dichloropropene	ND	U	0.000427	0.00337	mg/kg	1	8/3/23 3:14
Cyclohexane	ND	U	0.000747	0.00337	mg/kg	1	8/3/23 3:14
Dichlorodifluoromethane	ND	U	0.00114	0.00337	mg/kg	1	8/3/23 3:14
EthylBenzene	ND	U	0.000457	0.00337	mg/kg	1	8/3/23 3:14
Isopropylbenzene	ND	U	0.000529	0.00337	mg/kg	1	8/3/23 3:14
m+p-Xylenes	ND	U	0.000851	0.00674	mg/kg	1	8/3/23 3:14
Methyl Acetate	ND	U	0.000447	0.00337	mg/kg	1	8/3/23 3:14
Methyl tert-Butyl Ether	ND	U	0.000570	0.00337	mg/kg	1	8/3/23 3:14
Methylcyclohexane	ND	U	0.000543	0.00337	mg/kg	1	8/3/23 3:14
Methylene Chloride	ND	U	0.00101	0.00337	mg/kg	1	8/3/23 3:14
o-Xylene	ND	U	0.000433	0.00337	mg/kg	1	8/3/23 3:14
Styrene	ND	U	0.000482	0.00337	mg/kg	1	8/3/23 3:14
tert-Butyl alcohol	ND	U	0.00708	0.0337	mg/kg	1	8/3/23 3:14
Tetrachloroethene	ND	U	0.000334	0.00337	mg/kg	1	8/3/23 3:14
Toluene	ND	U	0.000271	0.00337	mg/kg	1	8/3/23 3:14
Total Xylenes	ND	U	0.000433	0.00337	mg/kg	1	8/3/23 3:14
trans-1,2-Dichloroethene	ND	U	0.000457	0.00337	mg/kg	1	8/3/23 3:14
trans-1,3-Dichloropropene	ND	U	0.000644	0.00337	mg/kg	1	8/3/23 3:14
Trichloroethene	ND	U	0.000496	0.00337	mg/kg	1	8/3/23 3:14
Trichlorofluoromethane	ND	U	0.000388	0.00337	mg/kg	1	8/3/23 3:14
Vinyl chloride	ND	U	0.000641	0.00337	mg/kg	1	8/3/23 3:14

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
TIC:Naphthalene	0.0130	23.19	J	mg/kg	1	8/3/23 3:14
TIC Total	**0.013**					

ND, U - Indicates compound analyzed for but not detected
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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-08 (Soil) Sample Name: **MR-201-17.0-19.0-20230726** Collected: **7/26/2023 11:01:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/8/23 23:15
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/8/23 23:15
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/8/23 23:15
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/8/23 23:15
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/8/23 23:15
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/8/23 23:15
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/8/23 23:15
Chloroform	**0.0343**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/8/23 23:15**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/8/23 23:15
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/8/23 23:15
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/8/23 23:15

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**58.1**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0262	0.220	mg/kg	1	8/8/23 18:42
Reactive Cyanide	ND	U	0.18	0.18	mg/kg	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Reactive Sulfide	ND	U	0.172	0.172	mg/kg	1	8/1/23 11:04	UJ, RC:4L

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.07**				**pH Units**	**1**	**7/28/23 11:57**

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00519	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1221	ND	U	0.0102	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1232	ND	U	0.0130	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1242	ND	U	0.00760	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1248	ND	U	0.00795	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1254	ND	U	0.00624	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1260	ND	U	0.00484	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1262	ND	U	0.0104	0.0387	mg/kg	1	8/5/23 23:26
Aroclor-1268	ND	U	0.00468	0.0387	mg/kg	1	8/5/23 23:26
Total PCBs	ND	U	0.00361	0.0387	mg/kg	1	8/5/23 23:26

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0115	0.117	mg/kg	1	8/9/23 15:57
2,4-D	ND	U	0.0195	0.117	mg/kg	1	8/9/23 15:57

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:50
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:50

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00586	0.0234	mg/kg	1	8/2/23 16:47

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:19

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5330**		**0.167**	**2.82**	**mg/kg**	**1**	**8/9/23 13:54**
Antimony	ND	U	0.153	1.41	mg/kg	1	8/9/23 13:54
Arsenic	**2.00**		**0.100**	**1.41**	**mg/kg**	**1**	**8/9/23 13:54**
Barium	**24.5**		**0.0426**	**0.563**	**mg/kg**	**1**	**8/9/23 13:54**
Beryllium	**0.477**		**0.00326**	**0.0282**	**mg/kg**	**1**	**8/9/23 13:54**
Cadmium	ND	U	0.0549	0.282	mg/kg	1	8/9/23 13:54
Calcium	**5560**		**3.17**	**28.2**	**mg/kg**	**1**	**8/9/23 13:54**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**12.3**		**0.0318**	**0.282**	**mg/kg**	**1**	**8/9/23 13:54**	
Cobalt	**4.28**		**0.0288**	**0.225**	**mg/kg**	**1**	**8/9/23 13:54**	
Copper	**18.8**		**0.0788**	**0.282**	**mg/kg**	**1**	**8/9/23 13:54**	
Iron	**11900**		**0.798**	**5.63**	**mg/kg**	**1**	**8/9/23 13:54**	
Lead	**7.64**		**0.118**	**1.41**	**mg/kg**	**1**	**8/9/23 13:54**	
Magnesium	**4400**		**9.95**	**56.3**	**mg/kg**	**1**	**8/9/23 13:54**	
Manganese	**264**		**0.0350**	**0.282**	**mg/kg**	**1**	**8/9/23 13:54**	
Nickel	**15.0**		**0.0247**	**0.141**	**mg/kg**	**1**	**8/9/23 13:54**	
Potassium	**1620**		**33.5**	**113**	**mg/kg**	**1**	**8/9/23 13:54**	
Selenium	ND	U	0.270	1.41	mg/kg	1	8/9/23 13:54	UJ, RC:6L
Silver	ND	U	0.0479	0.169	mg/kg	1	8/9/23 13:54	
Sodium	**611**		**5.37**	**56.3**	**mg/kg**	**1**	**8/9/23 13:54**	
Thallium	ND	U	0.0948	1.41	mg/kg	1	8/9/23 13:54	
Vanadium	**17.6**		**0.0648**	**0.563**	**mg/kg**	**1**	**8/9/23 13:54**	
Zinc	**28.7**		**0.0861**	**0.845**	**mg/kg**	**1**	**8/9/23 13:54**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:05
Barium	**0.632**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:05**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:05
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:05
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:05
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:05
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:05

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000697	0.00152	mg/kg	1	8/10/23 21:08
4,4'-DDE	ND	U	0.000833	0.00152	mg/kg	1	8/10/23 21:08
4,4'-DDT	ND	U	0.00108	0.00152	mg/kg	1	8/10/23 21:08
Aldrin	ND	U	0.000722	0.00152	mg/kg	1	8/10/23 21:08
alpha-BHC	ND	U	0.000454	0.00152	mg/kg	1	8/10/23 21:08
beta-BHC	ND	U	0.000728	0.00152	mg/kg	1	8/10/23 21:08
Chlordane	ND	U	0.000677	0.00152	mg/kg	1	8/10/23 21:08
delta-BHC	ND	U	0.000708	0.00152	mg/kg	1	8/10/23 21:08
Dieldrin	ND	U	0.000797	0.00152	mg/kg	1	8/10/23 21:08
Endosulfan I	ND	U	0.000720	0.00152	mg/kg	1	8/10/23 21:08

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000693	0.00152	mg/kg	1	8/10/23 21:08	
Endosulfan sulfate	ND	U	0.000573	0.00152	mg/kg	1	8/10/23 21:08	
Endosulfans, Total (alpha and beta)	ND	U	0.000693	0.00152	mg/kg	1	8/10/23 21:08	
Endrin	ND	U	0.000526	0.00152	mg/kg	1	8/10/23 21:08	
Endrin aldehyde	ND	U	0.000607	0.00152	mg/kg	1	8/10/23 21:08	
Endrin ketone	ND	U	0.000537	0.00152	mg/kg	1	8/10/23 21:08	
gamma-BHC (Lindane)	ND	U	0.000483	0.00152	mg/kg	1	8/10/23 21:08	
Heptachlor	ND	U	0.000408	0.00152	mg/kg	1	8/10/23 21:08	
Heptachlor Epoxide	ND	U	0.000769	0.00152	mg/kg	1	8/10/23 21:08	
Methoxychlor	ND	U	0.000447	0.00152	mg/kg	1	8/10/23 21:08	
Toxaphene	ND	U	0.0734	0.0773	mg/kg	1	8/10/23 21:08	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 1:27	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 1:27	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 1:27	UJ, RC:SL
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 1:27	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 1:27	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 1:27	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 1:27	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 1:27	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 1:27	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 1:27	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 1:27	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 1:27	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 1:27	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 1:27	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 1:27	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 1:27	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 1:27	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 1:27	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 1:27	UJ, RC:SL
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 1:27	

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00441	0.0390	mg/kg	1	8/3/23 21:04	
2,3,4,6-Tetrachlorophenol	ND	U	0.0240	0.156	mg/kg	1	8/3/23 21:04	
2,4,5-Trichlorophenol	ND	U	0.0212	0.156	mg/kg	1	8/3/23 21:04	
2,4,6-Trichlorophenol	ND	U	0.00976	0.156	mg/kg	1	8/3/23 21:04	
2,4-Dichlorophenol	ND	U	0.0157	0.156	mg/kg	1	8/3/23 21:04	
2,4-Dimethylphenol	ND	U	0.0154	0.156	mg/kg	1	8/3/23 21:04	
2,4-Dinitrophenol	ND	U	0.0225	0.782	mg/kg	1	8/3/23 21:04	R, RC:6L
2,4-Dinitrotoluene	ND	U	0.0166	0.156	mg/kg	1	8/3/23 21:04	
2,6-Dinitrotoluene	ND	U	0.0373	0.156	mg/kg	1	8/3/23 21:04	
2-Chloronaphthalene	ND	U	0.0179	0.156	mg/kg	1	8/3/23 21:04	
2-Chlorophenol	ND	U	0.0206	0.156	mg/kg	1	8/3/23 21:04	
2-Methylnaphthalene	ND	U	0.0374	0.234	mg/kg	1	8/3/23 21:04	
2-Methylphenol	ND	U	0.0308	0.156	mg/kg	1	8/3/23 21:04	
2-Nitroaniline	ND	U	0.0125	0.156	mg/kg	1	8/3/23 21:04	
2-Nitrophenol	ND	U	0.0173	0.156	mg/kg	1	8/3/23 21:04	
3,3'-Dichlorobenzidine	ND	U	0.0164	0.156	mg/kg	1	8/3/23 21:04	
3+4-Methylphenol	ND	U	0.0286	0.156	mg/kg	1	8/3/23 21:04	
3-Nitroaniline	ND	U	0.0289	0.156	mg/kg	1	8/3/23 21:04	
4,6-Dinitro-2-methylphenol	ND	U	0.0294	0.390	mg/kg	1	8/3/23 21:04	
4-Bromophenyl-phenyl ether	ND	U	0.0223	0.156	mg/kg	1	8/3/23 21:04	
4-Chloro-3-methylphenol	ND	U	0.0246	0.156	mg/kg	1	8/3/23 21:04	
4-Chloroaniline	ND	U	0.00546	0.156	mg/kg	1	8/3/23 21:04	
4-Chlorophenyl phenyl ether	ND	U	0.00843	0.156	mg/kg	1	8/3/23 21:04	
4-Nitroaniline	ND	U	0.0780	0.156	mg/kg	1	8/3/23 21:04	
4-Nitrophenol	ND	U	0.00998	0.156	mg/kg	1	8/3/23 21:04	
Acenaphthene	ND	U	0.00889	0.156	mg/kg	1	8/3/23 21:04	
Acenaphthylene	ND	U	0.00543	0.156	mg/kg	1	8/3/23 21:04	
Acetophenone	ND	U	0.0155	0.156	mg/kg	1	8/3/23 21:04	
Anthracene	ND	U	0.0226	0.156	mg/kg	1	8/3/23 21:04	
Atrazine	ND	U	0.0146	0.156	mg/kg	1	8/3/23 21:04	
Benzaldehyde	ND	U	0.0479	0.156	mg/kg	1	8/3/23 21:04	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0157	0.156	mg/kg	1	8/3/23 21:04	
Benzo(a)pyrene	ND	U	0.0272	0.156	mg/kg	1	8/3/23 21:04	
Benzo(b)fluoranthene	ND	U	0.0219	0.156	mg/kg	1	8/3/23 21:04	
Benzo(g,h,i)perylene	ND	U	0.0127	0.156	mg/kg	1	8/3/23 21:04	
Benzo(k)fluoranthene	ND	U	0.0179	0.156	mg/kg	1	8/3/23 21:04	
Biphenyl	ND	U	0.0137	0.156	mg/kg	1	8/3/23 21:04	
bis(2-chloroethoxy)methane	ND	U	0.0216	0.156	mg/kg	1	8/3/23 21:04	

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0171	0.156	mg/kg	1	8/3/23 21:04	
bis(2-chloroisopropyl)ether	ND	U	0.0561	0.156	mg/kg	1	8/3/23 21:04	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0312	0.156	mg/kg	1	8/3/23 21:04	
Butylbenzylphthalate	ND	U	0.0142	0.156	mg/kg	1	8/3/23 21:04	
Caprolactam	ND	U	0.0202	0.156	mg/kg	1	8/3/23 21:04	
Carbazole	ND	U	0.0300	0.390	mg/kg	1	8/3/23 21:04	
Chrysene	ND	U	0.0107	0.156	mg/kg	1	8/3/23 21:04	
Dibenzo(a,h)anthracene	ND	U	0.0155	0.156	mg/kg	1	8/3/23 21:04	
Dibenzofuran	ND	U	0.00929	0.156	mg/kg	1	8/3/23 21:04	
Diethylphthalate	ND	U	0.0302	0.156	mg/kg	1	8/3/23 21:04	
Dimethylphthalate	ND	U	0.00968	0.156	mg/kg	1	8/3/23 21:04	
Di-n-butylphthalate	ND	U	0.0638	0.156	mg/kg	1	8/3/23 21:04	
Di-n-octylphthalate	ND	U	0.0320	0.156	mg/kg	1	8/3/23 21:04	
Fluoranthene	ND	U	0.0146	0.156	mg/kg	1	8/3/23 21:04	
Fluorene	ND	U	0.0130	0.156	mg/kg	1	8/3/23 21:04	
Hexachlorobenzene	ND	U	0.0204	0.156	mg/kg	1	8/3/23 21:04	
Hexachlorobutadiene	ND	U	0.0749	0.156	mg/kg	1	8/3/23 21:04	
Hexachlorocyclopentadiene	ND	U	0.0650	0.390	mg/kg	1	8/3/23 21:04	UJ, RC:SL
Hexachloroethane	ND	U	0.0171	0.156	mg/kg	1	8/3/23 21:04	
Indeno(1,2,3-cd)pyrene	ND	U	0.0168	0.156	mg/kg	1	8/3/23 21:04	
Isophorone	ND	U	0.0102	0.156	mg/kg	1	8/3/23 21:04	
Naphthalene	ND	U	0.0116	0.156	mg/kg	1	8/3/23 21:04	
Nitrobenzene	ND	U	0.0265	0.156	mg/kg	1	8/3/23 21:04	
n-Nitroso-di-n-propylamine	ND	U	0.00836	0.156	mg/kg	1	8/3/23 21:04	
n-Nitrosodiphenylamine	ND	U	0.0333	0.156	mg/kg	1	8/3/23 21:04	
Pentachlorophenol	ND	U	0.0214	0.390	mg/kg	1	8/3/23 21:04	
Phenanthrene	ND	U	0.0205	0.156	mg/kg	1	8/3/23 21:04	
Phenol	ND	U	0.0127	0.156	mg/kg	1	8/3/23 21:04	
Pyrene	ND	U	0.0115	0.156	mg/kg	1	8/3/23 21:04	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	11.1	4.92	J	mg/kg	1	8/3/23 21:04	
Hexadecanoic acid, butyl ester	~~15.1~~	12.54	J, B	mg/kg	1	8/3/23 21:04	R, RC:2
Octadecanoic acid, butyl ester	~~9.39~~	13.33	J, B	mg/kg	1	8/3/23 21:04	R, RC:2
TIC Total	~~35.5~~ 11.1						

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 14:43
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 14:43
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 14:43
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 14:43
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 14:43
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 14:43
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 14:43
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 14:43
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 14:43
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 14:43 UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 14:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000252	0.00172	mg/kg	1	8/3/23 15:56
1,1,2,2-Tetrachloroethane	ND	U	0.000238	0.00172	mg/kg	1	8/3/23 15:56
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000738	0.00172	mg/kg	1	8/3/23 15:56
1,1,2-Trichloroethane	ND	U	0.000290	0.00172	mg/kg	1	8/3/23 15:56
1,1-Dichloroethane	ND	U	0.000252	0.00172	mg/kg	1	8/3/23 15:56
1,1-Dichloroethene	ND	U	0.000319	0.00172	mg/kg	1	8/3/23 15:56
1,2,3-Trichlorobenzene	ND	U	0.000372	0.00172	mg/kg	1	8/3/23 15:56
1,2,4-Trichlorobenzene	ND	U	0.000459	0.00172	mg/kg	1	8/3/23 15:56
1,2,4-Trimethylbenzene	ND	U	0.000238	0.00172	mg/kg	1	8/3/23 15:56
1,2-Dibromo-3-chloropropane	ND	U	0.000421	0.00172	mg/kg	1	8/3/23 15:56
1,2-Dibromoethane	ND	U	0.000217	0.00172	mg/kg	1	8/3/23 15:56
1,2-Dichlorobenzene	ND	U	0.000304	0.00172	mg/kg	1	8/3/23 15:56
1,2-Dichloroethane	ND	U	0.000243	0.00172	mg/kg	1	8/3/23 15:56
1,2-Dichloropropane	ND	U	0.000283	0.00172	mg/kg	1	8/3/23 15:56
1,3-Dichlorobenzene	ND	U	0.000127	0.00172	mg/kg	1	8/3/23 15:56
1,4-Dichlorobenzene	ND	U	0.000248	0.00172	mg/kg	1	8/3/23 15:56
2-Butanone	ND	U	0.000281	0.00431	mg/kg	1	8/3/23 15:56
2-Hexanone	ND	U	0.000161	0.00172	mg/kg	1	8/3/23 15:56
4-Methyl-2-pentanone	ND	U	0.000215	0.00172	mg/kg	1	8/3/23 15:56
Acetone	ND	U	0.000522	0.00431	mg/kg	1	8/3/23 15:56
Benzene	**0.00243**		**0.000157**	**0.00172**	**mg/kg**	**1**	**8/3/23 15:56**
Bromochloromethane	ND	U	0.000318	0.00172	mg/kg	1	8/3/23 15:56
Bromodichloromethane	ND	U	0.000216	0.00172	mg/kg	1	8/3/23 15:56

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
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All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000302	0.00172	mg/kg	1	8/3/23 15:56
Bromomethane	ND	U	0.000497	0.00172	mg/kg	1	8/3/23 15:56
Carbon disulfide	**0.00354**		**0.000247**	**0.00172**	**mg/kg**	**1**	**8/3/23 15:56**
Carbon Tetrachloride	ND	U	0.000259	0.00172	mg/kg	1	8/3/23 15:56
Chlorobenzene	ND	U	0.000250	0.00172	mg/kg	1	8/3/23 15:56
Chlorodibromomethane	ND	U	0.000212	0.00172	mg/kg	1	8/3/23 15:56
Chloroethane	ND	U	0.000294	0.00172	mg/kg	1	8/3/23 15:56
Chloroform	ND	U	0.000290	0.00172	mg/kg	1	8/3/23 15:56
Chloromethane	ND	U	0.000664	0.00172	mg/kg	1	8/3/23 15:56
cis-1,2-Dichloroethene	ND	U	0.0000833	0.00172	mg/kg	1	8/3/23 15:56
cis-1,3-Dichloropropene	ND	U	0.000218	0.00172	mg/kg	1	8/3/23 15:56
Cyclohexane	ND	U	0.000382	0.00172	mg/kg	1	8/3/23 15:56
Dichlorodifluoromethane	ND	U	0.000582	0.00172	mg/kg	1	8/3/23 15:56
EthylBenzene	ND	U	0.000234	0.00172	mg/kg	1	8/3/23 15:56
Isopropylbenzene	ND	U	0.000271	0.00172	mg/kg	1	8/3/23 15:56
m+p-Xylenes	ND	U	0.000435	0.00345	mg/kg	1	8/3/23 15:56
Methyl Acetate	ND	U	0.000228	0.00172	mg/kg	1	8/3/23 15:56
Methyl tert-Butyl Ether	ND	U	0.000291	0.00172	mg/kg	1	8/3/23 15:56
Methylcyclohexane	ND	U	0.000277	0.00172	mg/kg	1	8/3/23 15:56
Methylene Chloride	ND	U	0.000518	0.00172	mg/kg	1	8/3/23 15:56
o-Xylene	ND	U	0.000221	0.00172	mg/kg	1	8/3/23 15:56
Styrene	ND	U	0.000246	0.00172	mg/kg	1	8/3/23 15:56
tert-Butyl alcohol	ND	U	0.00362	0.0172	mg/kg	1	8/3/23 15:56
Tetrachloroethene	ND	U	0.000171	0.00172	mg/kg	1	8/3/23 15:56
Toluene	ND	U	0.000139	0.00172	mg/kg	1	8/3/23 15:56
Total Xylenes	ND	U	0.000221	0.00172	mg/kg	1	8/3/23 15:56
trans-1,2-Dichloroethene	ND	U	0.000234	0.00172	mg/kg	1	8/3/23 15:56
trans-1,3-Dichloropropene	ND	U	0.000329	0.00172	mg/kg	1	8/3/23 15:56
Trichloroethene	ND	U	0.000253	0.00172	mg/kg	1	8/3/23 15:56
Trichlorofluoromethane	ND	U	0.000198	0.00172	mg/kg	1	8/3/23 15:56
Vinyl chloride	ND	U	0.000327	0.00172	mg/kg	1	8/3/23 15:56

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-09 (Soil) Sample Name: **MR-201-30.0-32.0-20230726** Collected: **7/26/2023 11:35:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/8/23 23:41
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/8/23 23:41
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/8/23 23:41
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/8/23 23:41
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/8/23 23:41
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/8/23 23:41
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/8/23 23:41
Chloroform	**0.0342**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/8/23 23:41**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/8/23 23:41
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/8/23 23:41
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/8/23 23:41

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**85.3**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.547**		**0.0155**	**0.130**	**mg/kg**	**1**	**8/8/23 18:42**
Reactive Cyanide	**0.55**		**0.11**	**0.11**	**mg/kg**	**1**	**8/9/23 16:47**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.117	0.117	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.02**				**pH Units**	**1**	**7/28/23 11:57**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00559	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1221	ND	U	0.0110	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1232	ND	U	0.0140	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1242	ND	U	0.00819	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1248	ND	U	0.00857	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1254	ND	U	0.00673	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1260	ND	U	0.00522	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1262	ND	U	0.0112	0.0417	mg/kg	1	8/8/23 11:34
Aroclor-1268	ND	U	0.00504	0.0417	mg/kg	1	8/8/23 11:34
Total PCBs	ND	U	0.00389	0.0417	mg/kg	1	8/8/23 11:34

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0124	0.126	mg/kg	1	8/11/23 14:13
2,4-D	ND	U	0.0210	0.126	mg/kg	1	8/11/23 14:13

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:59
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/10/23 11:59

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.302**		**0.00632**	**0.0253**	**mg/kg**	**1**	**8/2/23 16:57**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:22

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6700**		**0.179**	**3.01**	**mg/kg**	**1**	**8/9/23 13:56**
Antimony	ND	U	0.164	1.50	mg/kg	1	8/9/23 13:56
Arsenic	**5.63**		**0.107**	**1.50**	**mg/kg**	**1**	**8/9/23 13:56**
Barium	**111**		**0.0455**	**0.601**	**mg/kg**	**1**	**8/9/23 13:56**
Beryllium	**0.480**		**0.00348**	**0.0301**	**mg/kg**	**1**	**8/9/23 13:56**
Cadmium	**0.304**		**0.0586**	**0.301**	**mg/kg**	**1**	**8/9/23 13:56**
Calcium	**33700**	D	**33.8**	**301**	**mg/kg**	**10**	**8/9/23 14:33**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**12.9**		**0.0340**	**0.301**	**mg/kg**	**1**	**8/9/23 13:56**	
Cobalt	**4.93**		**0.0307**	**0.241**	**mg/kg**	**1**	**8/9/23 13:56**	
Copper	**92.6**		**0.0841**	**0.301**	**mg/kg**	**1**	**8/9/23 13:56**	
Iron	**16600**		**0.852**	**6.01**	**mg/kg**	**1**	**8/9/23 13:56**	
Lead	**185**		**0.125**	**1.50**	**mg/kg**	**1**	**8/9/23 13:56**	
Magnesium	**2520**		**10.6**	**60.1**	**mg/kg**	**1**	**8/9/23 13:56**	
Manganese	**243**		**0.0374**	**0.301**	**mg/kg**	**1**	**8/9/23 13:56**	
Nickel	**13.2**		**0.0264**	**0.150**	**mg/kg**	**1**	**8/9/23 13:56**	
Potassium	**826**		**35.8**	**120**	**mg/kg**	**1**	**8/9/23 13:56**	
Selenium	ND	U	0.289	1.50	mg/kg	1	8/9/23 13:56	UJ, RC:6L
Silver	**0.454**		**0.0511**	**0.180**	**mg/kg**	**1**	**8/9/23 13:56**	
Sodium	**486**		**5.73**	**60.1**	**mg/kg**	**1**	**8/9/23 13:56**	
Thallium	ND	U	0.101	1.50	mg/kg	1	8/9/23 13:56	
Vanadium	**17.7**		**0.0692**	**0.601**	**mg/kg**	**1**	**8/9/23 13:56**	
Zinc	**158**		**0.0919**	**0.902**	**mg/kg**	**1**	**8/9/23 13:56**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:07
Barium	**0.594**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:07**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:07
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:07
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:07
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:07
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:07

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000752	0.00164	mg/kg	1	8/8/23 20:31
4,4'-DDE	ND	U	0.000898	0.00164	mg/kg	1	8/8/23 20:31
4,4'-DDT	ND	U	0.00116	0.00164	mg/kg	1	8/8/23 20:31
Aldrin	ND	U	0.000778	0.00164	mg/kg	1	8/8/23 20:31
alpha-BHC [2C]	ND	U	0.000489	0.00164	mg/kg	1	8/8/23 20:31
beta-BHC	ND	U	0.000784	0.00164	mg/kg	1	8/8/23 20:31
Chlordane	ND	U	0.000730	0.00164	mg/kg	1	8/8/23 20:31
delta-BHC	ND	U	0.000763	0.00164	mg/kg	1	8/8/23 20:31
Dieldrin	ND	U	0.000859	0.00164	mg/kg	1	8/8/23 20:31
Endosulfan I	ND	U	0.000776	0.00164	mg/kg	1	8/8/23 20:31

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000746	0.00164	mg/kg	1	8/8/23 20:31	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000618	0.00164	mg/kg	1	8/8/23 20:31	
Endosulfans, Total (alpha and beta)	ND	U	0.000746	0.00164	mg/kg	1	8/8/23 20:31	
Endrin	ND	U	0.000567	0.00164	mg/kg	1	8/8/23 20:31	
Endrin aldehyde	ND	U	0.000654	0.00164	mg/kg	1	8/8/23 20:31	
Endrin ketone	ND	U	0.000578	0.00164	mg/kg	1	8/8/23 20:31	
gamma-BHC (Lindane)	ND	U	0.000520	0.00164	mg/kg	1	8/8/23 20:31	
Heptachlor	ND	U	0.000440	0.00164	mg/kg	1	8/8/23 20:31	
Heptachlor Epoxide	ND	U	0.000829	0.00164	mg/kg	1	8/8/23 20:31	
Methoxychlor	ND	U	0.000481	0.00164	mg/kg	1	8/8/23 20:31	
Toxaphene	ND	U	0.0791	0.0834	mg/kg	1	8/8/23 20:31	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 21:27	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 21:27	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 21:27	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 21:27	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 21:27	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 21:27	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 21:27	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 21:27	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 21:27	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 21:27	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 21:27	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 21:27	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 21:27	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 21:27	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 21:27	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 21:27	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 21:27	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 21:27	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 21:27	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 21:27	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00475	0.0421	mg/kg	1	8/3/23 20:43
2,3,4,6-Tetrachlorophenol	ND	U	0.0259	0.168	mg/kg	1	8/3/23 20:43
2,4,5-Trichlorophenol	ND	U	0.0229	0.168	mg/kg	1	8/3/23 20:43
2,4,6-Trichlorophenol	ND	U	0.0105	0.168	mg/kg	1	8/3/23 20:43
2,4-Dichlorophenol	ND	U	0.0169	0.168	mg/kg	1	8/3/23 20:43
2,4-Dimethylphenol	ND	U	0.0165	0.168	mg/kg	1	8/3/23 20:43
2,4-Dinitrophenol	ND	U	0.0243	0.842	mg/kg	1	8/3/23 20:43 R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0179	0.168	mg/kg	1	8/3/23 20:43
2,6-Dinitrotoluene	ND	U	0.0402	0.168	mg/kg	1	8/3/23 20:43
2-Chloronaphthalene	ND	U	0.0193	0.168	mg/kg	1	8/3/23 20:43
2-Chlorophenol	ND	U	0.0222	0.168	mg/kg	1	8/3/23 20:43
2-Methylnaphthalene	**0.229**	J	**0.0403**	**0.253**	**mg/kg**	**1**	**8/3/23 20:43**
2-Methylphenol	ND	U	0.0332	0.168	mg/kg	1	8/3/23 20:43
2-Nitroaniline	ND	U	0.0135	0.168	mg/kg	1	8/3/23 20:43
2-Nitrophenol	ND	U	0.0187	0.168	mg/kg	1	8/3/23 20:43
3,3'-Dichlorobenzidine	ND	U	0.0177	0.168	mg/kg	1	8/3/23 20:43
3+4-Methylphenol	ND	U	0.0308	0.168	mg/kg	1	8/3/23 20:43
3-Nitroaniline	ND	U	0.0312	0.168	mg/kg	1	8/3/23 20:43
4,6-Dinitro-2-methylphenol	ND	U	0.0317	0.421	mg/kg	1	8/3/23 20:43
4-Bromophenyl-phenyl ether	ND	U	0.0240	0.168	mg/kg	1	8/3/23 20:43
4-Chloro-3-methylphenol	ND	U	0.0265	0.168	mg/kg	1	8/3/23 20:43
4-Chloroaniline	ND	U	0.00589	0.168	mg/kg	1	8/3/23 20:43
4-Chlorophenyl phenyl ether	ND	U	0.00908	0.168	mg/kg	1	8/3/23 20:43
4-Nitroaniline	ND	U	0.0841	0.168	mg/kg	1	8/3/23 20:43
4-Nitrophenol	ND	U	0.0108	0.168	mg/kg	1	8/3/23 20:43
Acenaphthene	**1.18**		**0.00959**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Acenaphthylene	**2.94**		**0.00585**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Acetophenone	ND	U	0.0167	0.168	mg/kg	1	8/3/23 20:43
Anthracene	**3.89**		**0.0244**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Atrazine	ND	U	0.0158	0.168	mg/kg	1	8/3/23 20:43
Benzaldehyde	ND	U	0.0517	0.168	mg/kg	1	8/3/23 20:43
Benzo(a)anthracene	**3.66**		**0.0169**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Benzo(a)pyrene	**3.36**		**0.0293**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Benzo(b)fluoranthene	**2.64**		**0.0236**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Benzo(g,h,i)perylene	**2.56**		**0.0136**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Benzo(k)fluoranthene	**1.37**		**0.0193**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Biphenyl	ND	U	0.0148	0.168	mg/kg	1	8/3/23 20:43
bis(2-chloroethoxy)methane	ND	U	0.0232	0.168	mg/kg	1	8/3/23 20:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0184	0.168	mg/kg	1	8/3/23 20:43
bis(2-chloroisopropyl)ether	ND	U	0.0605	0.168	mg/kg	1	8/3/23 20:43
bis(2-ethylhexyl)phthalate	ND	U	0.0336	0.168	mg/kg	1	8/3/23 20:43
Butylbenzylphthalate	ND	U	0.0153	0.168	mg/kg	1	8/3/23 20:43
Caprolactam	ND	U	0.0217	0.168	mg/kg	1	8/3/23 20:43
Carbazole	ND	U	0.0323	0.421	mg/kg	1	8/3/23 20:43
Chrysene	**3.68**		**0.0115**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Dibenzo(a,h)anthracene	**0.471**		**0.0167**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Dibenzofuran	ND	U	0.0100	0.168	mg/kg	1	8/3/23 20:43
Diethylphthalate	ND	U	0.0326	0.168	mg/kg	1	8/3/23 20:43
Dimethylphthalate	ND	U	0.0104	0.168	mg/kg	1	8/3/23 20:43
Di-n-butylphthalate	ND	U	0.0687	0.168	mg/kg	1	8/3/23 20:43
Di-n-octylphthalate	ND	U	0.0345	0.168	mg/kg	1	8/3/23 20:43
Fluoranthene	**5.78**		**0.0158**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Fluorene	**2.60**		**0.0140**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Hexachlorobenzene	ND	U	0.0220	0.168	mg/kg	1	8/3/23 20:43
Hexachlorobutadiene	ND	U	0.0807	0.168	mg/kg	1	8/3/23 20:43
Hexachlorocyclopentadiene	ND	U	0.0701	0.421	mg/kg	1	8/3/23 20:43
Hexachloroethane	ND	U	0.0184	0.168	mg/kg	1	8/3/23 20:43
Indeno(1,2,3-cd)pyrene	**1.40**		**0.0181**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Isophorone	ND	U	0.0110	0.168	mg/kg	1	8/3/23 20:43
Naphthalene	**0.328**		**0.0125**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Nitrobenzene	ND	U	0.0285	0.168	mg/kg	1	8/3/23 20:43
n-Nitroso-di-n-propylamine	ND	U	0.00901	0.168	mg/kg	1	8/3/23 20:43
n-Nitrosodiphenylamine	ND	U	0.0359	0.168	mg/kg	1	8/3/23 20:43
Pentachlorophenol	ND	U	0.0231	0.421	mg/kg	1	8/3/23 20:43
Phenanthrene	**3.02**		**0.0221**	**0.168**	**mg/kg**	**1**	**8/3/23 20:43**
Phenol	ND	U	0.0136	0.168	mg/kg	1	8/3/23 20:43
Pyrene	**13.5**	D	**0.0618**	**0.840**	**mg/kg**	**5**	**8/4/23 22:16**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,5,7-Cyclooctatetraene	3.62	5.36	J	mg/kg	1	8/3/23 20:43
1H-Indene, 2-phenyl-	2.20	11.48	J	mg/kg	1	8/3/23 20:43
9,10-Dimethylanthracene	3.62	12.06	J	mg/kg	1	8/3/23 20:43
Benzene, 1,1-(1,1,2,2-tetramethyl-1,2-e	3.65	7.93	J	mg/kg	1	8/3/23 20:43
Benzene, 1-propenyl-, (E)-	4.36	6.24	J	mg/kg	1	8/3/23 20:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	~~10.9~~	12.32	J, B	mg/kg	1	8/3/23 20:43 R, RC:2
Naphthalene, 1,3-dimethyl-	2.73	9.10	J	mg/kg	1	8/3/23 20:43
Octadecanoic acid, butyl ester	~~11.4~~	13.14	J, B	mg/kg	1	8/3/23 20:43 R, RC:2
unknown (01)	2.09	7.24	J	mg/kg	1	8/3/23 20:43
unknown (02)	2.13	7.42	J	mg/kg	1	8/3/23 20:43
unknown (03)	3.31	11.56	J	mg/kg	1	8/3/23 20:43
unknown (04)	7.19	11.62	J	mg/kg	1	8/3/23 20:43
unknown (05)	2.05	11.77	J	mg/kg	1	8/3/23 20:43
unknown (06)	2.33	13.18	J	mg/kg	1	8/3/23 20:43
unknown (07)	3.93	16.33	J	mg/kg	1	8/3/23 20:43
TIC Total	~~71.5~~ 43.2					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/7/23 15:16
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/7/23 15:16
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/7/23 15:16
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/7/23 15:16
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/7/23 15:16
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/7/23 15:16
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/7/23 15:16
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/7/23 15:16
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/7/23 15:16
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/7/23 15:16 UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/7/23 15:16

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000297	0.00204	mg/kg	1	8/3/23 16:28
1,1,2,2-Tetrachloroethane	ND	U	0.000281	0.00204	mg/kg	1	8/3/23 16:28
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000872	0.00204	mg/kg	1	8/3/23 16:28
1,1,2-Trichloroethane	ND	U	0.000343	0.00204	mg/kg	1	8/3/23 16:28
1,1-Dichloroethane	ND	U	0.000297	0.00204	mg/kg	1	8/3/23 16:28
1,1-Dichloroethene	ND	U	0.000377	0.00204	mg/kg	1	8/3/23 16:28
1,2,3-Trichlorobenzene	ND	U	0.000440	0.00204	mg/kg	1	8/3/23 16:28
1,2,4-Trichlorobenzene	ND	U	0.000543	0.00204	mg/kg	1	8/3/23 16:28
1,2,4-Trimethylbenzene	ND	U	0.000281	0.00204	mg/kg	1	8/3/23 16:28

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromo-3-chloropropane	ND	U	0.000497	0.00204	mg/kg	1	8/3/23 16:28
1,2-Dibromoethane	ND	U	0.000257	0.00204	mg/kg	1	8/3/23 16:28
1,2-Dichlorobenzene	ND	U	0.000360	0.00204	mg/kg	1	8/3/23 16:28
1,2-Dichloroethane	ND	U	0.000287	0.00204	mg/kg	1	8/3/23 16:28
1,2-Dichloropropane	ND	U	0.000334	0.00204	mg/kg	1	8/3/23 16:28
1,3-Dichlorobenzene	ND	U	0.000150	0.00204	mg/kg	1	8/3/23 16:28
1,4-Dichlorobenzene	ND	U	0.000293	0.00204	mg/kg	1	8/3/23 16:28
2-Butanone	ND	U	0.000332	0.00509	mg/kg	1	8/3/23 16:28
2-Hexanone	ND	U	0.000190	0.00204	mg/kg	1	8/3/23 16:28
4-Methyl-2-pentanone	ND	U	0.000255	0.00204	mg/kg	1	8/3/23 16:28
Acetone	**0.0784**		**0.000617**	**0.00509**	**mg/kg**	**1**	**8/3/23 16:28**
Benzene	**0.00127**	J	**0.000185**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Bromochloromethane	ND	U	0.000376	0.00204	mg/kg	1	8/3/23 16:28
Bromodichloromethane	ND	U	0.000256	0.00204	mg/kg	1	8/3/23 16:28
Bromoform	ND	U	0.000358	0.00204	mg/kg	1	8/3/23 16:28
Bromomethane	ND	U	0.000588	0.00204	mg/kg	1	8/3/23 16:28
Carbon disulfide	**0.00433**		**0.000292**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Carbon Tetrachloride	ND	U	0.000307	0.00204	mg/kg	1	8/3/23 16:28
Chlorobenzene	ND	U	0.000295	0.00204	mg/kg	1	8/3/23 16:28
Chlorodibromomethane	ND	U	0.000251	0.00204	mg/kg	1	8/3/23 16:28
Chloroethane	ND	U	0.000347	0.00204	mg/kg	1	8/3/23 16:28
Chloroform	ND	U	0.000342	0.00204	mg/kg	1	8/3/23 16:28
Chloromethane	ND	U	0.000784	0.00204	mg/kg	1	8/3/23 16:28
cis-1,2-Dichloroethene	ND	U	0.0000985	0.00204	mg/kg	1	8/3/23 16:28
cis-1,3-Dichloropropene	ND	U	0.000258	0.00204	mg/kg	1	8/3/23 16:28
Cyclohexane	**0.00326**		**0.000451**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Dichlorodifluoromethane	ND	U	0.000688	0.00204	mg/kg	1	8/3/23 16:28
EthylBenzene	**0.00235**		**0.000276**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Isopropylbenzene	**0.00873**		**0.000320**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
m+p-Xylenes	**0.00335**	J	**0.000514**	**0.00407**	**mg/kg**	**1**	**8/3/23 16:28**
Methyl Acetate	ND	U	0.000270	0.00204	mg/kg	1	8/3/23 16:28
Methyl tert-Butyl Ether	ND	U	0.000344	0.00204	mg/kg	1	8/3/23 16:28
Methylcyclohexane	**0.0108**		**0.000328**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Methylene Chloride	ND	U	0.000612	0.00204	mg/kg	1	8/3/23 16:28
o-Xylene	**0.00223**		**0.000262**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Styrene	ND	U	0.000291	0.00204	mg/kg	1	8/3/23 16:28
tert-Butyl alcohol	ND	U	0.00428	0.0204	mg/kg	1	8/3/23 16:28
Tetrachloroethene	ND	U	0.000202	0.00204	mg/kg	1	8/3/23 16:28

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	**0.00240**		**0.000164**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
Total Xylenes	**0.00558**		**0.000262**	**0.00204**	**mg/kg**	**1**	**8/3/23 16:28**
trans-1,2-Dichloroethene	ND	U	0.000276	0.00204	mg/kg	1	8/3/23 16:28
trans-1,3-Dichloropropene	ND	U	0.000389	0.00204	mg/kg	1	8/3/23 16:28
Trichloroethene	ND	U	0.000299	0.00204	mg/kg	1	8/3/23 16:28
Trichlorofluoromethane	ND	U	0.000234	0.00204	mg/kg	1	8/3/23 16:28
Vinyl chloride	ND	U	0.000387	0.00204	mg/kg	1	8/3/23 16:28

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 2,3-dihydro-1,2-dimethyl-	0.0247	22.70	J	mg/kg	1	8/3/23 16:28
1H-Indene, 2,3-dihydro-1,6-dimethyl-	0.0188	22.91	J	mg/kg	1	8/3/23 16:28
Benzene, 1-ethenyl-4-ethyl-	0.0228	20.93	J	mg/kg	1	8/3/23 16:28
Benzene, 1-ethyl-2-methyl-	0.0370	18.58	J	mg/kg	1	8/3/23 16:28
Benzene, 1-ethyl-3-methyl-	0.0183	18.08	J	mg/kg	1	8/3/23 16:28
Benzene, diethylmethyl-	0.0173	21.60	J	mg/kg	1	8/3/23 16:28
Cyclohexane, 1,4-dimethyl-, trans-	0.0477	18.26	J	mg/kg	1	8/3/23 16:28
Cyclohexane, butyl-	0.0547	19.31	J	mg/kg	1	8/3/23 16:28
Cyclohexane, propyl-	0.0224	17.07	J	mg/kg	1	8/3/23 16:28
Cyclopentane, 1,2-dimethyl-3-(1-methylet	0.0174	19.15	J	mg/kg	1	8/3/23 16:28
Cyclopentane, 1-hexyl-3-methyl-	0.0409	21.32	J	mg/kg	1	8/3/23 16:28
Decane, 1,1-oxybis-	0.0233	20.28	J	mg/kg	1	8/3/23 16:28
Decane, 3-methyl-	0.0166	19.74	J	mg/kg	1	8/3/23 16:28
Nonane, 3-methyl-	0.0176	17.68	J	mg/kg	1	8/3/23 16:28
Octane, 2,3-dimethyl-	0.0238	17.44	J	mg/kg	1	8/3/23 16:28
TIC Total	**0.403**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/9/23 20:41
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/9/23 20:41
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/9/23 20:41
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/9/23 20:41
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/9/23 20:41
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/9/23 20:41

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-10 (Soil) Sample Name: **MR-303-4.0-6.0-20230727** Collected: **7/27/2023 7:22:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/9/23 20:41
Chloroform	**0.0320**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/9/23 20:41**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/9/23 20:41
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/9/23 20:41
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/9/23 20:41

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.2**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0174	0.146	mg/kg	1	8/9/23 9:45
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/9/23 16:47

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.126	0.126	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.66**				**pH Units**	**1**	**7/28/23 11:57**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00820	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1221	ND	U	0.0161	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1232	ND	U	0.0205	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1242	ND	U	0.0120	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1248	ND	U	0.0126	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1254	ND	U	0.00986	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1260	ND	U	0.00765	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1262	ND	U	0.0164	0.0611	mg/kg	1	8/8/23 11:56
Aroclor-1268	ND	U	0.00739	0.0611	mg/kg	1	8/8/23 11:56
Total PCBs	ND	U	0.00571	0.0611	mg/kg	1	8/8/23 11:56

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0181	0.185	mg/kg	1	8/11/23 14:22
2,4-D	ND	U	0.0307	0.185	mg/kg	1	8/11/23 14:22

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/15/23 11:35
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/15/23 11:35

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0396**		**0.00926**	**0.0370**	**mg/kg**	**1**	**8/2/23 17:07**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:24

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**18800**		**0.272**	**4.58**	**mg/kg**	**1**	**8/9/23 14:37**
Antimony	ND	U	0.250	2.29	mg/kg	1	8/9/23 14:37
Arsenic	**8.12**		**0.164**	**2.29**	**mg/kg**	**1**	**8/9/23 14:37**
Barium	**34.6**		**0.0693**	**0.917**	**mg/kg**	**1**	**8/9/23 14:37**
Beryllium	**1.10**		**0.00531**	**0.0458**	**mg/kg**	**1**	**8/9/23 14:37**
Cadmium	ND	U	0.0894	0.458	mg/kg	1	8/9/23 14:37
Calcium	**1980**		**5.16**	**45.8**	**mg/kg**	**1**	**8/9/23 14:37**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**33.7**		**0.0518**	**0.458**	**mg/kg**	**1**	**8/9/23 14:37**	
Cobalt	**9.12**		**0.0468**	**0.367**	**mg/kg**	**1**	**8/9/23 14:37**	
Copper	**13.3**		**0.128**	**0.458**	**mg/kg**	**1**	**8/9/23 14:37**	
Iron	**37700**		**1.30**	**9.17**	**mg/kg**	**1**	**8/9/23 14:37**	
Lead	**14.0**		**0.191**	**2.29**	**mg/kg**	**1**	**8/9/23 14:37**	
Magnesium	**7730**		**16.2**	**91.7**	**mg/kg**	**1**	**8/9/23 14:37**	
Manganese	**346**		**0.0570**	**0.458**	**mg/kg**	**1**	**8/9/23 14:37**	
Nickel	**27.1**		**0.0403**	**0.229**	**mg/kg**	**1**	**8/9/23 14:37**	
Potassium	**4000**		**54.5**	**183**	**mg/kg**	**1**	**8/9/23 14:37**	
Selenium	ND	U	0.440	2.29	mg/kg	1	8/9/23 14:37	UJ, RC:6L
Silver	ND	U	0.0780	0.275	mg/kg	1	8/9/23 14:37	
Sodium	**3020**		**8.74**	**91.7**	**mg/kg**	**1**	**8/9/23 14:37**	
Thallium	ND	U	0.154	2.29	mg/kg	1	8/9/23 14:37	
Vanadium	**37.9**		**0.105**	**0.917**	**mg/kg**	**1**	**8/9/23 14:37**	
Zinc	**75.2**		**0.140**	**1.38**	**mg/kg**	**1**	**8/9/23 14:37**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:09
Barium	**0.526**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:09**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:09
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:09
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:09
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:09
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:09

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.00110	0.00241	mg/kg	1	8/8/23 20:54
4,4'-DDE	ND	U	0.00132	0.00241	mg/kg	1	8/8/23 20:54
4,4'-DDT	ND	U	0.00170	0.00241	mg/kg	1	8/8/23 20:54
Aldrin	ND	U	0.00114	0.00241	mg/kg	1	8/8/23 20:54
alpha-BHC [2C]	ND	U	0.000717	0.00241	mg/kg	1	8/8/23 20:54
beta-BHC	ND	U	0.00115	0.00241	mg/kg	1	8/8/23 20:54
Chlordane	ND	U	0.00107	0.00241	mg/kg	1	8/8/23 20:54
delta-BHC	ND	U	0.00112	0.00241	mg/kg	1	8/8/23 20:54
Dieldrin	ND	U	0.00126	0.00241	mg/kg	1	8/8/23 20:54
Endosulfan I	ND	U	0.00114	0.00241	mg/kg	1	8/8/23 20:54

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.00109	0.00241	mg/kg	1	8/8/23 20:54	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000906	0.00241	mg/kg	1	8/8/23 20:54	
Endosulfans, Total (alpha and beta)	ND	U	0.00109	0.00241	mg/kg	1	8/8/23 20:54	
Endrin	ND	U	0.000831	0.00241	mg/kg	1	8/8/23 20:54	
Endrin aldehyde	ND	U	0.000959	0.00241	mg/kg	1	8/8/23 20:54	
Endrin ketone	ND	U	0.000848	0.00241	mg/kg	1	8/8/23 20:54	
gamma-BHC (Lindane)	ND	U	0.000763	0.00241	mg/kg	1	8/8/23 20:54	
Heptachlor	ND	U	0.000644	0.00241	mg/kg	1	8/8/23 20:54	
Heptachlor Epoxide	ND	U	0.00121	0.00241	mg/kg	1	8/8/23 20:54	
Methoxychlor	ND	U	0.000706	0.00241	mg/kg	1	8/8/23 20:54	
Toxaphene	ND	U	0.116	0.122	mg/kg	1	8/8/23 20:54	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 21:45	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 21:45	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 21:45	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 21:45	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 21:45	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 21:45	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 21:45	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 21:45	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 21:45	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 21:45	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 21:45	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 21:45	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 21:45	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 21:45	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 21:45	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 21:45	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 21:45	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 21:45	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 21:45	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 21:45	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00696	0.0617	mg/kg	1	8/3/23 21:14	
2,3,4,6-Tetrachlorophenol	ND	U	0.0380	0.246	mg/kg	1	8/3/23 21:14	
2,4,5-Trichlorophenol	ND	U	0.0335	0.246	mg/kg	1	8/3/23 21:14	
2,4,6-Trichlorophenol	ND	U	0.0154	0.246	mg/kg	1	8/3/23 21:14	
2,4-Dichlorophenol	ND	U	0.0248	0.246	mg/kg	1	8/3/23 21:14	
2,4-Dimethylphenol	ND	U	0.0243	0.246	mg/kg	1	8/3/23 21:14	
2,4-Dinitrophenol	ND	U	0.0356	1.24	mg/kg	1	8/3/23 21:14	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0263	0.246	mg/kg	1	8/3/23 21:14	
2,6-Dinitrotoluene	ND	U	0.0589	0.246	mg/kg	1	8/3/23 21:14	
2-Chloronaphthalene	ND	U	0.0283	0.246	mg/kg	1	8/3/23 21:14	
2-Chlorophenol	ND	U	0.0326	0.246	mg/kg	1	8/3/23 21:14	
2-Methylnaphthalene	ND	U	0.0591	0.370	mg/kg	1	8/3/23 21:14	
2-Methylphenol	ND	U	0.0487	0.246	mg/kg	1	8/3/23 21:14	
2-Nitroaniline	ND	U	0.0198	0.246	mg/kg	1	8/3/23 21:14	
2-Nitrophenol	ND	U	0.0274	0.246	mg/kg	1	8/3/23 21:14	
3,3'-Dichlorobenzidine	ND	U	0.0259	0.246	mg/kg	1	8/3/23 21:14	
3+4-Methylphenol	ND	U	0.0452	0.246	mg/kg	1	8/3/23 21:14	
3-Nitroaniline	ND	U	0.0457	0.246	mg/kg	1	8/3/23 21:14	
4,6-Dinitro-2-methylphenol	ND	U	0.0465	0.617	mg/kg	1	8/3/23 21:14	
4-Bromophenyl-phenyl ether	ND	U	0.0352	0.246	mg/kg	1	8/3/23 21:14	
4-Chloro-3-methylphenol	ND	U	0.0389	0.246	mg/kg	1	8/3/23 21:14	
4-Chloroaniline	ND	U	0.00863	0.246	mg/kg	1	8/3/23 21:14	
4-Chlorophenyl phenyl ether	ND	U	0.0133	0.246	mg/kg	1	8/3/23 21:14	
4-Nitroaniline	ND	U	0.123	0.246	mg/kg	1	8/3/23 21:14	
4-Nitrophenol	ND	U	0.0158	0.246	mg/kg	1	8/3/23 21:14	
Acenaphthene	ND	U	0.0141	0.246	mg/kg	1	8/3/23 21:14	
Acenaphthylene	ND	U	0.00857	0.246	mg/kg	1	8/3/23 21:14	
Acetophenone	ND	U	0.0244	0.246	mg/kg	1	8/3/23 21:14	
Anthracene	ND	U	0.0357	0.246	mg/kg	1	8/3/23 21:14	
Atrazine	ND	U	0.0231	0.246	mg/kg	1	8/3/23 21:14	
Benzaldehyde	ND	U	0.0757	0.246	mg/kg	1	8/3/23 21:14	
Benzo(a)anthracene	ND	U	0.0248	0.246	mg/kg	1	8/3/23 21:14	
Benzo(a)pyrene	ND	U	0.0430	0.246	mg/kg	1	8/3/23 21:14	
Benzo(b)fluoranthene	ND	U	0.0346	0.246	mg/kg	1	8/3/23 21:14	
Benzo(g,h,i)perylene	ND	U	0.0200	0.246	mg/kg	1	8/3/23 21:14	
Benzo(k)fluoranthene	ND	U	0.0283	0.246	mg/kg	1	8/3/23 21:14	
Biphenyl	ND	U	0.0217	0.246	mg/kg	1	8/3/23 21:14	
bis(2-chloroethoxy)methane	ND	U	0.0341	0.246	mg/kg	1	8/3/23 21:14	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0270	0.246	mg/kg	1	8/3/23 21:14
bis(2-chloroisopropyl)ether	ND	U	0.0887	0.246	mg/kg	1	8/3/23 21:14
bis(2-ethylhexyl)phthalate	ND	U	0.0493	0.246	mg/kg	1	8/3/23 21:14
Butylbenzylphthalate	ND	U	0.0224	0.246	mg/kg	1	8/3/23 21:14
Caprolactam	ND	U	0.0319	0.246	mg/kg	1	8/3/23 21:14
Carbazole	ND	U	0.0474	0.617	mg/kg	1	8/3/23 21:14
Chrysene	ND	U	0.0169	0.246	mg/kg	1	8/3/23 21:14
Dibenzo(a,h)anthracene	ND	U	0.0244	0.246	mg/kg	1	8/3/23 21:14
Dibenzofuran	ND	U	0.0147	0.246	mg/kg	1	8/3/23 21:14
Diethylphthalate	ND	U	0.0478	0.246	mg/kg	1	8/3/23 21:14
Dimethylphthalate	ND	U	0.0153	0.246	mg/kg	1	8/3/23 21:14
Di-n-butylphthalate	ND	U	0.101	0.246	mg/kg	1	8/3/23 21:14
Di-n-octylphthalate	ND	U	0.0506	0.246	mg/kg	1	8/3/23 21:14
Fluoranthene	ND	U	0.0231	0.246	mg/kg	1	8/3/23 21:14
Fluorene	ND	U	0.0206	0.246	mg/kg	1	8/3/23 21:14
Hexachlorobenzene	ND	U	0.0322	0.246	mg/kg	1	8/3/23 21:14
Hexachlorobutadiene	ND	U	0.118	0.246	mg/kg	1	8/3/23 21:14
Hexachlorocyclopentadiene	ND	U	0.103	0.617	mg/kg	1	8/3/23 21:14
Hexachloroethane	ND	U	0.0270	0.246	mg/kg	1	8/3/23 21:14
Indeno(1,2,3-cd)pyrene	ND	U	0.0265	0.246	mg/kg	1	8/3/23 21:14
Isophorone	ND	U	0.0161	0.246	mg/kg	1	8/3/23 21:14
Naphthalene	ND	U	0.0183	0.246	mg/kg	1	8/3/23 21:14
Nitrobenzene	ND	U	0.0418	0.246	mg/kg	1	8/3/23 21:14
n-Nitroso-di-n-propylamine	ND	U	0.0132	0.246	mg/kg	1	8/3/23 21:14
n-Nitrosodiphenylamine	ND	U	0.0526	0.246	mg/kg	1	8/3/23 21:14
Pentachlorophenol	ND	U	0.0339	0.617	mg/kg	1	8/3/23 21:14
Phenanthrene	ND	U	0.0324	0.246	mg/kg	1	8/3/23 21:14
Phenol	ND	U	0.0200	0.246	mg/kg	1	8/3/23 21:14
Pyrene	ND	U	0.0181	0.246	mg/kg	1	8/3/23 21:14

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~35.6~~	12.32	J, B	mg/kg	1	8/3/23 21:14	R, RC:2
Octadecanoic acid, butyl ester	~~21.2~~	13.14	J, B	mg/kg	1	8/3/23 21:14	R, RC:2
unknown	~~1.26~~	15.32	J, B	mg/kg	1	8/3/23 21:14	R, RC:2
TIC Total	~~58.0~~						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/10/23 19:38
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/10/23 19:38
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/10/23 19:38
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/10/23 19:38
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/10/23 19:38
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/10/23 19:38
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/10/23 19:38
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/10/23 19:38
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/10/23 19:38
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/10/23 19:38
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/10/23 19:38

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000458	0.00314	mg/kg	1	8/4/23 16:43
1,1,2,2-Tetrachloroethane	ND	U	0.000433	0.00314	mg/kg	1	8/4/23 16:43
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00134	0.00314	mg/kg	1	8/4/23 16:43
1,1,2-Trichloroethane	ND	U	0.000529	0.00314	mg/kg	1	8/4/23 16:43
1,1-Dichloroethane	ND	U	0.000458	0.00314	mg/kg	1	8/4/23 16:43
1,1-Dichloroethene	ND	U	0.000581	0.00314	mg/kg	1	8/4/23 16:43
1,2,3-Trichlorobenzene	ND	U	0.000678	0.00314	mg/kg	1	8/4/23 16:43
1,2,4-Trichlorobenzene	ND	U	0.000836	0.00314	mg/kg	1	8/4/23 16:43
1,2,4-Trimethylbenzene	ND	U	0.000433	0.00314	mg/kg	1	8/4/23 16:43
1,2-Dibromo-3-chloropropane	ND	U	0.000766	0.00314	mg/kg	1	8/4/23 16:43
1,2-Dibromoethane	ND	U	0.000395	0.00314	mg/kg	1	8/4/23 16:43
1,2-Dichlorobenzene	ND	U	0.000554	0.00314	mg/kg	1	8/4/23 16:43
1,2-Dichloroethane	ND	U	0.000443	0.00314	mg/kg	1	8/4/23 16:43
1,2-Dichloropropane	ND	U	0.000515	0.00314	mg/kg	1	8/4/23 16:43
1,3-Dichlorobenzene	ND	U	0.000231	0.00314	mg/kg	1	8/4/23 16:43
1,4-Dichlorobenzene	ND	U	0.000452	0.00314	mg/kg	1	8/4/23 16:43
2-Butanone	ND	U	0.000512	0.00785	mg/kg	1	8/4/23 16:43
2-Hexanone	ND	U	0.000293	0.00314	mg/kg	1	8/4/23 16:43
4-Methyl-2-pentanone	ND	U	0.000392	0.00314	mg/kg	1	8/4/23 16:43
Acetone	ND	U	0.000951	0.00785	mg/kg	1	8/4/23 16:43
Benzene	ND	U	0.000286	0.00314	mg/kg	1	8/4/23 16:43
Bromochloromethane	ND	U	0.000579	0.00314	mg/kg	1	8/4/23 16:43
Bromodichloromethane	ND	U	0.000394	0.00314	mg/kg	1	8/4/23 16:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000551	0.00314	mg/kg	1	8/4/23 16:43	
Bromomethane	ND	U	0.000905	0.00314	mg/kg	1	8/4/23 16:43	
Carbon disulfide	**0.0428**		**0.000450**	**0.00314**	**mg/kg**	**1**	**8/4/23 16:43**	
Carbon Tetrachloride	ND	U	0.000472	0.00314	mg/kg	1	8/4/23 16:43	
Chlorobenzene	ND	U	0.000455	0.00314	mg/kg	1	8/4/23 16:43	
Chlorodibromomethane	ND	U	0.000386	0.00314	mg/kg	1	8/4/23 16:43	
Chloroethane	ND	U	0.000535	0.00314	mg/kg	1	8/4/23 16:43	
Chloroform	ND	U	0.000527	0.00314	mg/kg	1	8/4/23 16:43	
Chloromethane	ND	U	0.00121	0.00314	mg/kg	1	8/4/23 16:43	
cis-1,2-Dichloroethene	ND	U	0.000152	0.00314	mg/kg	1	8/4/23 16:43	
cis-1,3-Dichloropropene	ND	U	0.000397	0.00314	mg/kg	1	8/4/23 16:43	
Cyclohexane	ND	U	0.000695	0.00314	mg/kg	1	8/4/23 16:43	
Dichlorodifluoromethane	~~ND~~	~~U~~	~~0.00106~~	~~0.00314~~	mg/kg	1	8/4/23 16:43	R, RC:4L
EthylBenzene	ND	U	0.000425	0.00314	mg/kg	1	8/4/23 16:43	
Isopropylbenzene	ND	U	0.000493	0.00314	mg/kg	1	8/4/23 16:43	
m+p-Xylenes	ND	U	0.000792	0.00628	mg/kg	1	8/4/23 16:43	
Methyl Acetate	ND	U	0.000416	0.00314	mg/kg	1	8/4/23 16:43	
Methyl tert-Butyl Ether	ND	U	0.000530	0.00314	mg/kg	1	8/4/23 16:43	
Methylcyclohexane	ND	U	0.000505	0.00314	mg/kg	1	8/4/23 16:43	
Methylene Chloride	ND	U	0.000943	0.00314	mg/kg	1	8/4/23 16:43	
o-Xylene	ND	U	0.000403	0.00314	mg/kg	1	8/4/23 16:43	
Styrene	ND	U	0.000449	0.00314	mg/kg	1	8/4/23 16:43	
tert-Butyl alcohol	ND	U	0.00659	0.0314	mg/kg	1	8/4/23 16:43	
Tetrachloroethene	ND	U	0.000311	0.00314	mg/kg	1	8/4/23 16:43	
Toluene	ND	U	0.000253	0.00314	mg/kg	1	8/4/23 16:43	
Total Xylenes	ND	U	0.000403	0.00314	mg/kg	1	8/4/23 16:43	
trans-1,2-Dichloroethene	ND	U	0.000425	0.00314	mg/kg	1	8/4/23 16:43	
trans-1,3-Dichloropropene	ND	U	0.000599	0.00314	mg/kg	1	8/4/23 16:43	
Trichloroethene	ND	U	0.000461	0.00314	mg/kg	1	8/4/23 16:43	
Trichlorofluoromethane	ND	U	0.000361	0.00314	mg/kg	1	8/4/23 16:43	
Vinyl chloride	ND	U	0.000596	0.00314	mg/kg	1	8/4/23 16:43	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-11 (Soil) Sample Name: **MR-303-15.0-17.0-20230727** Collected: **7/27/2023 8:43:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/9/23 21:07
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/9/23 21:07
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/9/23 21:07
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/9/23 21:07
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/9/23 21:07
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/9/23 21:07
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/9/23 21:07
Chloroform	**0.0325**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/9/23 21:07**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/9/23 21:07
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/9/23 21:07
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/9/23 21:07

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**54.0**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**3.11**		**0.0245**	**0.206**	**mg/kg**	**1**	**8/9/23 9:45**
Reactive Cyanide	**3.1**		**0.17**	**0.17**	**mg/kg**	**1**	**8/9/23 16:47**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.185	0.185	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.09**				**pH Units**	**1**	**7/28/23 11:57**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727** Collected: **7/27/2023 9:11:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00537	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1221	ND	U	0.0106	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1232	ND	U	0.0134	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1242	ND	U	0.00786	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1248	ND	U	0.00822	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1254	ND	U	0.00646	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1260	ND	U	0.00501	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1262	ND	U	0.0108	0.0400	mg/kg	1	8/8/23 12:18
Aroclor-1268	ND	U	0.00484	0.0400	mg/kg	1	8/8/23 12:18
Total PCBs	ND	U	0.00374	0.0400	mg/kg	1	8/8/23 12:18

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0119	0.121	mg/kg	1	8/11/23 14:32
2,4-D	ND	U	0.0201	0.121	mg/kg	1	8/11/23 14:32

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/15/23 11:45
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/15/23 11:45

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00606	0.0243	mg/kg	1	8/2/23 17:16

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:27

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4500**		**0.176**	**2.96**	**mg/kg**	**1**	**8/9/23 14:39**
Antimony	ND	U	0.161	1.48	mg/kg	1	8/9/23 14:39
Arsenic	**2.88**		**0.106**	**1.48**	**mg/kg**	**1**	**8/9/23 14:39**
Barium	**14.7**		**0.0447**	**0.592**	**mg/kg**	**1**	**8/9/23 14:39**
Beryllium	**0.375**		**0.00342**	**0.0296**	**mg/kg**	**1**	**8/9/23 14:39**
Cadmium	ND	U	0.0577	0.296	mg/kg	1	8/9/23 14:39
Calcium	**320**		**3.33**	**29.6**	**mg/kg**	**1**	**8/9/23 14:39**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727** Collected: **7/27/2023 9:11:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**8.31**		**0.0334**	**0.296**	**mg/kg**	**1**	**8/9/23 14:39**	
Cobalt	**3.13**		**0.0302**	**0.237**	**mg/kg**	**1**	**8/9/23 14:39**	
Copper	**4.32**		**0.0827**	**0.296**	**mg/kg**	**1**	**8/9/23 14:39**	
Iron	**9670**		**0.838**	**5.92**	**mg/kg**	**1**	**8/9/23 14:39**	
Lead	**3.54**		**0.123**	**1.48**	**mg/kg**	**1**	**8/9/23 14:39**	
Magnesium	**1460**		**10.4**	**59.2**	**mg/kg**	**1**	**8/9/23 14:39**	
Manganese	**73.5**		**0.0368**	**0.296**	**mg/kg**	**1**	**8/9/23 14:39**	
Nickel	**7.25**		**0.0260**	**0.148**	**mg/kg**	**1**	**8/9/23 14:39**	
Potassium	**1090**		**35.2**	**118**	**mg/kg**	**1**	**8/9/23 14:39**	
Selenium	ND	U	0.284	1.48	mg/kg	1	8/9/23 14:39	UJ, RC:6L
Silver	ND	U	0.0503	0.177	mg/kg	1	8/9/23 14:39	
Sodium	**863**		**5.64**	**59.2**	**mg/kg**	**1**	**8/9/23 14:39**	
Thallium	ND	U	0.0995	1.48	mg/kg	1	8/9/23 14:39	
Vanadium	**11.7**		**0.0680**	**0.592**	**mg/kg**	**1**	**8/9/23 14:39**	
Zinc	**22.4**		**0.0903**	**0.887**	**mg/kg**	**1**	**8/9/23 14:39**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:11
Barium	**0.578**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:11**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:11
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:11
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:11
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:11
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:11

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000721	0.00158	mg/kg	1	8/8/23 21:16
4,4'-DDE	ND	U	0.000862	0.00158	mg/kg	1	8/8/23 21:16
4,4'-DDT	ND	U	0.00111	0.00158	mg/kg	1	8/8/23 21:16
Aldrin	ND	U	0.000747	0.00158	mg/kg	1	8/8/23 21:16
alpha-BHC [2C]	ND	U	0.000469	0.00158	mg/kg	1	8/8/23 21:16
beta-BHC	ND	U	0.000753	0.00158	mg/kg	1	8/8/23 21:16
Chlordane	ND	U	0.000701	0.00158	mg/kg	1	8/8/23 21:16
delta-BHC	ND	U	0.000732	0.00158	mg/kg	1	8/8/23 21:16
Dieldrin	ND	U	0.000825	0.00158	mg/kg	1	8/8/23 21:16
Endosulfan I	ND	U	0.000745	0.00158	mg/kg	1	8/8/23 21:16

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727** Collected: **7/27/2023 9:11:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000717	0.00158	mg/kg	1	8/8/23 21:16	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000593	0.00158	mg/kg	1	8/8/23 21:16	
Endosulfans, Total (alpha and beta)	ND	U	0.000717	0.00158	mg/kg	1	8/8/23 21:16	
Endrin	ND	U	0.000544	0.00158	mg/kg	1	8/8/23 21:16	
Endrin aldehyde	ND	U	0.000628	0.00158	mg/kg	1	8/8/23 21:16	
Endrin ketone	ND	U	0.000555	0.00158	mg/kg	1	8/8/23 21:16	
gamma-BHC (Lindane)	ND	U	0.000500	0.00158	mg/kg	1	8/8/23 21:16	
Heptachlor	ND	U	0.000422	0.00158	mg/kg	1	8/8/23 21:16	
Heptachlor Epoxide	ND	U	0.000795	0.00158	mg/kg	1	8/8/23 21:16	
Methoxychlor	ND	U	0.000462	0.00158	mg/kg	1	8/8/23 21:16	
Toxaphene	ND	U	0.0759	0.0800	mg/kg	1	8/8/23 21:16	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 22:03	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 22:03	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 22:03	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 22:03	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 22:03	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 22:03	
Chlordane [2C]	**0.000273**		**3.27E-7**	**0.0000500**	**mg/L**	**1**	**8/10/23 22:03**	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 22:03	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 22:03	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 22:03	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 22:03	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 22:03	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 22:03	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 22:03	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 22:03	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 22:03	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 22:03	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 22:03	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 22:03	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 22:03	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727** Collected: **7/27/2023 9:11:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00456	0.0404	mg/kg	1	8/3/23 23:00	
2,3,4,6-Tetrachlorophenol	ND	U	0.0249	0.161	mg/kg	1	8/3/23 23:00	
2,4,5-Trichlorophenol	ND	U	0.0219	0.161	mg/kg	1	8/3/23 23:00	
2,4,6-Trichlorophenol	ND	U	0.0101	0.161	mg/kg	1	8/3/23 23:00	
2,4-Dichlorophenol	ND	U	0.0162	0.161	mg/kg	1	8/3/23 23:00	
2,4-Dimethylphenol	ND	U	0.0159	0.161	mg/kg	1	8/3/23 23:00	
2,4-Dinitrophenol	ND	U	0.0233	0.809	mg/kg	1	8/3/23 23:00	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0172	0.161	mg/kg	1	8/3/23 23:00	
2,6-Dinitrotoluene	ND	U	0.0386	0.161	mg/kg	1	8/3/23 23:00	
2-Chloronaphthalene	ND	U	0.0186	0.161	mg/kg	1	8/3/23 23:00	
2-Chlorophenol	ND	U	0.0213	0.161	mg/kg	1	8/3/23 23:00	
2-Methylnaphthalene	**74.1**	D	**0.387**	**2.43**	**mg/kg**	**10**	**8/4/23 23:51**	
2-Methylphenol	ND	U	0.0319	0.161	mg/kg	1	8/3/23 23:00	
2-Nitroaniline	ND	U	0.0130	0.161	mg/kg	1	8/3/23 23:00	
2-Nitrophenol	ND	U	0.0179	0.161	mg/kg	1	8/3/23 23:00	
3,3'-Dichlorobenzidine	ND	U	0.0170	0.161	mg/kg	1	8/3/23 23:00	
3+4-Methylphenol	ND	U	0.0296	0.161	mg/kg	1	8/3/23 23:00	
3-Nitroaniline	ND	U	0.0300	0.161	mg/kg	1	8/3/23 23:00	
4,6-Dinitro-2-methylphenol	ND	U	0.0304	0.404	mg/kg	1	8/3/23 23:00	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0230	0.161	mg/kg	1	8/3/23 23:00	
4-Chloro-3-methylphenol	ND	U	0.0255	0.161	mg/kg	1	8/3/23 23:00	
4-Chloroaniline	ND	U	0.00565	0.161	mg/kg	1	8/3/23 23:00	
4-Chlorophenyl phenyl ether	ND	U	0.00872	0.161	mg/kg	1	8/3/23 23:00	
4-Nitroaniline	ND	U	0.0808	0.161	mg/kg	1	8/3/23 23:00	
4-Nitrophenol	ND	U	0.0103	0.161	mg/kg	1	8/3/23 23:00	
Acenaphthene	**34.0**	D	**0.0920**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	
Acenaphthylene	**5.96**		**0.00561**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:6H,4L
Acetophenone	ND	U	0.0160	0.161	mg/kg	1	8/3/23 23:00	
Anthracene	**19.0**	D	**0.234**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	
Atrazine	ND	U	0.0152	0.161	mg/kg	1	8/3/23 23:00	
Benzaldehyde	ND	U	0.0496	0.161	mg/kg	1	8/3/23 23:00	
Benzo(a)anthracene	**10.1**	D	**0.162**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	J, RC:4L
Benzo(a)pyrene	**7.85**		**0.0281**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
Benzo(b)fluoranthene	**5.40**		**0.0227**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
Benzo(g,h,i)perylene	**3.06**		**0.0131**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
Benzo(k)fluoranthene	**2.19**		**0.0186**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
Biphenyl	**8.24**		**0.0142**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
bis(2-chloroethoxy)methane	ND	U	0.0223	0.161	mg/kg	1	8/3/23 23:00	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727** Collected: **7/27/2023 9:11:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0177	0.161	mg/kg	1	8/3/23 23:00	
bis(2-chloroisopropyl)ether	ND	U	0.0581	0.161	mg/kg	1	8/3/23 23:00	R, RC:4L,SL
bis(2-ethylhexyl)phthalate	ND	U	0.0323	0.161	mg/kg	1	8/3/23 23:00	
Butylbenzylphthalate	ND	U	0.0147	0.161	mg/kg	1	8/3/23 23:00	
Caprolactam	ND	U	0.0209	0.161	mg/kg	1	8/3/23 23:00	
Carbazole	**0.525**		**0.0310**	**0.404**	**mg/kg**	**1**	**8/3/23 23:00**	
Chrysene	**10.0**		**0.0111**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
Dibenzo(a,h)anthracene	**0.921**		**0.0160**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	
Dibenzofuran	**2.57**		**0.00962**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	J, RC:4L
Diethylphthalate	ND	U	0.0313	0.161	mg/kg	1	8/3/23 23:00	
Dimethylphthalate	ND	U	0.0100	0.161	mg/kg	1	8/3/23 23:00	
Di-n-butylphthalate	ND	U	0.0660	0.161	mg/kg	1	8/3/23 23:00	
Di-n-octylphthalate	ND	U	0.0331	0.161	mg/kg	1	8/3/23 23:00	
Fluoranthene	**19.1**	D	**0.152**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	
Fluorene	**22.0**	D	**0.135**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	
Hexachlorobenzene	ND	U	0.0211	0.161	mg/kg	1	8/3/23 23:00	
Hexachlorobutadiene	ND	U	0.0775	0.161	mg/kg	1	8/3/23 23:00	
Hexachlorocyclopentadiene	ND	U	0.0673	0.404	mg/kg	1	8/3/23 23:00	UJ, RC:SL
Hexachloroethane	ND	U	0.0177	0.161	mg/kg	1	8/3/23 23:00	
Indeno(1,2,3-cd)pyrene	**2.24**		**0.0173**	**0.161**	**mg/kg**	**1**	**8/3/23 23:00**	
Isophorone	ND	U	0.0106	0.161	mg/kg	1	8/3/23 23:00	
Naphthalene	**81.1**	D	**0.120**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	
Nitrobenzene	ND	U	0.0274	0.161	mg/kg	1	8/3/23 23:00	
n-Nitroso-di-n-propylamine	ND	U	0.00865	0.161	mg/kg	1	8/3/23 23:00	
n-Nitrosodiphenylamine	ND	U	0.0344	0.161	mg/kg	1	8/3/23 23:00	
Pentachlorophenol	ND	U	0.0222	0.404	mg/kg	1	8/3/23 23:00	UJ, RC:SL
Phenanthrene	**61.0**	D	**0.212**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	
Phenol	ND	U	0.0131	0.161	mg/kg	1	8/3/23 23:00	
Pyrene	**24.8**	D	**0.119**	**1.61**	**mg/kg**	**10**	**8/4/23 23:51**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,2,4-trimethyl-	4.32	5.75	J	mg/kg	1	8/3/23 23:00
Benzene, 1-ethyl-2,3-dimethyl-	2.86	6.42	J	mg/kg	1	8/3/23 23:00
Benzene, 1-ethyl-2-methyl-	4.16	5.46	J	mg/kg	1	8/3/23 23:00
Indene	12.6	6.18	J	mg/kg	1	8/3/23 23:00
Naphthalene, 1,5-dimethyl-	14.2	8.74	J	mg/kg	1	8/3/23 23:00
Naphthalene, 1,8-dimethyl-	13.9	8.65	J	mg/kg	1	8/3/23 23:00

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-20230727** Collected: **7/27/2023 9:11:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1-ethyl-	23.0	8.47	J	mg/kg	1	8/3/23 23:00
Naphthalene, 2,3,6-trimethyl-	10.2	9.27	J	mg/kg	1	8/3/23 23:00
Naphthalene, 2,3-dimethyl-	32.9	8.62	J	mg/kg	1	8/3/23 23:00
Naphthalene, 2,6-dimethyl-	24.9	8.54	J	mg/kg	1	8/3/23 23:00
unknown (01)	6.99	9.30	J	mg/kg	1	8/3/23 23:00
unknown (02)	6.57	9.36	J	mg/kg	1	8/3/23 23:00
unknown (03)	9.77	9.43	J	mg/kg	1	8/3/23 23:00
unknown (04)	3.60	9.59	J	mg/kg	1	8/3/23 23:00
unknown (05)	5.88	9.64	J	mg/kg	1	8/3/23 23:00
TIC Total	**176**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/10/23 20:10
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/10/23 20:10
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/10/23 20:10
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/10/23 20:10
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/10/23 20:10
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/10/23 20:10
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/10/23 20:10
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/10/23 20:10
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/10/23 20:10
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/10/23 20:10
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/10/23 20:10

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000268	0.00184	mg/kg	1	8/4/23 17:15	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000254	0.00184	mg/kg	1	8/4/23 17:15	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000786	0.00184	mg/kg	1	8/4/23 17:15	
1,1,2-Trichloroethane	ND	U	0.000310	0.00184	mg/kg	1	8/4/23 17:15	
1,1-Dichloroethane	ND	U	0.000268	0.00184	mg/kg	1	8/4/23 17:15	
1,1-Dichloroethene	ND	U	0.000340	0.00184	mg/kg	1	8/4/23 17:15	
1,2,3-Trichlorobenzene	ND	U	0.000397	0.00184	mg/kg	1	8/4/23 17:15	R, RC:X,3L
1,2,4-Trichlorobenzene	ND	U	0.000490	0.00184	mg/kg	1	8/4/23 17:15	R, RC:X,3L
1,2,4-Trimethylbenzene	**195**	D	**0.683**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**	
1,2-Dibromo-3-chloropropane	ND	U	0.000448	0.00184	mg/kg	1	8/4/23 17:15	R, RC:X,3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-202 30727** Collected: **7/27/2023 9:11:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromoethane	ND	U	0.000231	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
1,2-Dichlorobenzene	ND	U	0.000324	0.00184	mg/kg	1	8/4/23 17:15 R, RC:X,3L
1,2-Dichloroethane	ND	U	0.000259	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
1,2-Dichloropropane	ND	U	0.000301	0.00184	mg/kg	1	8/4/23 17:15
1,3-Dichlorobenzene	ND	U	0.000135	0.00184	mg/kg	1	8/4/23 17:15
1,4-Dichlorobenzene	ND	U	0.000265	0.00184	mg/kg	1	8/4/23 17:15 R, RC:X,3L
2-Butanone	ND	U	0.000299	0.00459	mg/kg	1	8/4/23 17:15 UJ, RC:3L
2-Hexanone	ND	U	0.000172	0.00184	mg/kg	1	8/4/23 17:15
4-Methyl-2-pentanone	ND	U	0.000230	0.00184	mg/kg	1	8/4/23 17:15
Acetone	**0.171**		**0.000557**	**0.00459**	**mg/kg**	**1**	**8/4/23 17:15** J, RC:3L
Benzene	**38.9**	D	**0.450**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**
Bromochloromethane	ND	U	0.000339	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
Bromodichloromethane	ND	U	0.000231	0.00184	mg/kg	1	8/4/23 17:15
Bromoform	ND	U	0.000322	0.00184	mg/kg	1	8/4/23 17:15
Bromomethane	ND	U	0.000530	0.00184	mg/kg	1	8/4/23 17:15
Carbon disulfide	**0.00630**		**0.000264**	**0.00184**	**mg/kg**	**1**	**8/4/23 17:15** J, RC:3L
Carbon Tetrachloride	ND	U	0.000277	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
Chlorobenzene	ND	U	0.000266	0.00184	mg/kg	1	8/4/23 17:15
Chlorodibromomethane	ND	U	0.000226	0.00184	mg/kg	1	8/4/23 17:15
Chloroethane	ND	U	0.000313	0.00184	mg/kg	1	8/4/23 17:15
Chloroform	ND	U	0.000309	0.00184	mg/kg	1	8/4/23 17:15
Chloromethane	ND	U	0.000707	0.00184	mg/kg	1	8/4/23 17:15
cis-1,2-Dichloroethene	ND	U	0.0000888	0.00184	mg/kg	1	8/4/23 17:15
cis-1,3-Dichloropropene	ND	U	0.000232	0.00184	mg/kg	1	8/4/23 17:15
Cyclohexane	**0.0705**		**0.000407**	**0.00184**	**mg/kg**	**1**	**8/4/23 17:15** J, RC:3L
Dichlorodifluoromethane	ND	U	0.000620	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
EthylBenzene	**274**	D	**0.670**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**
Isopropylbenzene	**34.8**	D	**0.777**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**
m+p-Xylenes	**245**	D	**1.25**	**9.89**	**mg/kg**	**1428**	**8/8/23 10:30**
Methyl Acetate	ND	U	0.000243	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000310	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
Methylcyclohexane	**0.104**		**0.000296**	**0.00184**	**mg/kg**	**1**	**8/4/23 17:15** J, RC:3L
Methylene Chloride	ND	U	0.000552	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
o-Xylene	**116**	D	**0.636**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**
Styrene	ND	U	0.000263	0.00184	mg/kg	1	8/4/23 17:15 UJ, RC:3L
tert-Butyl alcohol	ND	U	0.00386	0.0184	mg/kg	1	8/4/23 17:15
Tetrachloroethene	ND	U	0.000182	0.00184	mg/kg	1	8/4/23 17:15
Toluene	**172**	D	**0.398**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23G1483

Project: Red Hook-Gowanus **Date to Lab:** 7/27/2023 3:07:00PM

23G1483-12 (Soil) Sample Name: **MR-303-20.0-22.0-202 30727** Collected: **7/27/2023 9:11:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Total Xylenes	**361**	D	**0.636**	**4.95**	**mg/kg**	**1428**	**8/8/23 10:30**	
trans-1,2-Dichloroethene	ND	U	0.000249	0.00184	mg/kg	1	8/4/23 17:15	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000351	0.00184	mg/kg	1	8/4/23 17:15	
Trichloroethene	ND	U	0.000270	0.00184	mg/kg	1	8/4/23 17:15	
Trichlorofluoromethane	ND	U	0.000211	0.00184	mg/kg	1	8/4/23 17:15	
Vinyl chloride	ND	U	0.000349	0.00184	mg/kg	1	8/4/23 17:15	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,5-Heptatriene, (E,E)-	0.0465	12.66	J	mg/kg	1	8/4/23 17:15
2-Decene, 8-methyl-, (Z)-	0.0459	15.63	J	mg/kg	1	8/4/23 17:15
Benzene, 1,3,5-trimethyl-	0.0459	19.62	J	mg/kg	1	8/4/23 17:15
Benzene, 1-ethyl-3-methyl-	0.215	18.93	J	mg/kg	1	8/4/23 17:15
Benzene, 1-ethynyl-4-methyl-	0.217	20.36	J	mg/kg	1	8/4/23 17:15
Benzene, cyclopropyl-	0.0490	19.94	J	mg/kg	1	8/4/23 17:15
Benzene, propyl-	0.0483	17.97	J	mg/kg	1	8/4/23 17:15
Cyclohexane, methyl-	0.0622	17.09	J	mg/kg	1	8/4/23 17:15
Cyclohexene, 1,2-dimethyl-	0.0525	13.82	J	mg/kg	1	8/4/23 17:15
Cyclohexene, 1-methyl- (01)	0.0660	11.98	J	mg/kg	1	8/4/23 17:15
Cyclohexene, 1-methyl- (02)	0.0488	12.79	J	mg/kg	1	8/4/23 17:15
Octane	0.0937	13.38	J	mg/kg	1	8/4/23 17:15
Octane, 3-methyl-	0.0658	15.38	J	mg/kg	1	8/4/23 17:15
Octane, 4-methyl-	0.0628	15.16	J	mg/kg	1	8/4/23 17:15
Pentalene, octahydro-1-methyl-	0.0449	16.99	J	mg/kg	1	8/4/23 17:15
TIC Total	**1.16**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/9/23 21:33
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/9/23 21:33
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/9/23 21:33
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/9/23 21:33
Benzene	**0.0344**	D	**0.00129**	**0.0100**	**mg/L**	**10**	**8/9/23 21:33**
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/9/23 21:33
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/9/23 21:33
Chloroform	**0.0335**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/9/23 21:33**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/9/23 21:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-12 (Soil)

Sample Name: **MR-303-20.0-22.0-20230727**
Collected: **7/27/2023 9:11:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/9/23 21:33
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/9/23 21:33

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.5**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0170	0.143	mg/kg	1	8/9/23 9:45
Reactive Cyanide	**0.13**		**0.12**	**0.12**	**mg/kg**	**1**	**8/9/23 16:47**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.121	0.121	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.50**				**pH Units**	**1**	**7/28/23 11:57**

23G1483-13 (Soil)

Sample Name: **MR-303-35.0-37.0-20230727**
Collected: **7/27/2023 9:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00543	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1221	ND	U	0.0107	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1232	ND	U	0.0136	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1242	ND	U	0.00796	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1248	ND	U	0.00832	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1254	ND	U	0.00653	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1260	ND	U	0.00507	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1262	ND	U	0.0109	0.0405	mg/kg	1	8/8/23 12:40
Aroclor-1268	ND	U	0.00490	0.0405	mg/kg	1	8/8/23 12:40

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-202 30727** Collected: **7/27/2023 9:30:00AM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total PCBs	ND	U	0.00378	0.0405	mg/kg	1	8/8/23 12:40

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0120	0.123	mg/kg	1	8/11/23 14:41
2,4-D	ND	U	0.0204	0.123	mg/kg	1	8/11/23 14:41

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/15/23 11:54
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/15/23 11:54

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00613	0.0245	mg/kg	1	8/2/23 17:26

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:29

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5740**		**0.177**	**2.98**	**mg/kg**	**1**	**8/9/23 14:41**
Antimony	ND	U	0.162	1.49	mg/kg	1	8/9/23 14:41
Arsenic	ND	U	0.106	1.49	mg/kg	1	8/9/23 14:41
Barium	**35.5**		**0.0450**	**0.595**	**mg/kg**	**1**	**8/9/23 14:41**
Beryllium	**0.465**		**0.00345**	**0.0298**	**mg/kg**	**1**	**8/9/23 14:41**
Cadmium	ND	U	0.0580	0.298	mg/kg	1	8/9/23 14:41
Calcium	**12300**		**3.35**	**29.8**	**mg/kg**	**1**	**8/9/23 14:41**
Chromium	**10.8**		**0.0336**	**0.298**	**mg/kg**	**1**	**8/9/23 14:41**
Cobalt	**4.82**		**0.0304**	**0.238**	**mg/kg**	**1**	**8/9/23 14:41**
Copper	**13.2**		**0.0833**	**0.298**	**mg/kg**	**1**	**8/9/23 14:41**
Iron	**11900**		**0.843**	**5.95**	**mg/kg**	**1**	**8/9/23 14:41**
Lead	**4.10**		**0.124**	**1.49**	**mg/kg**	**1**	**8/9/23 14:41**
Magnesium	**5920**		**10.5**	**59.5**	**mg/kg**	**1**	**8/9/23 14:41**
Manganese	**375**		**0.0370**	**0.298**	**mg/kg**	**1**	**8/9/23 14:41**
Nickel	**14.7**		**0.0262**	**0.149**	**mg/kg**	**1**	**8/9/23 14:41**
Potassium	**1390**		**35.4**	**119**	**mg/kg**	**1**	**8/9/23 14:41**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.286	1.49	mg/kg	1	8/9/23 14:41	UJ, RC:6L
Silver	ND	U	0.0506	0.179	mg/kg	1	8/9/23 14:41	
Sodium	**416**		**5.68**	**59.5**	**mg/kg**	**1**	**8/9/23 14:41**	
Thallium	ND	U	0.100	1.49	mg/kg	1	8/9/23 14:41	
Vanadium	**13.9**		**0.0685**	**0.595**	**mg/kg**	**1**	**8/9/23 14:41**	
Zinc	**25.9**		**0.0910**	**0.893**	**mg/kg**	**1**	**8/9/23 14:41**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:13
Barium	**1.04**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:13**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:13
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:13
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:13
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:13
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:13

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000730	0.00159	mg/kg	1	8/8/23 21:38	
4,4'-DDE	ND	U	0.000872	0.00159	mg/kg	1	8/8/23 21:38	
4,4'-DDT	ND	U	0.00113	0.00159	mg/kg	1	8/8/23 21:38	
Aldrin	ND	U	0.000756	0.00159	mg/kg	1	8/8/23 21:38	
alpha-BHC	ND	U	0.000475	0.00159	mg/kg	1	8/8/23 21:38	
beta-BHC	ND	U	0.000762	0.00159	mg/kg	1	8/8/23 21:38	
Chlordane	ND	U	0.000709	0.00159	mg/kg	1	8/8/23 21:38	
delta-BHC	ND	U	0.000741	0.00159	mg/kg	1	8/8/23 21:38	
Dieldrin	ND	U	0.000834	0.00159	mg/kg	1	8/8/23 21:38	
Endosulfan I	ND	U	0.000753	0.00159	mg/kg	1	8/8/23 21:38	
Endosulfan II	ND	U	0.000725	0.00159	mg/kg	1	8/8/23 21:38	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000600	0.00159	mg/kg	1	8/8/23 21:38	
Endosulfans, Total (alpha and beta)	ND	U	0.000725	0.00159	mg/kg	1	8/8/23 21:38	
Endrin	ND	U	0.000551	0.00159	mg/kg	1	8/8/23 21:38	
Endrin aldehyde	ND	U	0.000635	0.00159	mg/kg	1	8/8/23 21:38	
Endrin ketone	ND	U	0.000562	0.00159	mg/kg	1	8/8/23 21:38	
gamma-BHC (Lindane)	ND	U	0.000505	0.00159	mg/kg	1	8/8/23 21:38	
Heptachlor	ND	U	0.000427	0.00159	mg/kg	1	8/8/23 21:38	

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor Epoxide	ND	U	0.000805	0.00159	mg/kg	1	8/8/23 21:38
Methoxychlor	ND	U	0.000467	0.00159	mg/kg	1	8/8/23 21:38
Toxaphene	ND	U	0.0768	0.0810	mg/kg	1	8/8/23 21:38

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 22:40	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 22:40	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 22:40	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 22:40	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 22:40	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 22:40	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 22:40	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 22:40	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 22:40	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 22:40	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 22:40	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 22:40	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 22:40	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 22:40	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 22:40	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 22:40	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 22:40	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 22:40	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 22:40	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 22:40	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00461	0.0408	mg/kg	1	8/3/23 23:30	
2,3,4,6-Tetrachlorophenol	ND	U	0.0251	0.163	mg/kg	1	8/3/23 23:30	
2,4,5-Trichlorophenol	ND	U	0.0222	0.163	mg/kg	1	8/3/23 23:30	
2,4,6-Trichlorophenol	ND	U	0.0102	0.163	mg/kg	1	8/3/23 23:30	
2,4-Dichlorophenol	ND	U	0.0164	0.163	mg/kg	1	8/3/23 23:30	
2,4-Dimethylphenol	ND	U	0.0161	0.163	mg/kg	1	8/3/23 23:30	
2,4-Dinitrophenol	~~ND~~	~~U~~	~~0.0236~~	~~0.818~~	mg/kg	1	8/3/23 23:30	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0174	0.163	mg/kg	1	8/3/23 23:30	
2,6-Dinitrotoluene	ND	U	0.0390	0.163	mg/kg	1	8/3/23 23:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-202 30727** Collected: **7/27/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Chloronaphthalene	ND	U	0.0188	0.163	mg/kg	1	8/3/23 23:30	
2-Chlorophenol	ND	U	0.0216	0.163	mg/kg	1	8/3/23 23:30	
2-Methylnaphthalene	**0.320**		**0.0391**	**0.245**	**mg/kg**	**1**	**8/3/23 23:30**	
2-Methylphenol	ND	U	0.0323	0.163	mg/kg	1	8/3/23 23:30	
2-Nitroaniline	ND	U	0.0131	0.163	mg/kg	1	8/3/23 23:30	
2-Nitrophenol	ND	U	0.0182	0.163	mg/kg	1	8/3/23 23:30	
3,3'-Dichlorobenzidine	ND	U	0.0172	0.163	mg/kg	1	8/3/23 23:30	
3+4-Methylphenol	ND	U	0.0299	0.163	mg/kg	1	8/3/23 23:30	
3-Nitroaniline	ND	U	0.0303	0.163	mg/kg	1	8/3/23 23:30	
4,6-Dinitro-2-methylphenol	ND	U	0.0308	0.408	mg/kg	1	8/3/23 23:30	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0233	0.163	mg/kg	1	8/3/23 23:30	
4-Chloro-3-methylphenol	ND	U	0.0258	0.163	mg/kg	1	8/3/23 23:30	
4-Chloroaniline	ND	U	0.00572	0.163	mg/kg	1	8/3/23 23:30	
4-Chlorophenyl phenyl ether	ND	U	0.00882	0.163	mg/kg	1	8/3/23 23:30	
4-Nitroaniline	ND	U	0.0817	0.163	mg/kg	1	8/3/23 23:30	
4-Nitrophenol	ND	U	0.0105	0.163	mg/kg	1	8/3/23 23:30	
Acenaphthene	**0.237**		**0.00931**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Acenaphthylene	**0.0739**	J	**0.00568**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	J, RC:6H
Acetophenone	ND	U	0.0162	0.163	mg/kg	1	8/3/23 23:30	
Anthracene	**0.169**		**0.0237**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Atrazine	ND	U	0.0153	0.163	mg/kg	1	8/3/23 23:30	
Benzaldehyde	ND	U	0.0502	0.163	mg/kg	1	8/3/23 23:30	
Benzo(a)anthracene	**0.0860**	J	**0.0164**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Benzo(a)pyrene	**0.0716**	J	**0.0285**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Benzo(b)fluoranthene	**0.0382**	J	**0.0229**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Benzo(g,h,i)perylene	**0.0311**	J	**0.0132**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Benzo(k)fluoranthene	ND	U	0.0188	0.163	mg/kg	1	8/3/23 23:30	
Biphenyl	**0.0388**	J	**0.0144**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
bis(2-chloroethoxy)methane	ND	U	0.0226	0.163	mg/kg	1	8/3/23 23:30	
bis(2-chloroethyl)ether	ND	U	0.0179	0.163	mg/kg	1	8/3/23 23:30	
bis(2-chloroisopropyl)ether	ND	U	0.0588	0.163	mg/kg	1	8/3/23 23:30	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0326	0.163	mg/kg	1	8/3/23 23:30	
Butylbenzylphthalate	ND	U	0.0148	0.163	mg/kg	1	8/3/23 23:30	
Caprolactam	ND	U	0.0211	0.163	mg/kg	1	8/3/23 23:30	
Carbazole	ND	U	0.0314	0.408	mg/kg	1	8/3/23 23:30	
Chrysene	**0.0897**	J	**0.0112**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Dibenzo(a,h)anthracene	ND	U	0.0162	0.163	mg/kg	1	8/3/23 23:30	
Dibenzofuran	ND	U	0.00973	0.163	mg/kg	1	8/3/23 23:30	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Diethylphthalate	ND	U	0.0316	0.163	mg/kg	1	8/3/23 23:30	
Dimethylphthalate	ND	U	0.0101	0.163	mg/kg	1	8/3/23 23:30	
Di-n-butylphthalate	ND	U	0.0667	0.163	mg/kg	1	8/3/23 23:30	
Di-n-octylphthalate	ND	U	0.0335	0.163	mg/kg	1	8/3/23 23:30	
Fluoranthene	**0.134**	J	**0.0153**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Fluorene	**0.183**		**0.0136**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Hexachlorobenzene	ND	U	0.0213	0.163	mg/kg	1	8/3/23 23:30	
Hexachlorobutadiene	ND	U	0.0784	0.163	mg/kg	1	8/3/23 23:30	
Hexachlorocyclopentadiene	ND	U	0.0681	0.408	mg/kg	1	8/3/23 23:30	UJ, RC:SL
Hexachloroethane	ND	U	0.0179	0.163	mg/kg	1	8/3/23 23:30	
Indeno(1,2,3-cd)pyrene	ND	U	0.0175	0.163	mg/kg	1	8/3/23 23:30	
Isophorone	ND	U	0.0107	0.163	mg/kg	1	8/3/23 23:30	
Naphthalene	**0.330**		**0.0121**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Nitrobenzene	ND	U	0.0277	0.163	mg/kg	1	8/3/23 23:30	
n-Nitroso-di-n-propylamine	ND	U	0.00875	0.163	mg/kg	1	8/3/23 23:30	
n-Nitrosodiphenylamine	ND	U	0.0348	0.163	mg/kg	1	8/3/23 23:30	
Pentachlorophenol	ND	U	0.0224	0.408	mg/kg	1	8/3/23 23:30	UJ, RC:SL
Phenanthrene	**0.527**		**0.0215**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	
Phenol	ND	U	0.0132	0.163	mg/kg	1	8/3/23 23:30	
Pyrene	**0.243**		**0.0120**	**0.163**	**mg/kg**	**1**	**8/3/23 23:30**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	10.1	11.78	J	mg/kg	1	8/3/23 23:30
Octadecanoic acid, 2-methylpropyl ester	5.75	12.56	J	mg/kg	1	8/3/23 23:30
TIC Total	**15.9**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/10/23 20:42
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/10/23 20:42
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/10/23 20:42
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/10/23 20:42
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/10/23 20:42
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/10/23 20:42
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/10/23 20:42
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/10/23 20:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/10/23 20:42
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/10/23 20:42
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/10/23 20:42

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000263	0.00180	mg/kg	1	8/7/23 16:00	
1,1,2,2-Tetrachloroethane	ND	U	0.000249	0.00180	mg/kg	1	8/7/23 16:00	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000772	0.00180	mg/kg	1	8/7/23 16:00	
1,1,2-Trichloroethane	ND	U	0.000304	0.00180	mg/kg	1	8/7/23 16:00	
1,1-Dichloroethane	ND	U	0.000263	0.00180	mg/kg	1	8/7/23 16:00	
1,1-Dichloroethene	ND	U	0.000334	0.00180	mg/kg	1	8/7/23 16:00	
1,2,3-Trichlorobenzene	ND	U	0.000390	0.00180	mg/kg	1	8/7/23 16:00	
1,2,4-Trichlorobenzene	ND	U	0.000481	0.00180	mg/kg	1	8/7/23 16:00	
1,2,4-Trimethylbenzene	**1.45**	D	**0.0584**	**0.423**	**mg/kg**	**131**	**8/8/23 12:30**	
1,2-Dibromo-3-chloropropane	ND	U	0.000440	0.00451	mg/kg	1	8/7/23 16:00	
1,2-Dibromoethane	ND	U	0.000227	0.00180	mg/kg	1	8/7/23 16:00	
1,2-Dichlorobenzene	ND	U	0.000318	0.00180	mg/kg	1	8/7/23 16:00	
1,2-Dichloroethane	ND	U	0.000254	0.00180	mg/kg	1	8/7/23 16:00	
1,2-Dichloropropane	ND	U	0.000296	0.00180	mg/kg	1	8/7/23 16:00	
1,3-Dichlorobenzene	ND	U	0.000133	0.00180	mg/kg	1	8/7/23 16:00	
1,4-Dichlorobenzene	ND	U	0.000260	0.00180	mg/kg	1	8/7/23 16:00	
2-Butanone	ND	U	0.000294	0.00902	mg/kg	1	8/7/23 16:00	
2-Hexanone	ND	U	0.000169	0.00180	mg/kg	1	8/7/23 16:00	
4-Methyl-2-pentanone	ND	U	0.000225	0.00180	mg/kg	1	8/7/23 16:00	
Acetone	ND	U	0.000547	0.0451	mg/kg	1	8/7/23 16:00	
Benzene	**0.288**		**0.000164**	**0.00180**	**mg/kg**	**1**	**8/7/23 16:00**	
Bromochloromethane	ND	U	0.000333	0.00180	mg/kg	1	8/7/23 16:00	
Bromodichloromethane	ND	U	0.000226	0.00180	mg/kg	1	8/7/23 16:00	
Bromoform	ND	U	0.000317	0.00180	mg/kg	1	8/7/23 16:00	
Bromomethane	ND	U	0.000520	0.00180	mg/kg	1	8/7/23 16:00	
Carbon disulfide	**0.00248**		**0.000259**	**0.00180**	**mg/kg**	**1**	**8/7/23 16:00**	
Carbon Tetrachloride	ND	U	0.000271	0.00180	mg/kg	1	8/7/23 16:00	
Chlorobenzene	ND	U	0.000262	0.00180	mg/kg	1	8/7/23 16:00	
Chlorodibromomethane	ND	U	0.000222	0.00180	mg/kg	1	8/7/23 16:00	
Chloroethane	ND	U	0.000308	0.00180	mg/kg	1	8/7/23 16:00	UJ, RC:SL
Chloroform	ND	U	0.000303	0.00180	mg/kg	1	8/7/23 16:00	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	ND	U	0.000695	0.00180	mg/kg	1	8/7/23 16:00
cis-1,2-Dichloroethene	ND	U	0.0000872	0.00180	mg/kg	1	8/7/23 16:00
cis-1,3-Dichloropropene	ND	U	0.000228	0.00180	mg/kg	1	8/7/23 16:00
Cyclohexane	ND	U	0.000400	0.00180	mg/kg	1	8/7/23 16:00
Dichlorodifluoromethane	ND	U	0.000609	0.00180	mg/kg	1	8/7/23 16:00
EthylBenzene	**1.84**	D	**0.0573**	**0.423**	**mg/kg**	**131**	**8/8/23 12:30**
Isopropylbenzene	**0.126**		**0.000283**	**0.00180**	**mg/kg**	**1**	**8/7/23 16:00**
m+p-Xylenes	**1.69**	D	**0.107**	**0.846**	**mg/kg**	**131**	**8/8/23 12:30**
Methyl Acetate	ND	U	0.000239	0.00180	mg/kg	1	8/7/23 16:00
Methyl tert-Butyl Ether	ND	U	0.000305	0.00180	mg/kg	1	8/7/23 16:00
Methylcyclohexane	**0.00300**		**0.000290**	**0.00180**	**mg/kg**	**1**	**8/7/23 16:00**
Methylene Chloride	ND	U	0.000542	0.00451	mg/kg	1	8/7/23 16:00
o-Xylene	**0.776**	D	**0.0543**	**0.423**	**mg/kg**	**131**	**8/8/23 12:30**
Styrene	ND	U	0.000258	0.00180	mg/kg	1	8/7/23 16:00
tert-Butyl alcohol	ND	U	0.00379	0.0180	mg/kg	1	8/7/23 16:00
Tetrachloroethene	ND	U	0.000179	0.00180	mg/kg	1	8/7/23 16:00
Toluene	**1.15**	D	**0.0340**	**0.423**	**mg/kg**	**131**	**8/8/23 12:30**
Total Xylenes	**2.47**	D	**0.0543**	**0.423**	**mg/kg**	**131**	**8/8/23 12:30**
trans-1,2-Dichloroethene	ND	U	0.000244	0.00180	mg/kg	1	8/7/23 16:00
trans-1,3-Dichloropropene	ND	U	0.000345	0.00180	mg/kg	1	8/7/23 16:00
Trichloroethene	ND	U	0.000265	0.00180	mg/kg	1	8/7/23 16:00
Trichlorofluoromethane	ND	U	0.000207	0.00180	mg/kg	1	8/7/23 16:00
Vinyl chloride	ND	U	0.000343	0.00180	mg/kg	1	8/7/23 16:00

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	0.0841	20.79	J	mg/kg	1	8/7/23 16:00
2-Methylindene	0.0770	20.63	J	mg/kg	1	8/7/23 16:00
Benzene, 1,2,3-trimethyl-	0.0578	16.64	J	mg/kg	1	8/7/23 16:00
Benzene, 1,3,5-trimethyl-	0.0741	17.93	J	mg/kg	1	8/7/23 16:00
Benzene, 1,3-diethyl-	0.0517	18.44	J	mg/kg	1	8/7/23 16:00
Benzene, 1-ethenyl-2-methyl-	0.0439	17.35	J	mg/kg	1	8/7/23 16:00
Benzene, 1-ethyl-2,3-dimethyl-	0.0622	19.05	J	mg/kg	1	8/7/23 16:00
Benzene, 1-ethyl-2-methyl-	0.106	16.53	J	mg/kg	1	8/7/23 16:00
Benzene, 1-ethyl-3-methyl-	0.250	16.47	J	mg/kg	1	8/7/23 16:00
Benzene, 1-methyl-2-(1-methylethyl)-	0.0385	20.49	J	mg/kg	1	8/7/23 16:00

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23G1483
Date to Lab: 7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-methyl-4-(1-methylethyl)-	0.0489	17.68	J	mg/kg	1	8/7/23 16:00
Benzene, 1-propenyl-	0.0854	18.26	J	mg/kg	1	8/7/23 16:00
Benzene, 2-propenyl-	0.0404	18.04	J	mg/kg	1	8/7/23 16:00
Indene	0.472	18.65	J	mg/kg	1	8/7/23 16:00
TIC:Naphthalene	0.303	21.58	J	mg/kg	1	8/7/23 16:00
TIC Total	**1.80**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/9/23 21:58
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/9/23 21:58
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/9/23 21:58
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/9/23 21:58
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/9/23 21:58
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/9/23 21:58
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/9/23 21:58
Chloroform	**0.0274**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/9/23 21:58**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/9/23 21:58
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/9/23 21:58
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/9/23 21:58

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.5**				**%**	**1**	**7/28/23 12:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/1/23 17:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0165	0.139	mg/kg	1	8/9/23 9:45
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/9/23 16:47

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1483
Project:	Red Hook-Gowanus	**Date to Lab:**	7/27/2023 3:07:00PM

23G1483-13 (Soil) Sample Name: **MR-303-35.0-37.0-20230727** Collected: **7/27/2023 9:30:00AM**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.123	0.123	mg/kg	1	8/1/23 11:04

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.05**				**pH Units**	**1**	**7/28/23 11:57**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23G1576
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 13, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-303-75.0-77.0-20230728	23G1576-01	7/28/2023	Soil

Data validation was performed on the analytical data for one (1) sample collected July 28, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOC 2,4-Dinitrophenol was qualified as rejected due low laboratory control sample recoveries. Additionally, minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibrations, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30%

relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-303-75.0-77.0-20230728	Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
8260D-TCLP	MR-303-75.0-77.0-20230728	Bromoform	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-303-75.0-77.0-20230728	2,4-Dinitrophenol	10% > %R < CL	J (Detects) R (NDs)	6L
		Butylbenzylphthalate	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-303-75.0-77.0-20230728	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol 4-Nitrophenol Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		1,4-Dioxane bis(2-chloroethyl)ether Di-n-octylphthalate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8270E-TCLP	MR-303-75.0-77.0-20230728	2,4,6-Trichlorophenol 2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	MR-303-75.0-77.0-20230728	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
8081B TCLP	MR-303-75.0-77.0-20230728	4,4'-DDD 4,4'-DDE Endosulfan I Endosulfan II gamma-Chlordane Methoxychlor	>CL	J (Detects) No action (NDs)	6H
		Endosulfan sulfate	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MR-303-75.0-77.0-20230728	Selenium	20% < %R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 13, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23G1576

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 16, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23G1576

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-303-75.0-77.0-20230728	23G1576-01	Soil	07/28/2023 07:35	07/28/2023 18:31

PN: 23G1576

APL
APL 23G1576
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23G1576

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☐ LOW

CHAIN OF CUSTODY

CLIENT: YU & ASSOCIATES	SEND REPORT TO:
ADDRESS: 611 RIVER DR ELMWOOD PARK, NJ 07407	ADDRESS:
PHONE: 201-763-9621	PHONE:
E-MAIL: SWANG@YU-ASSOCIATES.COM	FAX:
PROJECT NAME: GOWANUS PID INVESTIGATION	SEND INVOICE TO:
PROJECT MGR: SIXUAN WANG	ADDRESS:
PROJECT or PO #: 1568541	SAMPLED BY:

TURN-AROUND TIME
- ☒ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required
  - ☐ 48 hr. date & time required
  - ☐ 72 hr. date & time required
  - ☐ 1 week

REPORT FORMAT
- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP#
PWSID#
☒ NYS CAT B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
-01	MR-303-75.0-77.0-20230728	7/28/23	0735	X		S	5		VOC TCLP SVOC, SVOC, TAL METALS, PESTICIDES/HERBICIDES, PCB, TCN, RCRA, TCLP-VOA, BNA, PEST, HERB, METALS

RELINQUISHED BY (Print) MARLENA KOZYRA	DATE 7/28/23	RECEIVED BY (Print)	
Signature	Time 2:10	Signature JAVIER RAEZ	
RELINQUISHED BY (Print) J. RAEZ	DATE 7/28/23	RECEIVED BY (Print) Marlen Delgado	7/28/23
Signature	Time 18:20	Signature	18:30
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
COMMENTS/SPECIAL INSTRUCTIONS		Cooler Temp. upon receipt at lab 4.0	

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or
NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / General Chemistry]

Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spike (low).
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Methods 1311/6010D / 7473 / 1311/7470A / General Chemistry:
Sample 23G1576-01 met all QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23G1576-01 met all QC criteria.

ANALYSIS: PCBs [8082A]
Sample 23G1576-01 met all QC criteria.

ANALYSIS: PESTICIDES [8081B]

Batch BAH0275:
The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).
The percent recovery for Methoxychlor was outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Batch BAH0321:
The percent recoveries for several compounds were outside of the QC limits for the blank spikes (low and high).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations (SAH0116-CCV1, SAH0222-CCV1) were outside of the QC limits for some compounds (low and high).

The percent recovery for 2,4-Dinitrophenol was outside of the QC limits for the blank spike (low).
The percent recoveries for several compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAH0131-CCV1) was outside of the QC limits for Acetone (high) and Chloroethane (low).



Reviewed By: _____ (SK) 10/19/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4300		0.169	2.84	mg/kg dry	1	8/11/23 9:56
Arsenic	1.58		0.101	1.42	mg/kg dry	1	8/11/23 9:56
Barium	39.9		0.0430	0.568	mg/kg dry	1	8/11/23 9:56
Beryllium	0.473		0.00329	0.0284	mg/kg dry	1	8/11/23 9:56
Calcium	7760		3.20	28.4	mg/kg dry	1	8/11/23 9:56
Chromium	8.30		0.0321	0.284	mg/kg dry	1	8/11/23 9:56
Cobalt	2.95		0.0290	0.227	mg/kg dry	1	8/11/23 9:56
Copper	8.95		0.0795	0.284	mg/kg dry	1	8/11/23 9:56
Iron	8890		0.805	5.68	mg/kg dry	1	8/11/23 9:56
Lead	5.80		0.119	1.42	mg/kg dry	1	8/11/23 9:56
Magnesium	3530		10.0	56.8	mg/kg dry	1	8/11/23 9:56
Manganese	191		0.0353	0.284	mg/kg dry	1	8/11/23 9:56
Nickel	8.44		0.0250	0.142	mg/kg dry	1	8/11/23 9:56
Potassium	1150		33.8	114	mg/kg dry	1	8/11/23 9:56
Sodium	215		5.42	56.8	mg/kg dry	1	8/11/23 9:56
Vanadium	13.9		0.0653	0.568	mg/kg dry	1	8/11/23 9:56
Zinc	24.3		0.0868	0.852	mg/kg dry	1	8/11/23 9:56

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.30		0.00279	0.100	mg/L	1	8/10/23 10:16

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.233		0.00888	0.156	mg/kg dry	1	8/4/23 0:31
Acenaphthylene	0.0527	J	0.00542	0.156	mg/kg dry	1	8/4/23 0:31
Anthracene	0.145	J	0.0226	0.156	mg/kg dry	1	8/4/23 0:31
Benzo(a)anthracene	0.0732	J	0.0157	0.156	mg/kg dry	1	8/4/23 0:31
Benzo(a)pyrene	0.0593	J	0.0272	0.156	mg/kg dry	1	8/4/23 0:31
Benzo(b)fluoranthene	0.0333	J	0.0219	0.156	mg/kg dry	1	8/4/23 0:31
Biphenyl	0.0300	J	0.0137	0.156	mg/kg dry	1	8/4/23 0:31
Chrysene	0.0756	J	0.0107	0.156	mg/kg dry	1	8/4/23 0:31
Fluoranthene	0.133	J	0.0146	0.156	mg/kg dry	1	8/4/23 0:31
Fluorene	0.120	J	0.0130	0.156	mg/kg dry	1	8/4/23 0:31
Naphthalene	0.0464	J	0.0115	0.156	mg/kg dry	1	8/4/23 0:31
Phenanthrene	0.473		0.0205	0.156	mg/kg dry	1	8/4/23 0:31
Pyrene	0.229		0.0115	0.156	mg/kg dry	1	8/4/23 0:31
TIC_Hexadecanoic acid, butyl ester	2.72	J			mg/kg dry	1	8/4/23 0:31

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Octadecanoic acid, butyl ester	1.59	J			mg/kg dry	1	8/4/23 0:31

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.0343		0.000221	0.00160	mg/kg dry	1	8/7/23 18:58
Benzene	0.00973		0.000146	0.00160	mg/kg dry	1	8/7/23 18:58
EthylBenzene	0.0472		0.000217	0.00160	mg/kg dry	1	8/7/23 18:58
Isopropylbenzene	0.00729		0.000252	0.00160	mg/kg dry	1	8/7/23 18:58
m+p-Xylenes	0.0386		0.000405	0.00321	mg/kg dry	1	8/7/23 18:58
o-Xylene	0.0225		0.000206	0.00160	mg/kg dry	1	8/7/23 18:58
Toluene	0.0346		0.000129	0.00160	mg/kg dry	1	8/7/23 18:58
Total Xylenes	0.0611		0.000206	0.00160	mg/kg dry	1	8/7/23 18:58
Trichloroethene	0.00386		0.000236	0.00160	mg/kg dry	1	8/7/23 18:58
TIC_2-Methylindene	0.0464	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0658	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, 1,3,5-trimethyl-	0.0132	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, 1,3-diethyl-	0.0175	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, 1-ethyl-2-methyl-	0.0390	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.0181	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	0.0178	J			mg/kg dry	1	8/7/23 18:58
TIC_Benzene, 2-ethenyl-1,3-dimethyl-	0.0136	J			mg/kg dry	1	8/7/23 18:58
TIC_Indene	0.0920	J			mg/kg dry	1	8/7/23 18:58
TIC_Naphthalene, 1,2-dihydro-3-methyl-	0.0151	J			mg/kg dry	1	8/7/23 18:58
TIC_Naphthalene, 1,2-dihydro-4-methyl-	0.0139	J			mg/kg dry	1	8/7/23 18:58
TIC_Naphthalene, 1,2-dihydro-6-methyl-	0.0167	J			mg/kg dry	1	8/7/23 18:58
TIC_Naphthalene, 1-methyl-	0.124	J			mg/kg dry	1	8/7/23 18:58
TIC_Naphthalene, 2-methyl-	0.0852	J			mg/kg dry	1	8/7/23 18:58
TIC_TIC:Naphthalene	0.345	J			mg/kg dry	1	8/7/23 18:58

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.0333	D	0.00365	0.0100	mg/L	10	8/9/23 22:24

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	10.4				pH Units	1	7/31/23 11:18

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23G1576
Project:	Owls Head Phase 2	**Date to Lab:**	7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00518	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1221	ND	U	0.0102	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1232	ND	U	0.0130	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1242	ND	U	0.00759	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1248	ND	U	0.00794	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1254	ND	U	0.00623	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1260	ND	U	0.00484	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1262	ND	U	0.0104	0.0386	mg/kg	1	8/8/23 13:02
Aroclor-1268	ND	U	0.00467	0.0386	mg/kg	1	8/8/23 13:02
Total PCBs	ND	U	0.00361	0.0386	mg/kg	1	8/8/23 13:02

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0115	0.117	mg/kg	1	8/11/23 14:50
2,4-D	ND	U	0.0194	0.117	mg/kg	1	8/11/23 14:50

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/15/23 12:03
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/15/23 12:03

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00585	0.0234	mg/kg	1	8/3/23 15:05

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/8/23 15:37

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4300**		**0.169**	**2.84**	**mg/kg**	**1**	**8/11/23 9:56**
Antimony	ND	U	0.155	1.42	mg/kg	1	8/11/23 9:56
Arsenic	**1.58**		**0.101**	**1.42**	**mg/kg**	**1**	**8/11/23 9:56**
Barium	**39.9**		**0.0430**	**0.568**	**mg/kg**	**1**	**8/11/23 9:56**
Beryllium	**0.473**		**0.00329**	**0.0284**	**mg/kg**	**1**	**8/11/23 9:56**
Cadmium	ND	U	0.0554	0.284	mg/kg	1	8/11/23 9:56
Calcium	**7760**		**3.20**	**28.4**	**mg/kg**	**1**	**8/11/23 9:56**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**8.30**		**0.0321**	**0.284**	**mg/kg**	**1**	**8/11/23 9:56**	
Cobalt	**2.95**		**0.0290**	**0.227**	**mg/kg**	**1**	**8/11/23 9:56**	
Copper	**8.95**		**0.0795**	**0.284**	**mg/kg**	**1**	**8/11/23 9:56**	
Iron	**8890**		**0.805**	**5.68**	**mg/kg**	**1**	**8/11/23 9:56**	
Lead	**5.80**		**0.119**	**1.42**	**mg/kg**	**1**	**8/11/23 9:56**	
Magnesium	**3530**		**10.0**	**56.8**	**mg/kg**	**1**	**8/11/23 9:56**	
Manganese	**191**		**0.0353**	**0.284**	**mg/kg**	**1**	**8/11/23 9:56**	
Nickel	**8.44**		**0.0250**	**0.142**	**mg/kg**	**1**	**8/11/23 9:56**	
Potassium	**1150**		**33.8**	**114**	**mg/kg**	**1**	**8/11/23 9:56**	
Selenium	ND	U	0.273	1.42	mg/kg	1	8/11/23 9:56	UJ, RC:6L
Silver	ND	U	0.0483	0.170	mg/kg	1	8/11/23 9:56	
Sodium	**215**		**5.42**	**56.8**	**mg/kg**	**1**	**8/11/23 9:56**	
Thallium	ND	U	0.0956	1.42	mg/kg	1	8/11/23 9:56	
Vanadium	**13.9**		**0.0653**	**0.568**	**mg/kg**	**1**	**8/11/23 9:56**	
Zinc	**24.3**		**0.0868**	**0.852**	**mg/kg**	**1**	**8/11/23 9:56**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/10/23 10:16
Barium	**1.30**		**0.00279**	**0.100**	**mg/L**	**1**	**8/10/23 10:16**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/10/23 10:16
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/10/23 10:16
Lead	ND	U	0.0255	0.250	mg/L	1	8/10/23 10:16
Selenium	ND	U	0.0760	0.250	mg/L	1	8/10/23 10:16
Silver	ND	U	0.0232	0.100	mg/L	1	8/10/23 10:16

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000697	0.00152	mg/kg	1	8/8/23 22:01	
4,4'-DDE	ND	U	0.000832	0.00152	mg/kg	1	8/8/23 22:01	
4,4'-DDT	ND	U	0.00107	0.00152	mg/kg	1	8/8/23 22:01	
Aldrin	ND	U	0.000721	0.00152	mg/kg	1	8/8/23 22:01	
alpha-BHC	ND	U	0.000453	0.00152	mg/kg	1	8/8/23 22:01	
beta-BHC	ND	U	0.000727	0.00152	mg/kg	1	8/8/23 22:01	
Chlordane	ND	U	0.000677	0.00152	mg/kg	1	8/8/23 22:01	
delta-BHC	ND	U	0.000707	0.00152	mg/kg	1	8/8/23 22:01	
Dieldrin	ND	U	0.000796	0.00152	mg/kg	1	8/8/23 22:01	
Endosulfan I	ND	U	0.000719	0.00152	mg/kg	1	8/8/23 22:01	UJ, RC:6L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000692	0.00152	mg/kg	1	8/8/23 22:01
Endosulfan sulfate	ND	U	0.000572	0.00152	mg/kg	1	8/8/23 22:01
Endosulfans, Total (alpha and beta)	ND	U	0.000692	0.00152	mg/kg	1	8/8/23 22:01
Endrin	ND	U	0.000526	0.00152	mg/kg	1	8/8/23 22:01
Endrin aldehyde	ND	U	0.000606	0.00152	mg/kg	1	8/8/23 22:01
Endrin ketone	ND	U	0.000536	0.00152	mg/kg	1	8/8/23 22:01
gamma-BHC (Lindane)	ND	U	0.000482	0.00152	mg/kg	1	8/8/23 22:01
Heptachlor	ND	U	0.000407	0.00152	mg/kg	1	8/8/23 22:01
Heptachlor Epoxide	ND	U	0.000768	0.00152	mg/kg	1	8/8/23 22:01
Methoxychlor	ND	U	0.000446	0.00152	mg/kg	1	8/8/23 22:01
Toxaphene	ND	U	0.0733	0.0773	mg/kg	1	8/8/23 22:01

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/10/23 22:22	
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/10/23 22:22	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/10/23 22:22	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/10/23 22:22	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/10/23 22:22	
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/10/23 22:22	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/10/23 22:22	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/10/23 22:22	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/10/23 22:22	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/10/23 22:22	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/10/23 22:22	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/10/23 22:22	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/10/23 22:22	
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/10/23 22:22	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/10/23 22:22	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/10/23 22:22	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/10/23 22:22	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/10/23 22:22	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/10/23 22:22	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/10/23 22:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00440	0.0390	mg/kg	1	8/4/23 0:31	
2,3,4,6-Tetrachlorophenol	ND	U	0.0240	0.156	mg/kg	1	8/4/23 0:31	
2,4,5-Trichlorophenol	ND	U	0.0212	0.156	mg/kg	1	8/4/23 0:31	
2,4,6-Trichlorophenol	ND	U	0.00975	0.156	mg/kg	1	8/4/23 0:31	
2,4-Dichlorophenol	ND	U	0.0157	0.156	mg/kg	1	8/4/23 0:31	
2,4-Dimethylphenol	ND	U	0.0153	0.156	mg/kg	1	8/4/23 0:31	
2,4-Dinitrophenol	~~ND~~	~~U~~	0.0225	0.781	mg/kg	1	8/4/23 0:31	R, RC:6L,SL
2,4-Dinitrotoluene	ND	U	0.0166	0.156	mg/kg	1	8/4/23 0:31	
2,6-Dinitrotoluene	ND	U	0.0372	0.156	mg/kg	1	8/4/23 0:31	
2-Chloronaphthalene	ND	U	0.0179	0.156	mg/kg	1	8/4/23 0:31	
2-Chlorophenol	ND	U	0.0206	0.156	mg/kg	1	8/4/23 0:31	
2-Methylnaphthalene	ND	U	0.0373	0.234	mg/kg	1	8/4/23 0:31	
2-Methylphenol	ND	U	0.0308	0.156	mg/kg	1	8/4/23 0:31	
2-Nitroaniline	ND	U	0.0125	0.156	mg/kg	1	8/4/23 0:31	
2-Nitrophenol	ND	U	0.0173	0.156	mg/kg	1	8/4/23 0:31	
3,3'-Dichlorobenzidine	ND	U	0.0164	0.156	mg/kg	1	8/4/23 0:31	
3+4-Methylphenol	ND	U	0.0286	0.156	mg/kg	1	8/4/23 0:31	
3-Nitroaniline	ND	U	0.0289	0.156	mg/kg	1	8/4/23 0:31	
4,6-Dinitro-2-methylphenol	ND	U	0.0294	0.390	mg/kg	1	8/4/23 0:31	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0222	0.156	mg/kg	1	8/4/23 0:31	
4-Chloro-3-methylphenol	ND	U	0.0246	0.156	mg/kg	1	8/4/23 0:31	
4-Chloroaniline	ND	U	0.00545	0.156	mg/kg	1	8/4/23 0:31	
4-Chlorophenyl phenyl ether	ND	U	0.00842	0.156	mg/kg	1	8/4/23 0:31	
4-Nitroaniline	ND	U	0.0780	0.156	mg/kg	1	8/4/23 0:31	
4-Nitrophenol	ND	U	0.00997	0.156	mg/kg	1	8/4/23 0:31	UJ, RC:SL
Acenaphthene	**0.233**		**0.00888**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Acenaphthylene	**0.0527**	J	**0.00542**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Acetophenone	ND	U	0.0155	0.156	mg/kg	1	8/4/23 0:31	
Anthracene	**0.145**	J	**0.0226**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Atrazine	ND	U	0.0146	0.156	mg/kg	1	8/4/23 0:31	
Benzaldehyde	ND	U	0.0479	0.156	mg/kg	1	8/4/23 0:31	UJ, RC:Q,SL
Benzo(a)anthracene	**0.0732**	J	**0.0157**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Benzo(a)pyrene	**0.0593**	J	**0.0272**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Benzo(b)fluoranthene	**0.0333**	J	**0.0219**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Benzo(g,h,i)perylene	ND	U	0.0126	0.156	mg/kg	1	8/4/23 0:31	
Benzo(k)fluoranthene	ND	U	0.0179	0.156	mg/kg	1	8/4/23 0:31	
Biphenyl	**0.0300**	J	**0.0137**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
bis(2-chloroethoxy)methane	ND	U	0.0215	0.156	mg/kg	1	8/4/23 0:31	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0171	0.156	mg/kg	1	8/4/23 0:31	
bis(2-chloroisopropyl)ether	ND	U	0.0561	0.156	mg/kg	1	8/4/23 0:31	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0311	0.156	mg/kg	1	8/4/23 0:31	
Butylbenzylphthalate	ND	U	0.0142	0.156	mg/kg	1	8/4/23 0:31	
Caprolactam	ND	U	0.0201	0.156	mg/kg	1	8/4/23 0:31	
Carbazole	ND	U	0.0300	0.390	mg/kg	1	8/4/23 0:31	
Chrysene	**0.0756**	J	**0.0107**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Dibenzo(a,h)anthracene	ND	U	0.0155	0.156	mg/kg	1	8/4/23 0:31	
Dibenzofuran	ND	U	0.00928	0.156	mg/kg	1	8/4/23 0:31	
Diethylphthalate	ND	U	0.0302	0.156	mg/kg	1	8/4/23 0:31	
Dimethylphthalate	ND	U	0.00967	0.156	mg/kg	1	8/4/23 0:31	
Di-n-butylphthalate	ND	U	0.0637	0.156	mg/kg	1	8/4/23 0:31	
Di-n-octylphthalate	ND	U	0.0320	0.156	mg/kg	1	8/4/23 0:31	
Fluoranthene	**0.133**	J	**0.0146**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Fluorene	**0.120**	J	**0.0130**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Hexachlorobenzene	ND	U	0.0204	0.156	mg/kg	1	8/4/23 0:31	
Hexachlorobutadiene	ND	U	0.0748	0.156	mg/kg	1	8/4/23 0:31	
Hexachlorocyclopentadiene	ND	U	0.0650	0.390	mg/kg	1	8/4/23 0:31	UJ, RC:SL
Hexachloroethane	ND	U	0.0171	0.156	mg/kg	1	8/4/23 0:31	
Indeno(1,2,3-cd)pyrene	ND	U	0.0167	0.156	mg/kg	1	8/4/23 0:31	
Isophorone	ND	U	0.0102	0.156	mg/kg	1	8/4/23 0:31	
Naphthalene	**0.0464**	J	**0.0115**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Nitrobenzene	ND	U	0.0265	0.156	mg/kg	1	8/4/23 0:31	
n-Nitroso-di-n-propylamine	ND	U	0.00835	0.156	mg/kg	1	8/4/23 0:31	
n-Nitrosodiphenylamine	ND	U	0.0332	0.156	mg/kg	1	8/4/23 0:31	
Pentachlorophenol	ND	U	0.0214	0.390	mg/kg	1	8/4/23 0:31	UJ, RC:SL
Phenanthrene	**0.473**		**0.0205**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	
Phenol	ND	U	0.0126	0.156	mg/kg	1	8/4/23 0:31	
Pyrene	**0.229**		**0.0115**	**0.156**	**mg/kg**	**1**	**8/4/23 0:31**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	2.72	11.78	J	mg/kg	1	8/4/23 0:31
Octadecanoic acid, butyl ester	1.59	12.55	J	mg/kg	1	8/4/23 0:31
TIC Total	**4.31**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-202 30728** Collected: **7/28/2023 7:35:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/10/23 21:14
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/10/23 21:14
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/10/23 21:14
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/10/23 21:14
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/10/23 21:14
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/10/23 21:14
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/10/23 21:14
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/10/23 21:14
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/10/23 21:14
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/10/23 21:14
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/10/23 21:14

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000234	0.00160	mg/kg	1	8/7/23 18:58
1,1,2,2-Tetrachloroethane	ND	U	0.000221	0.00160	mg/kg	1	8/7/23 18:58
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000686	0.00160	mg/kg	1	8/7/23 18:58
1,1,2-Trichloroethane	ND	U	0.000270	0.00160	mg/kg	1	8/7/23 18:58
1,1-Dichloroethane	ND	U	0.000234	0.00160	mg/kg	1	8/7/23 18:58
1,1-Dichloroethene	ND	U	0.000297	0.00160	mg/kg	1	8/7/23 18:58
1,2,3-Trichlorobenzene	ND	U	0.000346	0.00160	mg/kg	1	8/7/23 18:58
1,2,4-Trichlorobenzene	ND	U	0.000427	0.00160	mg/kg	1	8/7/23 18:58
1,2,4-Trimethylbenzene	**0.0343**		**0.000221**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**
1,2-Dibromo-3-chloropropane	ND	U	0.000391	0.00401	mg/kg	1	8/7/23 18:58
1,2-Dibromoethane	ND	U	0.000202	0.00160	mg/kg	1	8/7/23 18:58
1,2-Dichlorobenzene	ND	U	0.000283	0.00160	mg/kg	1	8/7/23 18:58
1,2-Dichloroethane	ND	U	0.000226	0.00160	mg/kg	1	8/7/23 18:58
1,2-Dichloropropane	ND	U	0.000263	0.00160	mg/kg	1	8/7/23 18:58
1,3-Dichlorobenzene	ND	U	0.000118	0.00160	mg/kg	1	8/7/23 18:58
1,4-Dichlorobenzene	ND	U	0.000231	0.00160	mg/kg	1	8/7/23 18:58
2-Butanone	ND	U	0.000261	0.00802	mg/kg	1	8/7/23 18:58
2-Hexanone	ND	U	0.000150	0.00160	mg/kg	1	8/7/23 18:58
4-Methyl-2-pentanone	ND	U	0.000200	0.00160	mg/kg	1	8/7/23 18:58
Acetone	ND	U	0.000486	0.0401	mg/kg	1	8/7/23 18:58
Benzene	**0.00973**		**0.000146**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**
Bromochloromethane	ND	U	0.000296	0.00160	mg/kg	1	8/7/23 18:58
Bromodichloromethane	ND	U	0.000201	0.00160	mg/kg	1	8/7/23 18:58

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000281	0.00160	mg/kg	1	8/7/23 18:58	
Bromomethane	ND	U	0.000463	0.00160	mg/kg	1	8/7/23 18:58	
Carbon disulfide	ND	U	0.000230	0.00160	mg/kg	1	8/7/23 18:58	
Carbon Tetrachloride	ND	U	0.000241	0.00160	mg/kg	1	8/7/23 18:58	
Chlorobenzene	ND	U	0.000233	0.00160	mg/kg	1	8/7/23 18:58	
Chlorodibromomethane	ND	U	0.000197	0.00160	mg/kg	1	8/7/23 18:58	
Chloroethane	ND	U	0.000273	0.00160	mg/kg	1	8/7/23 18:58	UJ, RC:SL
Chloroform	ND	U	0.000269	0.00160	mg/kg	1	8/7/23 18:58	
Chloromethane	ND	U	0.000617	0.00160	mg/kg	1	8/7/23 18:58	
cis-1,2-Dichloroethene	ND	U	0.0000775	0.00160	mg/kg	1	8/7/23 18:58	
cis-1,3-Dichloropropene	ND	U	0.000203	0.00160	mg/kg	1	8/7/23 18:58	
Cyclohexane	ND	U	0.000355	0.00160	mg/kg	1	8/7/23 18:58	
Dichlorodifluoromethane	ND	U	0.000541	0.00160	mg/kg	1	8/7/23 18:58	
EthylBenzene	**0.0472**		**0.000217**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**	
Isopropylbenzene	**0.00729**		**0.000252**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**	
m+p-Xylenes	**0.0386**		**0.000405**	**0.00321**	**mg/kg**	**1**	**8/7/23 18:58**	
Methyl Acetate	ND	U	0.000212	0.00160	mg/kg	1	8/7/23 18:58	
Methyl tert-Butyl Ether	ND	U	0.000271	0.00160	mg/kg	1	8/7/23 18:58	
Methylcyclohexane	ND	U	0.000258	0.00160	mg/kg	1	8/7/23 18:58	
Methylene Chloride	ND	U	0.000482	0.00401	mg/kg	1	8/7/23 18:58	
o-Xylene	**0.0225**		**0.000206**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**	
Styrene	ND	U	0.000229	0.00160	mg/kg	1	8/7/23 18:58	
tert-Butyl alcohol	ND	U	0.00337	0.0160	mg/kg	1	8/7/23 18:58	
Tetrachloroethene	ND	U	0.000159	0.00160	mg/kg	1	8/7/23 18:58	
Toluene	**0.0346**		**0.000129**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**	
Total Xylenes	**0.0611**		**0.000206**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**	
trans-1,2-Dichloroethene	ND	U	0.000217	0.00160	mg/kg	1	8/7/23 18:58	
trans-1,3-Dichloropropene	ND	U	0.000306	0.00160	mg/kg	1	8/7/23 18:58	
Trichloroethene	**0.00386**		**0.000236**	**0.00160**	**mg/kg**	**1**	**8/7/23 18:58**	
Trichlorofluoromethane	ND	U	0.000184	0.00160	mg/kg	1	8/7/23 18:58	
Vinyl chloride	ND	U	0.000305	0.00160	mg/kg	1	8/7/23 18:58	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Methylindene	0.0464	20.63	J	mg/kg	1	8/7/23 18:58
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0658	20.79	J	mg/kg	1	8/7/23 18:58
Benzene, 1,3,5-trimethyl-	0.0132	17.93	J	mg/kg	1	8/7/23 18:58

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-202 30728** Collected: **7/28/2023 7:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,3-diethyl-	0.0175	18.26	J	mg/kg	1	8/7/23 18:58
Benzene, 1-ethyl-2-methyl-	0.0390	16.46	J	mg/kg	1	8/7/23 18:58
Benzene, 1-methyl-2-(1-methylethyl)-	0.0181	19.05	J	mg/kg	1	8/7/23 18:58
Benzene, 1-methyl-3-(1-methylethyl)-	0.0178	20.49	J	mg/kg	1	8/7/23 18:58
Benzene, 2-ethenyl-1,3-dimethyl-	0.0136	19.36	J	mg/kg	1	8/7/23 18:58
Indene	0.0920	18.62	J	mg/kg	1	8/7/23 18:58
Naphthalene, 1,2-dihydro-3-methyl-	0.0151	22.22	J	mg/kg	1	8/7/23 18:58
Naphthalene, 1,2-dihydro-4-methyl-	0.0139	22.46	J	mg/kg	1	8/7/23 18:58
Naphthalene, 1,2-dihydro-6-methyl-	0.0167	22.65	J	mg/kg	1	8/7/23 18:58
Naphthalene, 1-methyl-	0.124	23.26	J	mg/kg	1	8/7/23 18:58
Naphthalene, 2-methyl-	0.0852	23.52	J	mg/kg	1	8/7/23 18:58
TIC:Naphthalene	0.345	21.57	J	mg/kg	1	8/7/23 18:58
TIC Total	**0.923**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/9/23 22:24
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/9/23 22:24
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/9/23 22:24
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/9/23 22:24
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/9/23 22:24
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/9/23 22:24
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/9/23 22:24
Chloroform	**0.0333**	D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/9/23 22:24**
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/9/23 22:24
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/9/23 22:24
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/9/23 22:24

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**85.4**				**%**	**1**	**7/31/23 18:25**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23G1576
Date to Lab: 7/28/2023 6:31:00PM

23G1576-01 (Soil) Sample Name: **MR-303-75.0-77.0-20230728** Collected: **7/28/2023 7:35:00AM**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/4/23 16:52

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/9/23 14:44

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.117	0.117	mg/kg	1	8/4/23 16:13

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**10.4**				**pH Units**	**1**	**7/31/23 11:18**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H0841
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 15, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-304-6.0-8.0-20230811	23H0841-01	8/11/2023	Soil
MR-304-27.0-29.0-20230811	23H0841-02	8/11/2023	Soil

Data validation was performed on the analytical data for two (2) sample collected August 11, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, method blanks, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-304-6.0-8.0-20230811 MR-304-27.0-29.0-20230811	2-Butanone	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-304-6.0-8.0-20230811 MR-304-27.0-29.0-20230811	Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester and 4-hydroxy-4-methyl-2-Pentanone,. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-304-6.0-8.0-20230811 MR-304-27.0-29.0-20230811	2,4-Dinitrophenol	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.
-

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-304-6.0-8.0-20230811 MR-304-27.0-29.0-20230811	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitrophenol 3-Nitroaniline 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenz(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP	MR-304-6.0-8.0-20230811 MR-304-27.0-29.0-20230811	Hexachlorobenzene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,4-Dinitrotoluene Hexachloroethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	MR-304-6.0-8.0-20230811	Decachlorobiphenyl	> CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The pesticide LCS exhibited recoveries an order of magnitude above the control limits for all compounds, most likely due to a spiking error. Since all sample results were non-detect, no qualification was required.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 15, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H0841

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Nov 10, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H0841

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-304-6.0-8.0-20230811	23H0841-01	Soil	08/11/2023 09:04	08/11/2023 16:51
MR-304-27.0-29.0-20230811	23H0841-02	Soil	08/11/2023 11:25	08/11/2023 16:51

PN: 23H0841

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APL 23H0841
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CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 156 8541	SAMPLED BY: AM

TURN-AROUND TIME
- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#___

PWSID#___

[X] NYS CAT B

CONTAMINATION LEVEL
[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
841-01	MR-304-6.0-8.0-20230811	8/11/23	0904	X		S	5		TCL VOCs, SVOCs, Pest, PCB, TAL metals, Cyanide, Herb, Full ~~TCLP~~ (VOCs, SVOCs, Pest, Herb, Metals), RCRA Characteristics
-02	MR-304-27.0-29.0-20230811	8/11/23	1125	X		S	5		

RELINQUISHED BY (Print) Acpell Marmol	DATE 8/4/23	RECEIVED BY (Print) Alfonso Rivera	8-11-23
Signature	Time 1426	Signature	1426
RELINQUISHED BY (Print) Alfonso Rivera (APL)	DATE 8/11/23	RECEIVED BY (Print) Hasan Delacruz	8/11/23
Signature	Time 1651	Signature	16:51
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Sample Condition Upon Receipt Form (SCUR)

Affix Sample Label Here

Date and Initials of person:
Examining contents:_____
Label:_____
Deliver to location:_____
pH:_____

Thermometer Used: Yes Date: 8/11/23 Time: 16:50 Initials: YU 3 ASS

State of Origin: _____

Cooler #1 Temp.°C 22 **(Visual)** _____ **(Correction Factor)** _____ **(Actual)** ☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other_____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ Other_____

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☑ No **Ice:** ☑ Wet Blue Melted None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other_____

Samples were collected by Pace employee ☐ Yes ☑ No ☐ N/A

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐ N/A	
Relinquished Signature on COC	☑Yes ☐ No ☐ N/A	
Sampler Name and Signature on COC	☑Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☐Yes ☐ No ☑ N/A	
Rush TAT requested on COC	☐Yes ☐ No ☑ N/A	
Sufficient Volume	☑Yes ☐ No ☐ N/A	
Correct Containers Used	☑Yes ☐ No ☐ N/A	
Containers Intact	☑Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked. All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: Vials, Microbiology, O&G, Metals	☐Yes ☐ No ☑ N/A ☐Yes ☐ No ☑ N/A	Preservation Information: Preservative:_____ Lot #/Trace #:_____ Date:_____ Time:_____ Initials:_____
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☑N/A	
Trip Blank Present:	☐Yes ☐ No ☑N/A	

Additional Login Comments:

Client notification/ Resolution

Person Contacted: Date/Time: 8/11/23 16:50

Comments/Resolution:

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 1311/6010D:
The percent recoveries for Arsenic, Chromium and Lead were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 1311/7470A / 7473 / 1010A / 9045D:
All samples met the QC criteria.

Method 9014:
The percent recovery for Reactive Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike (low). The blank spike met all QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23H0841-01 has one surrogate (Decachlorobiphenyl) outside of the QC limits (high), due to matrix interference.

ANALYSIS: PCBs [8082A]

All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]

Sample 23H0841-01 has one surrogate (Decachlorobiphenyl) outside of the QC limits (high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol and Hexachlorocyclopentadiene were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAH0504-CCV1) was outside of the QC limits for Chloroethane (low).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.
The percent recoveries for some compounds were outside of the QC limits for the tclp blank spike (low).

Reviewed By: _____ (SK) 11/14/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.277		0.00789	0.0315	mg/kg dry	1	8/17/23 14:46

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	11400		0.238	4.00	mg/kg dry	1	8/24/23 12:11
Arsenic	5.52		0.143	2.00	mg/kg dry	1	8/24/23 12:11
Barium	115		0.0605	0.801	mg/kg dry	1	8/24/23 12:11
Beryllium	0.972		0.00464	0.0400	mg/kg dry	1	8/24/23 12:11
Calcium	2990		4.50	40.0	mg/kg dry	1	8/24/23 12:11
Chromium	29.1		0.0452	0.400	mg/kg dry	1	8/24/23 12:11
Cobalt	6.41		0.0409	0.320	mg/kg dry	1	8/24/23 12:11
Copper	35.7		0.112	0.400	mg/kg dry	1	8/24/23 12:11
Iron	18500		1.13	8.01	mg/kg dry	1	8/24/23 12:11
Lead	103		0.167	2.00	mg/kg dry	1	8/24/23 12:11
Magnesium	3940		14.1	80.1	mg/kg dry	1	8/24/23 12:11
Manganese	147		0.0498	0.400	mg/kg dry	1	8/24/23 12:11
Nickel	26.6		0.0352	0.200	mg/kg dry	1	8/24/23 12:11
Potassium	2560		47.6	160	mg/kg dry	1	8/24/23 12:11
Sodium	3500		7.63	80.1	mg/kg dry	1	8/24/23 12:11
Vanadium	32.6		0.0921	0.801	mg/kg dry	1	8/24/23 12:11
Zinc	74.1		0.122	1.20	mg/kg dry	1	8/24/23 12:11

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.47		0.00279	0.100	mg/L	1	8/25/23 15:08

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0526	J	0.0503	0.315	mg/kg dry	1	8/25/23 0:34
Acenaphthene	0.108	J	0.0120	0.210	mg/kg dry	1	8/25/23 0:34
Acenaphthylene	0.0557	J	0.00730	0.210	mg/kg dry	1	8/25/23 0:34
Anthracene	0.177	J	0.0304	0.210	mg/kg dry	1	8/25/23 0:34
Benzo(a)anthracene	0.371		0.0211	0.210	mg/kg dry	1	8/25/23 0:34
Benzo(a)pyrene	0.351		0.0366	0.210	mg/kg dry	1	8/25/23 0:34
Benzo(b)fluoranthene	0.469		0.0295	0.210	mg/kg dry	1	8/25/23 0:34
Benzo(g,h,i)perylene	0.228		0.0170	0.210	mg/kg dry	1	8/25/23 0:34
Benzo(k)fluoranthene	0.159	J	0.0241	0.210	mg/kg dry	1	8/25/23 0:34
Carbazole	0.0407	J	0.0404	0.525	mg/kg dry	1	8/25/23 0:34
Chrysene	0.321		0.0144	0.210	mg/kg dry	1	8/25/23 0:34

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzofuran	0.0650	J	0.0125	0.210	mg/kg dry	1	8/25/23 0:34
Fluoranthene	0.781		0.0197	0.210	mg/kg dry	1	8/25/23 0:34
Fluorene	0.0881	J	0.0175	0.210	mg/kg dry	1	8/25/23 0:34
Indeno(1,2,3-cd)pyrene	0.180	J	0.0226	0.210	mg/kg dry	1	8/25/23 0:34
Naphthalene	0.135	J	0.0156	0.210	mg/kg dry	1	8/25/23 0:34
Phenanthrene	0.513		0.0276	0.210	mg/kg dry	1	8/25/23 0:34
Pyrene	0.561		0.0154	0.210	mg/kg dry	1	8/25/23 0:34
TIC_2-Pentanone, 4-hydroxy-4-methyl-	39.0	J, B			mg/kg dry	1	8/25/23 0:34
TIC_Hexadecanoic acid, butyl ester	12.8	J, B			mg/kg dry	1	8/25/23 0:34
TIC_Octadecanoic acid, butyl ester	6.85	J, B			mg/kg dry	1	8/25/23 0:34
TIC_unknown	0.462	J			mg/kg dry	1	8/25/23 0:34

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.00889		0.000243	0.00267	mg/kg dry	1	8/24/23 15:40
Carbon disulfide	0.0109		0.000384	0.00267	mg/kg dry	1	8/24/23 15:40
Toluene	0.000926	J	0.000215	0.00267	mg/kg dry	1	8/24/23 15:40
TIC_Cyclobutanone	0.00972	J			mg/kg dry	1	8/24/23 15:40
TIC_Lab Contamination	0.0104	J			mg/kg dry	1	8/24/23 15:40

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	674	D	7.89	7.89	mg/kg dry	50	8/16/23 11:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.31				pH Units	1	8/14/23 14:45

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5190		0.184	3.10	mg/kg dry	1	8/24/23 12:14
Arsenic	2.13		0.111	1.55	mg/kg dry	1	8/24/23 12:14
Barium	29.7		0.0469	0.620	mg/kg dry	1	8/24/23 12:14
Beryllium	0.384		0.00359	0.0310	mg/kg dry	1	8/24/23 12:14
Calcium	1990		3.49	31.0	mg/kg dry	1	8/24/23 12:14

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	11.0		0.0350	0.310	mg/kg dry	1	8/24/23 12:14
Cobalt	4.22		0.0317	0.248	mg/kg dry	1	8/24/23 12:14
Copper	10.4		0.0868	0.310	mg/kg dry	1	8/24/23 12:14
Iron	9270		0.878	6.20	mg/kg dry	1	8/24/23 12:14
Lead	14.6		0.129	1.55	mg/kg dry	1	8/24/23 12:14
Magnesium	2260		11.0	62.0	mg/kg dry	1	8/24/23 12:14
Manganese	103		0.0386	0.310	mg/kg dry	1	8/24/23 12:14
Nickel	11.6		0.0272	0.155	mg/kg dry	1	8/24/23 12:14
Potassium	961		36.9	124	mg/kg dry	1	8/24/23 12:14
Sodium	758		5.91	62.0	mg/kg dry	1	8/24/23 12:14
Vanadium	12.7		0.0713	0.620	mg/kg dry	1	8/24/23 12:14
Zinc	57.1		0.0947	0.930	mg/kg dry	1	8/24/23 12:14

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.09		0.00279	0.100	mg/L	1	8/25/23 15:10

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Diethylphthalate	0.0447	J	0.0317	0.163	mg/kg dry	1	8/25/23 1:05
TIC_2-Pentanone, 4-hydroxy-4-methyl-	32.7	J, B			mg/kg dry	1	8/25/23 1:05
TIC_Hexadecanoic acid, butyl ester	9.41	J, B			mg/kg dry	1	8/25/23 1:05
TIC_Octadecanoic acid, butyl ester	5.30	J, B			mg/kg dry	1	8/25/23 1:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.00829		0.000271	0.00189	mg/kg dry	1	8/24/23 16:09
TIC_Lab Contamination	0.0113	J			mg/kg dry	1	8/24/23 16:09

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.74				pH Units	1	8/14/23 14:45

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00698	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1221	ND	U	0.0137	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1232	ND	U	0.0175	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1242	ND	U	0.0102	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1248	ND	U	0.0107	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1254	ND	U	0.00840	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1260	ND	U	0.00652	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1262	ND	U	0.0140	0.0521	mg/kg	1	8/25/23 16:11
Aroclor-1268	ND	U	0.00630	0.0521	mg/kg	1	8/25/23 16:11
Total PCBs	ND	U	0.00486	0.0521	mg/kg	1	8/25/23 16:11

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0155	0.158	mg/kg	1	8/28/23 15:47
2,4-D	ND	U	0.0262	0.158	mg/kg	1	8/28/23 15:47

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/24/23 8:48
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/24/23 8:48

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.277**		**0.00789**	**0.0315**	**mg/kg**	**1**	**8/17/23 14:46**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/22/23 15:22

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**11400**		**0.238**	**4.00**	**mg/kg**	**1**	**8/24/23 12:11**
Antimony	ND	U	0.218	2.00	mg/kg	1	8/24/23 12:11
Arsenic	**5.52**		**0.143**	**2.00**	**mg/kg**	**1**	**8/24/23 12:11**
Barium	**115**		**0.0605**	**0.801**	**mg/kg**	**1**	**8/24/23 12:11**
Beryllium	**0.972**		**0.00464**	**0.0400**	**mg/kg**	**1**	**8/24/23 12:11**
Cadmium	ND	U	0.0780	0.400	mg/kg	1	8/24/23 12:11
Calcium	**2990**		**4.50**	**40.0**	**mg/kg**	**1**	**8/24/23 12:11**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**29.1**		**0.0452**	**0.400**	**mg/kg**	**1**	**8/24/23 12:11**
Cobalt	**6.41**		**0.0409**	**0.320**	**mg/kg**	**1**	**8/24/23 12:11**
Copper	**35.7**		**0.112**	**0.400**	**mg/kg**	**1**	**8/24/23 12:11**
Iron	**18500**		**1.13**	**8.01**	**mg/kg**	**1**	**8/24/23 12:11**
Lead	**103**		**0.167**	**2.00**	**mg/kg**	**1**	**8/24/23 12:11**
Magnesium	**3940**		**14.1**	**80.1**	**mg/kg**	**1**	**8/24/23 12:11**
Manganese	**147**		**0.0498**	**0.400**	**mg/kg**	**1**	**8/24/23 12:11**
Nickel	**26.6**		**0.0352**	**0.200**	**mg/kg**	**1**	**8/24/23 12:11**
Potassium	**2560**		**47.6**	**160**	**mg/kg**	**1**	**8/24/23 12:11**
Selenium	ND	U	0.384	2.00	mg/kg	1	8/24/23 12:11
Silver	ND	U	0.0681	0.240	mg/kg	1	8/24/23 12:11
Sodium	**3500**		**7.63**	**80.1**	**mg/kg**	**1**	**8/24/23 12:11**
Thallium	ND	U	0.135	2.00	mg/kg	1	8/24/23 12:11
Vanadium	**32.6**		**0.0921**	**0.801**	**mg/kg**	**1**	**8/24/23 12:11**
Zinc	**74.1**		**0.122**	**1.20**	**mg/kg**	**1**	**8/24/23 12:11**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/25/23 15:08
Barium	**1.47**		**0.00279**	**0.100**	**mg/L**	**1**	**8/25/23 15:08**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/25/23 15:08
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/25/23 15:08
Lead	ND	U	0.0255	0.250	mg/L	1	8/25/23 15:08
Selenium	ND	U	0.0760	0.250	mg/L	1	8/25/23 15:08
Silver	ND	U	0.0232	0.100	mg/L	1	8/25/23 15:08

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000939	0.00205	mg/kg	1	8/26/23 21:29
4,4'-DDE	ND	U	0.00112	0.00205	mg/kg	1	8/26/23 21:29
4,4'-DDT	ND	U	0.00145	0.00205	mg/kg	1	8/26/23 21:29
Aldrin	ND	U	0.000972	0.00205	mg/kg	1	8/26/23 21:29
alpha-BHC	ND	U	0.000610	0.00205	mg/kg	1	8/26/23 21:29
beta-BHC	ND	U	0.000980	0.00205	mg/kg	1	8/26/23 21:29
Chlordane	ND	U	0.000912	0.00205	mg/kg	1	8/26/23 21:29
delta-BHC	ND	U	0.000953	0.00205	mg/kg	1	8/26/23 21:29
Dieldrin	ND	U	0.00107	0.00205	mg/kg	1	8/26/23 21:29
Endosulfan I	ND	U	0.000968	0.00205	mg/kg	1	8/26/23 21:29

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000932	0.00205	mg/kg	1	8/26/23 21:29
Endosulfan sulfate	ND	U	0.000771	0.00205	mg/kg	1	8/26/23 21:29
Endosulfans, Total (alpha and beta)	ND	U	0.000932	0.00205	mg/kg	1	8/26/23 21:29
Endrin	ND	U	0.000708	0.00205	mg/kg	1	8/26/23 21:29
Endrin aldehyde	ND	U	0.000817	0.00205	mg/kg	1	8/26/23 21:29
Endrin ketone	ND	U	0.000722	0.00205	mg/kg	1	8/26/23 21:29
gamma-BHC (Lindane)	ND	U	0.000650	0.00205	mg/kg	1	8/26/23 21:29
Heptachlor	ND	U	0.000549	0.00205	mg/kg	1	8/26/23 21:29
Heptachlor Epoxide	ND	U	0.00103	0.00205	mg/kg	1	8/26/23 21:29
Methoxychlor	ND	U	0.000601	0.00205	mg/kg	1	8/26/23 21:29
Toxaphene	ND	U	0.0988	0.104	mg/kg	1	8/26/23 21:29

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/25/23 23:05
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/25/23 23:05
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/25/23 23:05
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/25/23 23:05
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/25/23 23:05
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/25/23 23:05
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/25/23 23:05
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/25/23 23:05
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/25/23 23:05
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/25/23 23:05
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/25/23 23:05
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/25/23 23:05
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/25/23 23:05
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/25/23 23:05
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/25/23 23:05
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/25/23 23:05
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/25/23 23:05
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/25/23 23:05
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/25/23 23:05
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/25/23 23:05

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00593	0.0525	mg/kg	1	8/25/23 0:34	
2,3,4,6-Tetrachlorophenol	ND	U	0.0323	0.210	mg/kg	1	8/25/23 0:34	
2,4,5-Trichlorophenol	ND	U	0.0285	0.210	mg/kg	1	8/25/23 0:34	
2,4,6-Trichlorophenol	ND	U	0.0131	0.210	mg/kg	1	8/25/23 0:34	
2,4-Dichlorophenol	ND	U	0.0211	0.210	mg/kg	1	8/25/23 0:34	
2,4-Dimethylphenol	ND	U	0.0207	0.210	mg/kg	1	8/25/23 0:34	
2,4-Dinitrophenol	ND	U	0.0303	1.05	mg/kg	1	8/25/23 0:34	
2,4-Dinitrotoluene	ND	U	0.0224	0.210	mg/kg	1	8/25/23 0:34	
2,6-Dinitrotoluene	ND	U	0.0502	0.210	mg/kg	1	8/25/23 0:34	
2-Chloronaphthalene	ND	U	0.0241	0.210	mg/kg	1	8/25/23 0:34	
2-Chlorophenol	ND	U	0.0278	0.210	mg/kg	1	8/25/23 0:34	
2-Methylnaphthalene	**0.0526**	J	**0.0503**	**0.315**	**mg/kg**	**1**	**8/25/23 0:34**	
2-Methylphenol	ND	U	0.0415	0.210	mg/kg	1	8/25/23 0:34	
2-Nitroaniline	ND	U	0.0169	0.210	mg/kg	1	8/25/23 0:34	
2-Nitrophenol	ND	U	0.0233	0.210	mg/kg	1	8/25/23 0:34	
3,3'-Dichlorobenzidine	ND	U	0.0221	0.210	mg/kg	1	8/25/23 0:34	
3+4-Methylphenol	ND	U	0.0385	0.210	mg/kg	1	8/25/23 0:34	
3-Nitroaniline	ND	U	0.0390	0.210	mg/kg	1	8/25/23 0:34	
4,6-Dinitro-2-methylphenol	ND	U	0.0396	0.525	mg/kg	1	8/25/23 0:34	
4-Bromophenyl-phenyl ether	ND	U	0.0300	0.210	mg/kg	1	8/25/23 0:34	
4-Chloro-3-methylphenol	ND	U	0.0331	0.210	mg/kg	1	8/25/23 0:34	
4-Chloroaniline	ND	U	0.00735	0.210	mg/kg	1	8/25/23 0:34	
4-Chlorophenyl phenyl ether	ND	U	0.0113	0.210	mg/kg	1	8/25/23 0:34	
4-Nitroaniline	ND	U	0.105	0.210	mg/kg	1	8/25/23 0:34	
4-Nitrophenol	ND	U	0.0134	0.210	mg/kg	1	8/25/23 0:34	
Acenaphthene	**0.108**	J	**0.0120**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Acenaphthylene	**0.0557**	J	**0.00730**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Acetophenone	ND	U	0.0208	0.210	mg/kg	1	8/25/23 0:34	
Anthracene	**0.177**	J	**0.0304**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Atrazine	ND	U	0.0197	0.210	mg/kg	1	8/25/23 0:34	
Benzaldehyde	ND	U	0.0645	0.210	mg/kg	1	8/25/23 0:34	
Benzo(a)anthracene	**0.371**		**0.0211**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Benzo(a)pyrene	**0.351**		**0.0366**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Benzo(b)fluoranthene	**0.469**		**0.0295**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Benzo(g,h,i)perylene	**0.228**		**0.0170**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	J, RC:SH
Benzo(k)fluoranthene	**0.159**	J	**0.0241**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Biphenyl	ND	U	0.0185	0.210	mg/kg	1	8/25/23 0:34	
bis(2-chloroethoxy)methane	ND	U	0.0290	0.210	mg/kg	1	8/25/23 0:34	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0230	0.210	mg/kg	1	8/25/23 0:34	
bis(2-chloroisopropyl)ether	ND	U	0.0756	0.210	mg/kg	1	8/25/23 0:34	
bis(2-ethylhexyl)phthalate	ND	U	0.0420	0.210	mg/kg	1	8/25/23 0:34	
Butylbenzylphthalate	ND	U	0.0191	0.210	mg/kg	1	8/25/23 0:34	
Caprolactam	ND	U	0.0271	0.210	mg/kg	1	8/25/23 0:34	
Carbazole	**0.0407**	J	**0.0404**	**0.525**	**mg/kg**	**1**	**8/25/23 0:34**	
Chrysene	**0.321**		**0.0144**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Dibenzo(a,h)anthracene	ND	U	0.0208	0.210	mg/kg	1	8/25/23 0:34	
Dibenzofuran	**0.0650**	J	**0.0125**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Diethylphthalate	ND	U	0.0407	0.210	mg/kg	1	8/25/23 0:34	
Dimethylphthalate	ND	U	0.0130	0.210	mg/kg	1	8/25/23 0:34	
Di-n-butylphthalate	ND	U	0.0858	0.210	mg/kg	1	8/25/23 0:34	
Di-n-octylphthalate	ND	U	0.0431	0.210	mg/kg	1	8/25/23 0:34	
Fluoranthene	**0.781**		**0.0197**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Fluorene	**0.0881**	J	**0.0175**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Hexachlorobenzene	ND	U	0.0274	0.210	mg/kg	1	8/25/23 0:34	
Hexachlorobutadiene	ND	U	0.101	0.210	mg/kg	1	8/25/23 0:34	
Hexachlorocyclopentadiene	ND	U	0.0875	0.525	mg/kg	1	8/25/23 0:34	UJ, RC:SL
Hexachloroethane	ND	U	0.0230	0.210	mg/kg	1	8/25/23 0:34	
Indeno(1,2,3-cd)pyrene	**0.180**	J	**0.0226**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	J, RC:SH
Isophorone	ND	U	0.0138	0.210	mg/kg	1	8/25/23 0:34	
Naphthalene	**0.135**	J	**0.0156**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Nitrobenzene	ND	U	0.0356	0.210	mg/kg	1	8/25/23 0:34	
n-Nitroso-di-n-propylamine	ND	U	0.0112	0.210	mg/kg	1	8/25/23 0:34	
n-Nitrosodiphenylamine	ND	U	0.0448	0.210	mg/kg	1	8/25/23 0:34	
Pentachlorophenol	ND	U	0.0289	0.525	mg/kg	1	8/25/23 0:34	
Phenanthrene	**0.513**		**0.0276**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	
Phenol	ND	U	0.0170	0.210	mg/kg	1	8/25/23 0:34	
Pyrene	**0.561**		**0.0154**	**0.210**	**mg/kg**	**1**	**8/25/23 0:34**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc		RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~39.0~~	R,RC:2	4.75	J, B	mg/kg	1	8/25/23 0:34
Hexadecanoic acid, butyl ester	12.8		12.37	J, B	mg/kg	1	8/25/23 0:34
Octadecanoic acid, butyl ester	6.85		13.15	J, B	mg/kg	1	8/25/23 0:34
unknown	0.462		12.03	J	mg/kg	1	8/25/23 0:34
TIC Total	~~59.2~~	20.2					

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/24/23 21:59	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/24/23 21:59	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/24/23 21:59	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/24/23 21:59	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/24/23 21:59	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/24/23 21:59	UJ, RC:SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/24/23 21:59	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/24/23 21:59	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/24/23 21:59	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/24/23 21:59	UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/24/23 21:59	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000390	0.00267	mg/kg	1	8/24/23 15:40
1,1,2,2-Tetrachloroethane	ND	U	0.000369	0.00267	mg/kg	1	8/24/23 15:40
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00114	0.00267	mg/kg	1	8/24/23 15:40
1,1,2-Trichloroethane	ND	U	0.000450	0.00267	mg/kg	1	8/24/23 15:40
1,1-Dichloroethane	ND	U	0.000390	0.00267	mg/kg	1	8/24/23 15:40
1,1-Dichloroethene	ND	U	0.000495	0.00267	mg/kg	1	8/24/23 15:40
1,2,3-Trichlorobenzene	ND	U	0.000577	0.00267	mg/kg	1	8/24/23 15:40
1,2,4-Trichlorobenzene	ND	U	0.000712	0.00267	mg/kg	1	8/24/23 15:40
1,2,4-Trimethylbenzene	ND	U	0.000369	0.00267	mg/kg	1	8/24/23 15:40
1,2-Dibromo-3-chloropropane	ND	U	0.000652	0.00668	mg/kg	1	8/24/23 15:40
1,2-Dibromoethane	ND	U	0.000337	0.00267	mg/kg	1	8/24/23 15:40
1,2-Dichlorobenzene	ND	U	0.000472	0.00267	mg/kg	1	8/24/23 15:40
1,2-Dichloroethane	ND	U	0.000377	0.00267	mg/kg	1	8/24/23 15:40
1,2-Dichloropropane	ND	U	0.000438	0.00267	mg/kg	1	8/24/23 15:40
1,3-Dichlorobenzene	ND	U	0.000196	0.00267	mg/kg	1	8/24/23 15:40
1,4-Dichlorobenzene	ND	U	0.000385	0.00267	mg/kg	1	8/24/23 15:40
2-Butanone	ND	U	0.000436	0.0134	mg/kg	1	8/24/23 15:40
2-Hexanone	ND	U	0.000250	0.00267	mg/kg	1	8/24/23 15:40
4-Methyl-2-pentanone	ND	U	0.000334	0.00267	mg/kg	1	8/24/23 15:40
Acetone	ND	U	0.000810	0.0668	mg/kg	1	8/24/23 15:40
Benzene	**0.00889**		**0.000243**	**0.00267**	**mg/kg**	**1**	**8/24/23 15:40**
Bromochloromethane	ND	U	0.000493	0.00267	mg/kg	1	8/24/23 15:40
Bromodichloromethane	ND	U	0.000336	0.00267	mg/kg	1	8/24/23 15:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000469	0.00267	mg/kg	1	8/24/23 15:40
Bromomethane	ND	U	0.000771	0.00267	mg/kg	1	8/24/23 15:40
Carbon disulfide	**0.0109**		**0.000384**	**0.00267**	**mg/kg**	**1**	**8/24/23 15:40**
Carbon Tetrachloride	ND	U	0.000402	0.00267	mg/kg	1	8/24/23 15:40
Chlorobenzene	ND	U	0.000388	0.00267	mg/kg	1	8/24/23 15:40
Chlorodibromomethane	ND	U	0.000329	0.00267	mg/kg	1	8/24/23 15:40
Chloroethane	ND	U	0.000456	0.00267	mg/kg	1	8/24/23 15:40
Chloroform	ND	U	0.000449	0.00267	mg/kg	1	8/24/23 15:40
Chloromethane	ND	U	0.00103	0.00267	mg/kg	1	8/24/23 15:40
cis-1,2-Dichloroethene	ND	U	0.000129	0.00267	mg/kg	1	8/24/23 15:40
cis-1,3-Dichloropropene	ND	U	0.000338	0.00267	mg/kg	1	8/24/23 15:40
Cyclohexane	ND	U	0.000592	0.00267	mg/kg	1	8/24/23 15:40
Dichlorodifluoromethane	ND	U	0.000902	0.00267	mg/kg	1	8/24/23 15:40
EthylBenzene	ND	U	0.000362	0.00267	mg/kg	1	8/24/23 15:40
Isopropylbenzene	ND	U	0.000420	0.00267	mg/kg	1	8/24/23 15:40
m+p-Xylenes	ND	U	0.000675	0.00535	mg/kg	1	8/24/23 15:40
Methyl Acetate	ND	U	0.000354	0.00267	mg/kg	1	8/24/23 15:40
Methyl tert-Butyl Ether	ND	U	0.000452	0.00267	mg/kg	1	8/24/23 15:40
Methylcyclohexane	ND	U	0.000430	0.00267	mg/kg	1	8/24/23 15:40
Methylene Chloride	ND	U	0.000803	0.00668	mg/kg	1	8/24/23 15:40
o-Xylene	ND	U	0.000344	0.00267	mg/kg	1	8/24/23 15:40
Styrene	ND	U	0.000382	0.00267	mg/kg	1	8/24/23 15:40
tert-Butyl alcohol	ND	U	0.00561	0.0267	mg/kg	1	8/24/23 15:40
Tetrachloroethene	ND	U	0.000265	0.00267	mg/kg	1	8/24/23 15:40
Toluene	**0.000926**	J	**0.000215**	**0.00267**	**mg/kg**	**1**	**8/24/23 15:40**
Total Xylenes	ND	U	0.000344	0.00267	mg/kg	1	8/24/23 15:40
trans-1,2-Dichloroethene	ND	U	0.000362	0.00267	mg/kg	1	8/24/23 15:40
trans-1,3-Dichloropropene	ND	U	0.000511	0.00267	mg/kg	1	8/24/23 15:40
Trichloroethene	ND	U	0.000393	0.00267	mg/kg	1	8/24/23 15:40
Trichlorofluoromethane	ND	U	0.000307	0.00267	mg/kg	1	8/24/23 15:40
Vinyl chloride	ND	U	0.000508	0.00267	mg/kg	1	8/24/23 15:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclobutanone	0.00972	3.96	J	mg/kg	1	8/24/23 15:40
Lab Contamination	0.0104	3.89	J	mg/kg	1	8/24/23 15:40
TIC Total	**0.020**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0841
Project:	Owls Head Phase 2	**Date to Lab:**	8/11/2023 4:51:00PM

23H0841-01 (Soil) Sample Name: **MR-304-6.0-8.0-20230811** Collected: **8/11/2023 9:04:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/23/23 18:49	
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/23/23 18:49	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/23/23 18:49	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/23/23 18:49	UJ, RC:6L
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/23/23 18:49	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/23/23 18:49	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/23/23 18:49	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/23/23 18:49	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/23/23 18:49	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/23/23 18:49	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/23/23 18:49	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**63.4**				**%**	**1**	**8/15/23 12:00**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/14/23 16:00

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.16	0.16	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	**674**	D	**7.89**	**7.89**	**mg/kg**	**50**	**8/16/23 11:00**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.31**				**pH Units**	**1**	**8/14/23 14:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00544	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1221	ND	U	0.0107	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1232	ND	U	0.0136	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1242	ND	U	0.00796	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1248	ND	U	0.00833	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1254	ND	U	0.00654	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1260	ND	U	0.00507	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1262	ND	U	0.0109	0.0405	mg/kg	1	8/25/23 16:33
Aroclor-1268	ND	U	0.00490	0.0405	mg/kg	1	8/25/23 16:33
Total PCBs	ND	U	0.00378	0.0405	mg/kg	1	8/25/23 16:33

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0120	0.123	mg/kg	1	8/28/23 15:57
2,4-D	ND	U	0.0204	0.123	mg/kg	1	8/28/23 15:57

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/24/23 8:57
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/24/23 8:57

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00614	0.0246	mg/kg	1	8/17/23 14:56

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/22/23 15:32

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5190**		**0.184**	**3.10**	**mg/kg**	**1**	**8/24/23 12:14**
Antimony	ND	U	0.169	1.55	mg/kg	1	8/24/23 12:14
Arsenic	**2.13**		**0.111**	**1.55**	**mg/kg**	**1**	**8/24/23 12:14**
Barium	**29.7**		**0.0469**	**0.620**	**mg/kg**	**1**	**8/24/23 12:14**
Beryllium	**0.384**		**0.00359**	**0.0310**	**mg/kg**	**1**	**8/24/23 12:14**
Cadmium	ND	U	0.0605	0.310	mg/kg	1	8/24/23 12:14
Calcium	**1990**		**3.49**	**31.0**	**mg/kg**	**1**	**8/24/23 12:14**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**11.0**		**0.0350**	**0.310**	**mg/kg**	**1**	**8/24/23 12:14**
Cobalt	**4.22**		**0.0317**	**0.248**	**mg/kg**	**1**	**8/24/23 12:14**
Copper	**10.4**		**0.0868**	**0.310**	**mg/kg**	**1**	**8/24/23 12:14**
Iron	**9270**		**0.878**	**6.20**	**mg/kg**	**1**	**8/24/23 12:14**
Lead	**14.6**		**0.129**	**1.55**	**mg/kg**	**1**	**8/24/23 12:14**
Magnesium	**2260**		**11.0**	**62.0**	**mg/kg**	**1**	**8/24/23 12:14**
Manganese	**103**		**0.0386**	**0.310**	**mg/kg**	**1**	**8/24/23 12:14**
Nickel	**11.6**		**0.0272**	**0.155**	**mg/kg**	**1**	**8/24/23 12:14**
Potassium	**961**		**36.9**	**124**	**mg/kg**	**1**	**8/24/23 12:14**
Selenium	ND	U	0.298	1.55	mg/kg	1	8/24/23 12:14
Silver	ND	U	0.0527	0.186	mg/kg	1	8/24/23 12:14
Sodium	**758**		**5.91**	**62.0**	**mg/kg**	**1**	**8/24/23 12:14**
Thallium	ND	U	0.104	1.55	mg/kg	1	8/24/23 12:14
Vanadium	**12.7**		**0.0713**	**0.620**	**mg/kg**	**1**	**8/24/23 12:14**
Zinc	**57.1**		**0.0947**	**0.930**	**mg/kg**	**1**	**8/24/23 12:14**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/25/23 15:10
Barium	**1.09**		**0.00279**	**0.100**	**mg/L**	**1**	**8/25/23 15:10**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/25/23 15:10
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/25/23 15:10
Lead	ND	U	0.0255	0.250	mg/L	1	8/25/23 15:10
Selenium	ND	U	0.0760	0.250	mg/L	1	8/25/23 15:10
Silver	ND	U	0.0232	0.100	mg/L	1	8/25/23 15:10

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000731	0.00160	mg/kg	1	8/26/23 22:06
4,4'-DDE	ND	U	0.000873	0.00160	mg/kg	1	8/26/23 22:06
4,4'-DDT	ND	U	0.00113	0.00160	mg/kg	1	8/26/23 22:06
Aldrin	ND	U	0.000756	0.00160	mg/kg	1	8/26/23 22:06
alpha-BHC	ND	U	0.000475	0.00160	mg/kg	1	8/26/23 22:06
beta-BHC	ND	U	0.000763	0.00160	mg/kg	1	8/26/23 22:06
Chlordane	ND	U	0.000710	0.00160	mg/kg	1	8/26/23 22:06
delta-BHC	ND	U	0.000742	0.00160	mg/kg	1	8/26/23 22:06
Dieldrin	ND	U	0.000835	0.00160	mg/kg	1	8/26/23 22:06
Endosulfan I	ND	U	0.000754	0.00160	mg/kg	1	8/26/23 22:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000726	0.00160	mg/kg	1	8/26/23 22:06
Endosulfan sulfate	ND	U	0.000601	0.00160	mg/kg	1	8/26/23 22:06
Endosulfans, Total (alpha and beta)	ND	U	0.000726	0.00160	mg/kg	1	8/26/23 22:06
Endrin	ND	U	0.000551	0.00160	mg/kg	1	8/26/23 22:06
Endrin aldehyde	ND	U	0.000636	0.00160	mg/kg	1	8/26/23 22:06
Endrin ketone	ND	U	0.000562	0.00160	mg/kg	1	8/26/23 22:06
gamma-BHC (Lindane)	ND	U	0.000506	0.00160	mg/kg	1	8/26/23 22:06
Heptachlor	ND	U	0.000427	0.00160	mg/kg	1	8/26/23 22:06
Heptachlor Epoxide	ND	U	0.000806	0.00160	mg/kg	1	8/26/23 22:06
Methoxychlor	ND	U	0.000468	0.00160	mg/kg	1	8/26/23 22:06
Toxaphene	ND	U	0.0769	0.0811	mg/kg	1	8/26/23 22:06

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/25/23 23:23
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/25/23 23:23
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/25/23 23:23
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/25/23 23:23
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/25/23 23:23
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/25/23 23:23
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/25/23 23:23
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/25/23 23:23
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/25/23 23:23
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/25/23 23:23
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/25/23 23:23
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/25/23 23:23
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/25/23 23:23
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/25/23 23:23
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/25/23 23:23
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/25/23 23:23
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/25/23 23:23
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/25/23 23:23
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/25/23 23:23
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/25/23 23:23

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00462	0.0409	mg/kg	1	8/25/23 1:05
2,3,4,6-Tetrachlorophenol	ND	U	0.0252	0.163	mg/kg	1	8/25/23 1:05
2,4,5-Trichlorophenol	ND	U	0.0222	0.163	mg/kg	1	8/25/23 1:05
2,4,6-Trichlorophenol	ND	U	0.0102	0.163	mg/kg	1	8/25/23 1:05
2,4-Dichlorophenol	ND	U	0.0165	0.163	mg/kg	1	8/25/23 1:05
2,4-Dimethylphenol	ND	U	0.0161	0.163	mg/kg	1	8/25/23 1:05
2,4-Dinitrophenol	ND	U	0.0236	0.819	mg/kg	1	8/25/23 1:05
2,4-Dinitrotoluene	ND	U	0.0174	0.163	mg/kg	1	8/25/23 1:05
2,6-Dinitrotoluene	ND	U	0.0391	0.163	mg/kg	1	8/25/23 1:05
2-Chloronaphthalene	ND	U	0.0188	0.163	mg/kg	1	8/25/23 1:05
2-Chlorophenol	ND	U	0.0216	0.163	mg/kg	1	8/25/23 1:05
2-Methylnaphthalene	ND	U	0.0392	0.246	mg/kg	1	8/25/23 1:05
2-Methylphenol	ND	U	0.0323	0.163	mg/kg	1	8/25/23 1:05
2-Nitroaniline	ND	U	0.0131	0.163	mg/kg	1	8/25/23 1:05
2-Nitrophenol	ND	U	0.0182	0.163	mg/kg	1	8/25/23 1:05
3,3'-Dichlorobenzidine	ND	U	0.0172	0.163	mg/kg	1	8/25/23 1:05
3+4-Methylphenol	ND	U	0.0300	0.163	mg/kg	1	8/25/23 1:05
3-Nitroaniline	ND	U	0.0303	0.163	mg/kg	1	8/25/23 1:05
4,6-Dinitro-2-methylphenol	ND	U	0.0308	0.409	mg/kg	1	8/25/23 1:05
4-Bromophenyl-phenyl ether	ND	U	0.0233	0.163	mg/kg	1	8/25/23 1:05
4-Chloro-3-methylphenol	ND	U	0.0258	0.163	mg/kg	1	8/25/23 1:05
4-Chloroaniline	ND	U	0.00572	0.163	mg/kg	1	8/25/23 1:05
4-Chlorophenyl phenyl ether	ND	U	0.00883	0.163	mg/kg	1	8/25/23 1:05
4-Nitroaniline	ND	U	0.0818	0.163	mg/kg	1	8/25/23 1:05
4-Nitrophenol	ND	U	0.0105	0.163	mg/kg	1	8/25/23 1:05
Acenaphthene	ND	U	0.00932	0.163	mg/kg	1	8/25/23 1:05
Acenaphthylene	ND	U	0.00569	0.163	mg/kg	1	8/25/23 1:05
Acetophenone	ND	U	0.0162	0.163	mg/kg	1	8/25/23 1:05
Anthracene	ND	U	0.0237	0.163	mg/kg	1	8/25/23 1:05
Atrazine	ND	U	0.0154	0.163	mg/kg	1	8/25/23 1:05
Benzaldehyde	ND	U	0.0502	0.163	mg/kg	1	8/25/23 1:05
Benzo(a)anthracene	ND	U	0.0165	0.163	mg/kg	1	8/25/23 1:05
Benzo(a)pyrene	ND	U	0.0285	0.163	mg/kg	1	8/25/23 1:05
Benzo(b)fluoranthene	ND	U	0.0230	0.163	mg/kg	1	8/25/23 1:05
Benzo(g,h,i)perylene	ND	U	0.0133	0.163	mg/kg	1	8/25/23 1:05
Benzo(k)fluoranthene	ND	U	0.0188	0.163	mg/kg	1	8/25/23 1:05
Biphenyl	ND	U	0.0144	0.163	mg/kg	1	8/25/23 1:05
bis(2-chloroethoxy)methane	ND	U	0.0226	0.163	mg/kg	1	8/25/23 1:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0179	0.163	mg/kg	1	8/25/23 1:05	
bis(2-chloroisopropyl)ether	ND	U	0.0588	0.163	mg/kg	1	8/25/23 1:05	
bis(2-ethylhexyl)phthalate	ND	U	0.0327	0.163	mg/kg	1	8/25/23 1:05	
Butylbenzylphthalate	ND	U	0.0149	0.163	mg/kg	1	8/25/23 1:05	
Caprolactam	ND	U	0.0211	0.163	mg/kg	1	8/25/23 1:05	
Carbazole	ND	U	0.0314	0.409	mg/kg	1	8/25/23 1:05	
Chrysene	ND	U	0.0112	0.163	mg/kg	1	8/25/23 1:05	
Dibenzo(a,h)anthracene	ND	U	0.0162	0.163	mg/kg	1	8/25/23 1:05	
Dibenzofuran	ND	U	0.00974	0.163	mg/kg	1	8/25/23 1:05	
Diethylphthalate	**0.0447**	J	**0.0317**	**0.163**	**mg/kg**	**1**	**8/25/23 1:05**	
Dimethylphthalate	ND	U	0.0101	0.163	mg/kg	1	8/25/23 1:05	
Di-n-butylphthalate	ND	U	0.0668	0.163	mg/kg	1	8/25/23 1:05	
Di-n-octylphthalate	ND	U	0.0335	0.163	mg/kg	1	8/25/23 1:05	
Fluoranthene	ND	U	0.0154	0.163	mg/kg	1	8/25/23 1:05	
Fluorene	ND	U	0.0136	0.163	mg/kg	1	8/25/23 1:05	
Hexachlorobenzene	ND	U	0.0214	0.163	mg/kg	1	8/25/23 1:05	
Hexachlorobutadiene	ND	U	0.0785	0.163	mg/kg	1	8/25/23 1:05	
Hexachlorocyclopentadiene	ND	U	0.0682	0.409	mg/kg	1	8/25/23 1:05	UJ, RC:SL
Hexachloroethane	ND	U	0.0179	0.163	mg/kg	1	8/25/23 1:05	
Indeno(1,2,3-cd)pyrene	ND	U	0.0176	0.163	mg/kg	1	8/25/23 1:05	
Isophorone	ND	U	0.0107	0.163	mg/kg	1	8/25/23 1:05	
Naphthalene	ND	U	0.0121	0.163	mg/kg	1	8/25/23 1:05	
Nitrobenzene	ND	U	0.0278	0.163	mg/kg	1	8/25/23 1:05	
n-Nitroso-di-n-propylamine	ND	U	0.00876	0.163	mg/kg	1	8/25/23 1:05	
n-Nitrosodiphenylamine	ND	U	0.0349	0.163	mg/kg	1	8/25/23 1:05	
Pentachlorophenol	ND	U	0.0225	0.409	mg/kg	1	8/25/23 1:05	
Phenanthrene	ND	U	0.0215	0.163	mg/kg	1	8/25/23 1:05	
Phenol	ND	U	0.0133	0.163	mg/kg	1	8/25/23 1:05	
Pyrene	ND	U	0.0120	0.163	mg/kg	1	8/25/23 1:05	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc		RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~32.7~~	R,RC:2	4.75	J, B	mg/kg	1	8/25/23 1:05	
Hexadecanoic acid, butyl ester	9.41		12.37	J, B	mg/kg	1	8/25/23 1:05	
Octadecanoic acid, butyl ester	5.30		13.15	J, B	mg/kg	1	8/25/23 1:05	
TIC Total	~~47.4~~	14.7						

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/24/23 22:31	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/24/23 22:31	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/24/23 22:31	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/24/23 22:31	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/24/23 22:31	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/24/23 22:31	UJ, RC:SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/24/23 22:31	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/24/23 22:31	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/24/23 22:31	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/24/23 22:31	UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/24/23 22:31	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000276	0.00189	mg/kg	1	8/24/23 16:09
1,1,2,2-Tetrachloroethane	ND	U	0.000261	0.00189	mg/kg	1	8/24/23 16:09
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000809	0.00189	mg/kg	1	8/24/23 16:09
1,1,2-Trichloroethane	ND	U	0.000318	0.00189	mg/kg	1	8/24/23 16:09
1,1-Dichloroethane	ND	U	0.000276	0.00189	mg/kg	1	8/24/23 16:09
1,1-Dichloroethene	ND	U	0.000350	0.00189	mg/kg	1	8/24/23 16:09
1,2,3-Trichlorobenzene	ND	U	0.000408	0.00189	mg/kg	1	8/24/23 16:09
1,2,4-Trichlorobenzene	ND	U	0.000504	0.00189	mg/kg	1	8/24/23 16:09
1,2,4-Trimethylbenzene	ND	U	0.000261	0.00189	mg/kg	1	8/24/23 16:09
1,2-Dibromo-3-chloropropane	ND	U	0.000461	0.00472	mg/kg	1	8/24/23 16:09
1,2-Dibromoethane	ND	U	0.000238	0.00189	mg/kg	1	8/24/23 16:09
1,2-Dichlorobenzene	ND	U	0.000333	0.00189	mg/kg	1	8/24/23 16:09
1,2-Dichloroethane	ND	U	0.000266	0.00189	mg/kg	1	8/24/23 16:09
1,2-Dichloropropane	ND	U	0.000310	0.00189	mg/kg	1	8/24/23 16:09
1,3-Dichlorobenzene	ND	U	0.000139	0.00189	mg/kg	1	8/24/23 16:09
1,4-Dichlorobenzene	ND	U	0.000272	0.00189	mg/kg	1	8/24/23 16:09
2-Butanone	ND	U	0.000308	0.00945	mg/kg	1	8/24/23 16:09
2-Hexanone	ND	U	0.000177	0.00189	mg/kg	1	8/24/23 16:09
4-Methyl-2-pentanone	ND	U	0.000236	0.00189	mg/kg	1	8/24/23 16:09
Acetone	ND	U	0.000572	0.0472	mg/kg	1	8/24/23 16:09
Benzene	ND	U	0.000172	0.00189	mg/kg	1	8/24/23 16:09
Bromochloromethane	ND	U	0.000349	0.00189	mg/kg	1	8/24/23 16:09
Bromodichloromethane	ND	U	0.000237	0.00189	mg/kg	1	8/24/23 16:09

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000332	0.00189	mg/kg	1	8/24/23 16:09
Bromomethane	ND	U	0.000545	0.00189	mg/kg	1	8/24/23 16:09
Carbon disulfide	**0.00829**		**0.000271**	**0.00189**	**mg/kg**	**1**	**8/24/23 16:09**
Carbon Tetrachloride	ND	U	0.000284	0.00189	mg/kg	1	8/24/23 16:09
Chlorobenzene	ND	U	0.000274	0.00189	mg/kg	1	8/24/23 16:09
Chlorodibromomethane	ND	U	0.000232	0.00189	mg/kg	1	8/24/23 16:09
Chloroethane	ND	U	0.000322	0.00189	mg/kg	1	8/24/23 16:09
Chloroform	ND	U	0.000317	0.00189	mg/kg	1	8/24/23 16:09
Chloromethane	ND	U	0.000727	0.00189	mg/kg	1	8/24/23 16:09
cis-1,2-Dichloroethene	ND	U	0.0000913	0.00189	mg/kg	1	8/24/23 16:09
cis-1,3-Dichloropropene	ND	U	0.000239	0.00189	mg/kg	1	8/24/23 16:09
Cyclohexane	ND	U	0.000418	0.00189	mg/kg	1	8/24/23 16:09
Dichlorodifluoromethane	ND	U	0.000638	0.00189	mg/kg	1	8/24/23 16:09
EthylBenzene	ND	U	0.000256	0.00189	mg/kg	1	8/24/23 16:09
Isopropylbenzene	ND	U	0.000297	0.00189	mg/kg	1	8/24/23 16:09
m+p-Xylenes	ND	U	0.000477	0.00378	mg/kg	1	8/24/23 16:09
Methyl Acetate	ND	U	0.000250	0.00189	mg/kg	1	8/24/23 16:09
Methyl tert-Butyl Ether	ND	U	0.000319	0.00189	mg/kg	1	8/24/23 16:09
Methylcyclohexane	ND	U	0.000304	0.00189	mg/kg	1	8/24/23 16:09
Methylene Chloride	ND	U	0.000568	0.00472	mg/kg	1	8/24/23 16:09
o-Xylene	ND	U	0.000243	0.00189	mg/kg	1	8/24/23 16:09
Styrene	ND	U	0.000270	0.00189	mg/kg	1	8/24/23 16:09
tert-Butyl alcohol	ND	U	0.00397	0.0189	mg/kg	1	8/24/23 16:09
Tetrachloroethene	ND	U	0.000187	0.00189	mg/kg	1	8/24/23 16:09
Toluene	ND	U	0.000152	0.00189	mg/kg	1	8/24/23 16:09
Total Xylenes	ND	U	0.000243	0.00189	mg/kg	1	8/24/23 16:09
trans-1,2-Dichloroethene	ND	U	0.000256	0.00189	mg/kg	1	8/24/23 16:09
trans-1,3-Dichloropropene	ND	U	0.000361	0.00189	mg/kg	1	8/24/23 16:09
Trichloroethene	ND	U	0.000278	0.00189	mg/kg	1	8/24/23 16:09
Trichlorofluoromethane	ND	U	0.000217	0.00189	mg/kg	1	8/24/23 16:09
Vinyl chloride	ND	U	0.000359	0.00189	mg/kg	1	8/24/23 16:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0113	3.90	J	mg/kg	1	8/24/23 16:09
TIC Total	**0.011**					

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0841
Date to Lab: 8/11/2023 4:51:00PM

23H0841-02 (Soil) Sample Name: **MR-304-27.0-29.0-20230811** Collected: **8/11/2023 11:25:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/23/23 19:14
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/23/23 19:14
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/23/23 19:14
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/23/23 19:14
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/23/23 19:14
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/23/23 19:14
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/23/23 19:14
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/23/23 19:14
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/23/23 19:14
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/23/23 19:14
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/23/23 19:14

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.4**				**%**	**1**	**8/15/23 12:00**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/14/23 16:00

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.123	0.123	mg/kg	1	8/16/23 11:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.74**				**pH Units**	**1**	**8/14/23 14:45**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H0975
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 14, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-304-65.0-67.0-20230814	23H0975-01	8/14/2023	Soil

Data validation was performed on the analytical data for one (1) sample collected August 11, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, surrogates, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-304-65.0-67.0-20230814	Dibromofluoromethane	> CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-304-65.0-67.0-20230814	2-Butanone	10% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-304-65.0-67.0-20230814	1,1,2,2-Tetrachloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
		1,2-Dichloropropane			

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Bromoform	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detection for Hexadecanoic acid, butyl ester. Sample detections were greater than than five times the method blank detection and no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MR-304-65.0-67.0-20230814	Benzaldehyde	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2,4-Dinitrophenol Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-TCLP		Hexachlorobenzene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,4-Dinitrotoluene	CCV %D > 20% (increase in	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
			response)		

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	MR-304-65.0-67.0-20230814	4,4'-DDD	10% < %R < CL	J (detects) UJ (non-detects)	6L
		4,4'-DDE			
		alpha-BHC			
		beta-BHC			
		Endosulfan II			

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Endrin			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- Herbicide (8151A) CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 14, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H0975

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Nov 10, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H0975

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-304-65.0-67.0-20230814	23H0975-01	Soil	08/14/2023 11:02	08/15/2023 15:39

PN: 23H0975

APL 23H0975

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CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 156854	SAMPLED BY: AM

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

[x] NYS Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
975	MR-304-65.0-67.0-20230814	8/14/23	1102	X		S	5		TCL VOCs, SVOCs, Pest, PCB, TAL Metals, Cyanide, Herb, Full TCLP (VOCs, SVOCs, Pest, Herb, Metals), RCRA Charac.

RELINQUISHED BY (Print) Acxell Marmol	DATE 8/15/23	RECEIVED BY (Print) Cory Gibbs	8/15/23 1343
Signature	Time 1343	Signature	
RELINQUISHED BY (Print) Cory Gibbs	DATE 8/15/23	RECEIVED BY (Print)	
Signature	Time 1539	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.7

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Sample Condition Upon Receipt Form (SCUR)

Pace ANALYTICAL SERVICES

Affix Sample Label Here

Date and Initials of person:
Examining contents:_____
Label:_____
Deliver to location:_____
pH:_____

Thermometer Used: YES Date: 9/15/23 Time: 17:29 Initials: ERC Env.

State of Origin:_____

Cooler #1 Temp.°C 10.9 **(Visual)** _____**(Correction Factor)** _____**(Actual)** ☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other_____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ Other_____

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☑ No **Ice:** (Wet) Blue Melted None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Samples were collected by Pace employee ☐ Yes ☑ No ☐ N/A

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐ N/A	
Relinquished Signature on COC	☑Yes ☐ No ☐ N/A	
Sampler Name and Signature on COC	☑Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☐Yes ☐ No ☑ N/A	
Rush TAT requested on COC	☐Yes ☐ No ☑ N/A	
Sufficient Volume	☑Yes ☐ No ☐ N/A	
Correct Containers Used	☑Yes ☐ No ☐ N/A	
Containers Intact	☑Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked. All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: Vials, Microbiology, O&G, Metals	☐Yes ☐ No ☑ N/A ☐Yes ☐ No ☑ N/A	Preservation Information: Preservative:_____ Lot #/Trace #:_____ Date:_____ Time:_____ Initials:_____
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☑N/A	
Trip Blank Present:	☐Yes ☐ No ☑N/A	

Additional Login Comments:

Client notification/ Resolution

Person Contacted: Date/Time: 9/15/23 17:29

Comments/Resolution:

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low). The blank spikes met all QC criteria.

Method 1311/6010D:
The percent recoveries for Arsenic, Chromium and Lead were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 1311/7470A / 7473 / 1010A / 9045D:
All samples met the QC criteria.

Method 9014:
The percent recovery for Reactive Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23H0975-01 met all QC criteria.

ANALYSIS: PCBs [8082A]

Sample 23H0975-01 met all QC criteria.

ANALYSIS: PESTICIDES [8081B]

The percent recoveries for some compounds were outside of the QC limits for the blank spike (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAH0507-CCV1) was outside of the QC limits for Chloroethane (low).

Reviewed By: _____ (SK) 11/14/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-20230814**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3350		0.170	2.87	mg/kg dry	1	8/29/23 13:09
Barium	33.5		0.0434	0.574	mg/kg dry	1	8/29/23 13:09
Beryllium	0.404		0.00332	0.0287	mg/kg dry	1	8/29/23 13:09
Calcium	6760		3.23	28.7	mg/kg dry	1	8/29/23 13:09
Chromium	8.20		0.0324	0.287	mg/kg dry	1	8/29/23 13:09
Cobalt	3.10		0.0293	0.229	mg/kg dry	1	8/29/23 13:09
Copper	10.8		0.0802	0.287	mg/kg dry	1	8/29/23 13:09
Iron	8000		0.812	5.74	mg/kg dry	1	8/29/23 13:09
Lead	4.50		0.120	1.43	mg/kg dry	1	8/29/23 13:09
Magnesium	3540		10.1	57.4	mg/kg dry	1	8/29/23 13:09
Manganese	189		0.0357	0.287	mg/kg dry	1	8/29/23 13:09
Nickel	13.3		0.0252	0.143	mg/kg dry	1	8/29/23 13:09
Potassium	857		34.1	115	mg/kg dry	1	8/29/23 13:09
Sodium	237		5.47	57.4	mg/kg dry	1	8/29/23 13:09
Vanadium	11.9		0.0660	0.574	mg/kg dry	1	8/29/23 13:09
Zinc	18.5		0.0876	0.860	mg/kg dry	1	8/29/23 13:09

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.48		0.00279	0.100	mg/L	1	8/27/23 10:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	14.2	J, B			mg/kg dry	1	8/28/23 17:04
TIC_Octadecanoic acid, 2-methylpropyl ester	8.79	J			mg/kg dry	1	8/28/23 17:04
TIC_unknown	0.555	J			mg/kg dry	1	8/28/23 17:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.00149	J	0.000214	0.00149	mg/kg dry	1	8/25/23 5:47
TIC_Lab Contamination	0.00656	J			mg/kg dry	1	8/25/23 5:47

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloroform	0.00422	J, D	0.00365	0.0100	mg/L	10	8/23/23 19:40

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-20230814**

SW 846 9045D - General Chemistry (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.81				pH Units	1	8/18/23 17:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-202 30814** Collected: **8/14/2023 11:02:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00495	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1221	ND	U	0.00974	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1232	ND	U	0.0124	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1242	ND	U	0.00725	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1248	ND	U	0.00759	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1254	ND	U	0.00596	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1260	ND	U	0.00462	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1262	ND	U	0.00993	0.0369	mg/kg	1	8/26/23 15:14
Aroclor-1268	ND	U	0.00446	0.0369	mg/kg	1	8/26/23 15:14
Total PCBs	ND	U	0.00345	0.0369	mg/kg	1	8/26/23 15:14

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0110	0.112	mg/kg	1	8/28/23 16:06
2,4-D	ND	U	0.0186	0.112	mg/kg	1	8/28/23 16:06

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/24/23 9:06
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/24/23 9:06

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00559	0.0224	mg/kg	1	8/17/23 16:47

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/22/23 15:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3350**		**0.170**	**2.87**	**mg/kg**	**1**	**8/29/23 13:09**
Antimony	ND	U	0.156	1.43	mg/kg	1	8/29/23 13:09
Arsenic	ND	U	0.102	1.43	mg/kg	1	8/29/23 13:09
Barium	**33.5**		**0.0434**	**0.574**	**mg/kg**	**1**	**8/29/23 13:09**
Beryllium	**0.404**		**0.00332**	**0.0287**	**mg/kg**	**1**	**8/29/23 13:09**
Cadmium	ND	U	0.0559	0.287	mg/kg	1	8/29/23 13:09
Calcium	**6760**		**3.23**	**28.7**	**mg/kg**	**1**	**8/29/23 13:09**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-202 30814** Collected: **8/14/2023 11:02:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**8.20**		**0.0324**	**0.287**	**mg/kg**	**1**	**8/29/23 13:09**
Cobalt	**3.10**		**0.0293**	**0.229**	**mg/kg**	**1**	**8/29/23 13:09**
Copper	**10.8**		**0.0802**	**0.287**	**mg/kg**	**1**	**8/29/23 13:09**
Iron	**8000**		**0.812**	**5.74**	**mg/kg**	**1**	**8/29/23 13:09**
Lead	**4.50**		**0.120**	**1.43**	**mg/kg**	**1**	**8/29/23 13:09**
Magnesium	**3540**		**10.1**	**57.4**	**mg/kg**	**1**	**8/29/23 13:09**
Manganese	**189**		**0.0357**	**0.287**	**mg/kg**	**1**	**8/29/23 13:09**
Nickel	**13.3**		**0.0252**	**0.143**	**mg/kg**	**1**	**8/29/23 13:09**
Potassium	**857**		**34.1**	**115**	**mg/kg**	**1**	**8/29/23 13:09**
Selenium	ND	U	0.275	1.43	mg/kg	1	8/29/23 13:09
Silver	ND	U	0.0488	0.172	mg/kg	1	8/29/23 13:09
Sodium	**237**		**5.47**	**57.4**	**mg/kg**	**1**	**8/29/23 13:09**
Thallium	ND	U	0.0965	1.43	mg/kg	1	8/29/23 13:09
Vanadium	**11.9**		**0.0660**	**0.574**	**mg/kg**	**1**	**8/29/23 13:09**
Zinc	**18.5**		**0.0876**	**0.860**	**mg/kg**	**1**	**8/29/23 13:09**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/27/23 10:06
Barium	**1.48**		**0.00279**	**0.100**	**mg/L**	**1**	**8/27/23 10:06**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/27/23 10:06
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/27/23 10:06
Lead	ND	U	0.0255	0.250	mg/L	1	8/27/23 10:06
Selenium	ND	U	0.0760	0.250	mg/L	1	8/27/23 10:06
Silver	ND	U	0.0232	0.100	mg/L	1	8/27/23 10:06

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000665	0.00145	mg/kg	1	8/29/23 17:52
4,4'-DDE	ND	U	0.000795	0.00145	mg/kg	1	8/29/23 17:52
4,4'-DDT	ND	U	0.00103	0.00145	mg/kg	1	8/29/23 17:52
Aldrin	ND	U	0.000689	0.00145	mg/kg	1	8/29/23 17:52
alpha-BHC	ND	U	0.000433	0.00145	mg/kg	1	8/29/23 17:52
beta-BHC	ND	U	0.000695	0.00145	mg/kg	1	8/29/23 17:52
Chlordane	ND	U	0.000646	0.00145	mg/kg	1	8/29/23 17:52
delta-BHC	ND	U	0.000676	0.00145	mg/kg	1	8/29/23 17:52
Dieldrin	ND	U	0.000761	0.00145	mg/kg	1	8/29/23 17:52
Endosulfan I	ND	U	0.000687	0.00145	mg/kg	1	8/29/23 17:52

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-20230814** Collected: **8/14/2023 11:02:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000661	0.00145	mg/kg	1	8/29/23 17:52
Endosulfan sulfate	ND	U	0.000547	0.00145	mg/kg	1	8/29/23 17:52
Endosulfans, Total (alpha and beta)	ND	U	0.000661	0.00145	mg/kg	1	8/29/23 17:52
Endrin	ND	U	0.000502	0.00145	mg/kg	1	8/29/23 17:52
Endrin aldehyde	ND	U	0.000579	0.00145	mg/kg	1	8/29/23 17:52
Endrin ketone	ND	U	0.000512	0.00145	mg/kg	1	8/29/23 17:52
gamma-BHC (Lindane)	ND	U	0.000461	0.00145	mg/kg	1	8/29/23 17:52
Heptachlor	ND	U	0.000389	0.00145	mg/kg	1	8/29/23 17:52
Heptachlor Epoxide	ND	U	0.000734	0.00145	mg/kg	1	8/29/23 17:52
Methoxychlor	ND	U	0.000426	0.00145	mg/kg	1	8/29/23 17:52
Toxaphene	ND	U	0.0700	0.0738	mg/kg	1	8/29/23 17:52

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/25/23 23:41	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/25/23 23:41	UJ, RC:6L
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/25/23 23:41	
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/25/23 23:41	
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/25/23 23:41	UJ, RC:6L
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/25/23 23:41	UJ, RC:6L
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/25/23 23:41	
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/25/23 23:41	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/25/23 23:41	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/25/23 23:41	
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/25/23 23:41	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/25/23 23:41	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/25/23 23:41	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/25/23 23:41	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/25/23 23:41	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/25/23 23:41	
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/25/23 23:41	
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/25/23 23:41	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/25/23 23:41	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/25/23 23:41	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-202 30814** Collected: **8/14/2023 11:02:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00421	0.0372	mg/kg	1	8/28/23 17:04	
2,3,4,6-Tetrachlorophenol	ND	U	0.0229	0.149	mg/kg	1	8/28/23 17:04	
2,4,5-Trichlorophenol	ND	U	0.0202	0.149	mg/kg	1	8/28/23 17:04	
2,4,6-Trichlorophenol	ND	U	0.00932	0.149	mg/kg	1	8/28/23 17:04	
2,4-Dichlorophenol	ND	U	0.0150	0.149	mg/kg	1	8/28/23 17:04	
2,4-Dimethylphenol	ND	U	0.0147	0.149	mg/kg	1	8/28/23 17:04	
2,4-Dinitrophenol	ND	U	0.0215	0.746	mg/kg	1	8/28/23 17:04	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0159	0.149	mg/kg	1	8/28/23 17:04	
2,6-Dinitrotoluene	ND	U	0.0356	0.149	mg/kg	1	8/28/23 17:04	
2-Chloronaphthalene	ND	U	0.0171	0.149	mg/kg	1	8/28/23 17:04	
2-Chlorophenol	ND	U	0.0197	0.149	mg/kg	1	8/28/23 17:04	
2-Methylnaphthalene	ND	U	0.0357	0.224	mg/kg	1	8/28/23 17:04	
2-Methylphenol	ND	U	0.0294	0.149	mg/kg	1	8/28/23 17:04	
2-Nitroaniline	ND	U	0.0120	0.149	mg/kg	1	8/28/23 17:04	
2-Nitrophenol	ND	U	0.0166	0.149	mg/kg	1	8/28/23 17:04	
3,3'-Dichlorobenzidine	ND	U	0.0157	0.149	mg/kg	1	8/28/23 17:04	
3+4-Methylphenol	ND	U	0.0273	0.149	mg/kg	1	8/28/23 17:04	
3-Nitroaniline	ND	U	0.0276	0.149	mg/kg	1	8/28/23 17:04	
4,6-Dinitro-2-methylphenol	ND	U	0.0281	0.372	mg/kg	1	8/28/23 17:04	
4-Bromophenyl-phenyl ether	ND	U	0.0213	0.149	mg/kg	1	8/28/23 17:04	
4-Chloro-3-methylphenol	ND	U	0.0235	0.149	mg/kg	1	8/28/23 17:04	
4-Chloroaniline	ND	U	0.00521	0.149	mg/kg	1	8/28/23 17:04	
4-Chlorophenyl phenyl ether	ND	U	0.00804	0.149	mg/kg	1	8/28/23 17:04	
4-Nitroaniline	ND	U	0.0745	0.149	mg/kg	1	8/28/23 17:04	
4-Nitrophenol	ND	U	0.00953	0.149	mg/kg	1	8/28/23 17:04	
Acenaphthene	ND	U	0.00849	0.149	mg/kg	1	8/28/23 17:04	
Acenaphthylene	ND	U	0.00518	0.149	mg/kg	1	8/28/23 17:04	
Acetophenone	ND	U	0.0148	0.149	mg/kg	1	8/28/23 17:04	
Anthracene	ND	U	0.0216	0.149	mg/kg	1	8/28/23 17:04	
Atrazine	ND	U	0.0140	0.149	mg/kg	1	8/28/23 17:04	
Benzaldehyde	ND	U	0.0457	0.149	mg/kg	1	8/28/23 17:04	
Benzo(a)anthracene	ND	U	0.0150	0.149	mg/kg	1	8/28/23 17:04	
Benzo(a)pyrene	ND	U	0.0259	0.149	mg/kg	1	8/28/23 17:04	
Benzo(b)fluoranthene	ND	U	0.0209	0.149	mg/kg	1	8/28/23 17:04	
Benzo(g,h,i)perylene	ND	U	0.0121	0.149	mg/kg	1	8/28/23 17:04	
Benzo(k)fluoranthene	ND	U	0.0171	0.149	mg/kg	1	8/28/23 17:04	
Biphenyl	ND	U	0.0131	0.149	mg/kg	1	8/28/23 17:04	
bis(2-chloroethoxy)methane	ND	U	0.0206	0.149	mg/kg	1	8/28/23 17:04	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-20230814** Collected: **8/14/2023 11:02:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0163	0.149	mg/kg	1	8/28/23 17:04	
bis(2-chloroisopropyl)ether	ND	U	0.0536	0.149	mg/kg	1	8/28/23 17:04	
bis(2-ethylhexyl)phthalate	ND	U	0.0298	0.149	mg/kg	1	8/28/23 17:04	
Butylbenzylphthalate	ND	U	0.0135	0.149	mg/kg	1	8/28/23 17:04	
Caprolactam	ND	U	0.0192	0.149	mg/kg	1	8/28/23 17:04	
Carbazole	ND	U	0.0286	0.372	mg/kg	1	8/28/23 17:04	
Chrysene	ND	U	0.0102	0.149	mg/kg	1	8/28/23 17:04	
Dibenzo(a,h)anthracene	ND	U	0.0148	0.149	mg/kg	1	8/28/23 17:04	
Dibenzofuran	ND	U	0.00887	0.149	mg/kg	1	8/28/23 17:04	
Diethylphthalate	ND	U	0.0289	0.149	mg/kg	1	8/28/23 17:04	
Dimethylphthalate	ND	U	0.00924	0.149	mg/kg	1	8/28/23 17:04	
Di-n-butylphthalate	ND	U	0.0608	0.149	mg/kg	1	8/28/23 17:04	
Di-n-octylphthalate	ND	U	0.0305	0.149	mg/kg	1	8/28/23 17:04	
Fluoranthene	ND	U	0.0140	0.149	mg/kg	1	8/28/23 17:04	
Fluorene	ND	U	0.0124	0.149	mg/kg	1	8/28/23 17:04	
Hexachlorobenzene	ND	U	0.0195	0.149	mg/kg	1	8/28/23 17:04	
Hexachlorobutadiene	ND	U	0.0715	0.149	mg/kg	1	8/28/23 17:04	
Hexachlorocyclopentadiene	ND	U	0.0621	0.372	mg/kg	1	8/28/23 17:04	UJ, RC:SL
Hexachloroethane	ND	U	0.0163	0.149	mg/kg	1	8/28/23 17:04	
Indeno(1,2,3-cd)pyrene	ND	U	0.0160	0.149	mg/kg	1	8/28/23 17:04	
Isophorone	ND	U	0.00975	0.149	mg/kg	1	8/28/23 17:04	
Naphthalene	ND	U	0.0110	0.149	mg/kg	1	8/28/23 17:04	
Nitrobenzene	ND	U	0.0253	0.149	mg/kg	1	8/28/23 17:04	
n-Nitroso-di-n-propylamine	ND	U	0.00797	0.149	mg/kg	1	8/28/23 17:04	
n-Nitrosodiphenylamine	ND	U	0.0318	0.149	mg/kg	1	8/28/23 17:04	
Pentachlorophenol	ND	U	0.0205	0.372	mg/kg	1	8/28/23 17:04	UJ, RC:SL
Phenanthrene	ND	U	0.0196	0.149	mg/kg	1	8/28/23 17:04	
Phenol	ND	U	0.0121	0.149	mg/kg	1	8/28/23 17:04	
Pyrene	ND	U	0.0109	0.149	mg/kg	1	8/28/23 17:04	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	14.2	12.18	J, B	mg/kg	1	8/28/23 17:04
Octadecanoic acid, 2-methylpropyl ester	8.79	12.99	J	mg/kg	1	8/28/23 17:04
unknown	0.555	14.62	J	mg/kg	1	8/28/23 17:04
TIC Total	**23.5**					

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-20230814** Collected: **8/14/2023 11:02:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/25/23 16:28	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/25/23 16:28	
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/25/23 16:28	
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/25/23 16:28	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/25/23 16:28	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/25/23 16:28	UJ, RC:SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/25/23 16:28	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/25/23 16:28	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/25/23 16:28	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/25/23 16:28	UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/25/23 16:28	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000218	0.00149	mg/kg	1	8/25/23 5:47	
1,1,2,2-Tetrachloroethane	ND	U	0.000206	0.00149	mg/kg	1	8/25/23 5:47	UJ, RC:SL
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000638	0.00149	mg/kg	1	8/25/23 5:47	
1,1,2-Trichloroethane	ND	U	0.000251	0.00149	mg/kg	1	8/25/23 5:47	
1,1-Dichloroethane	ND	U	0.000218	0.00149	mg/kg	1	8/25/23 5:47	
1,1-Dichloroethene	ND	U	0.000276	0.00149	mg/kg	1	8/25/23 5:47	
1,2,3-Trichlorobenzene	ND	U	0.000322	0.00149	mg/kg	1	8/25/23 5:47	
1,2,4-Trichlorobenzene	ND	U	0.000397	0.00149	mg/kg	1	8/25/23 5:47	
1,2,4-Trimethylbenzene	ND	U	0.000206	0.00149	mg/kg	1	8/25/23 5:47	
1,2-Dibromo-3-chloropropane	ND	U	0.000364	0.00373	mg/kg	1	8/25/23 5:47	
1,2-Dibromoethane	ND	U	0.000188	0.00149	mg/kg	1	8/25/23 5:47	
1,2-Dichlorobenzene	ND	U	0.000263	0.00149	mg/kg	1	8/25/23 5:47	
1,2-Dichloroethane	ND	U	0.000210	0.00149	mg/kg	1	8/25/23 5:47	
1,2-Dichloropropane	ND	U	0.000245	0.00149	mg/kg	1	8/25/23 5:47	UJ, RC:SL
1,3-Dichlorobenzene	ND	U	0.000110	0.00149	mg/kg	1	8/25/23 5:47	
1,4-Dichlorobenzene	ND	U	0.000215	0.00149	mg/kg	1	8/25/23 5:47	
2-Butanone	ND	U	0.000243	0.00746	mg/kg	1	8/25/23 5:47	
2-Hexanone	ND	U	0.000139	0.00149	mg/kg	1	8/25/23 5:47	
4-Methyl-2-pentanone	ND	U	0.000186	0.00149	mg/kg	1	8/25/23 5:47	
Acetone	ND	U	0.000452	0.0373	mg/kg	1	8/25/23 5:47	
Benzene	ND	U	0.000136	0.00149	mg/kg	1	8/25/23 5:47	
Bromochloromethane	ND	U	0.000275	0.00149	mg/kg	1	8/25/23 5:47	
Bromodichloromethane	ND	U	0.000187	0.00149	mg/kg	1	8/25/23 5:47	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0975
Date to Lab: 8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-202 30814** Collected: **8/14/2023 11:02:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromoform	ND	U	0.000262	0.00149	mg/kg	1	8/25/23 5:47
Bromomethane	ND	U	0.000430	0.00149	mg/kg	1	8/25/23 5:47
Carbon disulfide	**0.00149**	J	**0.000214**	**0.00149**	**mg/kg**	**1**	**8/25/23 5:47**
Carbon Tetrachloride	ND	U	0.000224	0.00149	mg/kg	1	8/25/23 5:47
Chlorobenzene	ND	U	0.000216	0.00149	mg/kg	1	8/25/23 5:47
Chlorodibromomethane	ND	U	0.000183	0.00149	mg/kg	1	8/25/23 5:47
Chloroethane	ND	U	0.000254	0.00149	mg/kg	1	8/25/23 5:47
Chloroform	ND	U	0.000251	0.00149	mg/kg	1	8/25/23 5:47
Chloromethane	ND	U	0.000574	0.00149	mg/kg	1	8/25/23 5:47
cis-1,2-Dichloroethene	ND	U	0.0000721	0.00149	mg/kg	1	8/25/23 5:47
cis-1,3-Dichloropropene	ND	U	0.000189	0.00149	mg/kg	1	8/25/23 5:47
Cyclohexane	ND	U	0.000330	0.00149	mg/kg	1	8/25/23 5:47
Dichlorodifluoromethane	ND	U	0.000503	0.00149	mg/kg	1	8/25/23 5:47
EthylBenzene	ND	U	0.000202	0.00149	mg/kg	1	8/25/23 5:47
Isopropylbenzene	ND	U	0.000234	0.00149	mg/kg	1	8/25/23 5:47
m+p-Xylenes	ND	U	0.000377	0.00298	mg/kg	1	8/25/23 5:47
Methyl Acetate	ND	U	0.000198	0.00149	mg/kg	1	8/25/23 5:47
Methyl tert-Butyl Ether	ND	U	0.000252	0.00149	mg/kg	1	8/25/23 5:47
Methylcyclohexane	ND	U	0.000240	0.00149	mg/kg	1	8/25/23 5:47
Methylene Chloride	ND	U	0.000448	0.00373	mg/kg	1	8/25/23 5:47
o-Xylene	ND	U	0.000192	0.00149	mg/kg	1	8/25/23 5:47
Styrene	ND	U	0.000213	0.00149	mg/kg	1	8/25/23 5:47
tert-Butyl alcohol	ND	U	0.00313	0.0149	mg/kg	1	8/25/23 5:47
Tetrachloroethene	ND	U	0.000148	0.00149	mg/kg	1	8/25/23 5:47
Toluene	ND	U	0.000120	0.00149	mg/kg	1	8/25/23 5:47
Total Xylenes	ND	U	0.000192	0.00149	mg/kg	1	8/25/23 5:47
trans-1,2-Dichloroethene	ND	U	0.000202	0.00149	mg/kg	1	8/25/23 5:47
trans-1,3-Dichloropropene	ND	U	0.000285	0.00149	mg/kg	1	8/25/23 5:47
Trichloroethene	ND	U	0.000219	0.00149	mg/kg	1	8/25/23 5:47
Trichlorofluoromethane	ND	U	0.000171	0.00149	mg/kg	1	8/25/23 5:47
Vinyl chloride	ND	U	0.000283	0.00149	mg/kg	1	8/25/23 5:47

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.00656	3.90	J	mg/kg	1	8/25/23 5:47
TIC Total	**0.007**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0975
Project:	Owls Head Phase 2	**Date to Lab:**	8/15/2023 3:39:00PM

23H0975-01 (Soil) Sample Name: **MR-304-65.0-67.0-202 30814** Collected: **8/14/2023 11:02:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/23/23 19:40	
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/23/23 19:40	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/23/23 19:40	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/23/23 19:40	UJ, RC:6L
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/23/23 19:40	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/23/23 19:40	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/23/23 19:40	
Chloroform	**0.00422**	J, D	**0.00365**	**0.0100**	**mg/L**	**10**	**8/23/23 19:40**	J, RC:3H
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/23/23 19:40	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/23/23 19:40	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/23/23 19:40	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.4**				**%**	**1**	**8/16/23 9:45**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/16/23 15:44

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.11	0.11	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.112	0.112	mg/kg	1	8/21/23 9:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.81**				**pH Units**	**1**	**8/18/23 17:00**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H1159
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 16, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
SCPT-109-3.0-4.5-20230817	23H1159-01	8/17/2023	Soil
SCPT-101-4.0-5.0-20230817	23H1159-02	8/17/2023	Soil

Data validation was performed on the analytical data for two (2) samples collected August 17, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, surrogates, serial dilutions, matrix spike samples and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30%

relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	SCPT-101-4.0-5.0-20230817 SCPT-109-3.0-4.5-20230817	2-Butanone Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	SCPT-101-4.0-5.0-20230817 SCPT-109-3.0-4.5-20230817	Phenol-d6%	> CL	J (Detects) No action (NDs)	3H

- Since only one acid surrogate was outside control limits, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	SCPT-109-3.0-4.5-20230817 SCPT-101-4.0-5.0-20230817	2,4,6-Trichlorophenol	10% < %R < CL	J (detects) UJ (non-detects)	6L
		2,4-Dinitrotoluene			

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Hexachlorobenzene	10% > %R < CL	J (detects) R (non-detects)	6L
8270E	SCPT-109-3.0-4.5-20230817 SCPT-101-4.0-5.0-20230817	Acetophenone	> CL	J (Detects) No action (NDs)	6H
		3-Nitroaniline			
		3+4-Methylphenol			
		Phenol			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	SCPT-109-3.0-4.5-20230817 SCPT-101-4.0-5.0-20230817	2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Hexachlorobenzene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	SCPT-109-3.0-4.5-20230817 SCPT-101-4.0-5.0-20230817	1,4-Dioxane 2,4-Dimethylphenol 2-Methylphenol 3+4-Methylphenol Acetophenone Benzaldehyde bis(2-chloroethoxy)methane bis(2-chloroethyl)ether Isophorone Nitrobenzene n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2,4-Dinitrophenol Caprolactam Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	SCPT-109-3.0-4.5-20230817	DCB TCMX	10% < %R < CL	J (detects) UJ (non-detects)	3L
8151A	SCPT-101-4.0-5.0-20230817	DCAA	> CL	J (Detects) No action (NDs)	3H
8081B-TCLP	SCPT-101-4.0-5.0-20230817	DCB TCMX	> CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	SCPT-109-3.0-4.5-20230817 SCPT-101-4.0-5.0-20230817	4,4'-DDD	> CL	J (Detects) No action (NDs)	6H
		4,4'-DDT			
		Andrin			
		alpha-Chlordane			
		Chlordane			
		Endosulfan I			
		Endosulfan II			
		Endosulfan Sulfate			
		Endrin aldehyde			
		Endrin ketone			
		gamma-chlordane			
		Heptachlor epoxide			
		Methoxychlor			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	SCPT-109-3.0-4.5-20230817 SCPT-101-4.0-5.0-20230817	Selenium	30% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established

acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	SCPT-109-3.0-4.5-20230817	Aluminum	30% < %R < CL	J (detects) UJ (non-detects)	4L
		Antimony			
		Beryllium			
		Cadmium			
		Cobalt			
		Magnesium			
		Selenium			
		Silver			
		Thallium			
		Vanadium	> CL	J (Detects) No action (NDs)	4H
		Zinc			
	SCPT-101-4.0-5.0-20230817	Aluminum	30% < %R < CL	J (detects) UJ (non-detects)	4L
		Antimony			
		Arsenic			
		Beryllium			
		Cadmium			
		Cobalt			
		Iron			
		Magnesium			
		Nickel			
		Selenium			
		Sodium			
		Silver			
		Thallium			
		Vanadium			

- The MS/MSD analysis performed on a sample SCPT-109-3.0-4.5-20230817 exhibited recoveries outside control limit for other analytes (Barium, Calcium, Lead, Manganese). However, since the sample concentration was greater than four times the spike amount, no qualification was required.
- The MS/MSD analysis performed on a sample SCPT-101-4.0-5.0-20230817 exhibited recoveries outside control limit for other analytes (Barium, Calcium, Lead, Chromium and Copper). However, since the sample concentration was greater than four times the spike amount, no qualification was required.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was performed on a sample SCPT-109-3.0-4.5-20230817 exhibited RPDs outside control limits for Aluminum, Barium Calcium, Chromium, Cobalt, Copper, Iron Lead, Magnesium, Manganese, Nickel, Vanadium and Zinc. Results are qualified as estimated, J, reason code, AA.
- The serial dilution analysis was performed on a sample SCPT-101-4.0-5.0-20230817 exhibited RPDs outside control limits for Potassium and Sodium. Results are qualified as estimated, J, reason code, AA.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 16, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H1159

Yu & Associates

Project: Red Hook-Gowanus

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 04, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H1159

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SCPT-109-3.0-4.5-20230817	23H1159-01	Soil	08/17/2023 08:24	08/17/2023 14:40
SCPT-101-4.0-5.0-20230817	23H1159-02	Soil	08/17/2023 11:49	08/17/2023 14:40

PN: 23H1159

APL 23H1159

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E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 1568541	SAMPLED BY: AM

PAGE ____ OF ____

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

[X] NYS Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
	SCPT-109-3.0-4.5-20230817	8/17/23	0824	X		S	5		TCL VOCs, SVOCs, Pest, PCB, TAL metals, Cyanide, Herb, Full TCL (VOCs, SVOCs, Pest, Herb, Metals), RCRA Charac.
	SCPT-101-4.0-5.0-20230817	8/17/23	1149	X		S	5		

RELINQUISHED BY (Print) Azzell Marino	DATE 8/17/23	RECEIVED BY (Print) Alfonso Rivera (APL)	8-17-23
Signature	Time 1253	Signature	1253
RELINQUISHED BY (Print) Alfonso Rivera	DATE 8-17-23	RECEIVED BY (Print) Marlon Rivera	8/17/23
Signature	Time 1445	Signature	14:40
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 10°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7473 / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).
Method 1311/6010D:
The percent recoveries for Arsenic, Chromium and Lead were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Method 9014:
The percent recovery for Reactive Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Methods 7473 / 1311/7470A / 1010A / 9045D:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23H1159-02 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: PCBs [8082A]

Samples 23H1159-01 and -02 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]

Sample 23H1159-02 has surrogates outside of the QC limits (high), due to matrix interference.

The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low and high).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

Samples 23H1159-01 and -02 have one surrogate (Phenol-d6) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAH0583-CCV1) was outside of the QC limits for 2-Butanone (high), Acetone (high) and Chloroethane (low).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Reviewed By: _____ (SK) 10/11/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.110		0.00653	0.0261	mg/kg dry	1	8/18/23 15:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5180		0.194	3.26	mg/kg dry	1	8/30/23 10:40
Arsenic	5.43		0.116	1.63	mg/kg dry	1	8/30/23 10:40
Barium	216		0.0493	0.653	mg/kg dry	1	8/30/23 10:40
Beryllium	0.731		0.00378	0.0326	mg/kg dry	1	8/30/23 10:40
Calcium	30300	D	36.7	326	mg/kg dry	10	8/30/23 14:13
Chromium	9.98		0.0368	0.326	mg/kg dry	1	8/30/23 10:40
Cobalt	4.40		0.0333	0.261	mg/kg dry	1	8/30/23 10:40
Copper	27.0		0.0913	0.326	mg/kg dry	1	8/30/23 10:40
Iron	9660		0.924	6.53	mg/kg dry	1	8/30/23 10:40
Lead	99.8		0.136	1.63	mg/kg dry	1	8/30/23 10:40
Magnesium	13500		11.5	65.3	mg/kg dry	1	8/30/23 10:40
Manganese	81.8		0.0406	0.326	mg/kg dry	1	8/30/23 10:40
Nickel	12.8		0.0287	0.163	mg/kg dry	1	8/30/23 10:40
Potassium	308		38.8	131	mg/kg dry	1	8/30/23 10:40
Selenium	1.89		0.313	1.63	mg/kg dry	1	8/30/23 10:40
Silver	0.487		0.0555	0.196	mg/kg dry	1	8/30/23 10:40
Sodium	1950		6.22	65.3	mg/kg dry	1	8/30/23 10:40
Thallium	4.17		0.110	1.63	mg/kg dry	1	8/30/23 10:40
Vanadium	26.7		0.0750	0.653	mg/kg dry	1	8/30/23 10:40
Zinc	38.5		0.0997	0.979	mg/kg dry	1	8/30/23 10:40

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.276		0.00279	0.100	mg/L	1	8/31/23 12:48

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.106	J	0.0416	0.261	mg/kg dry	1	9/1/23 3:59
3+4-Methylphenol	0.0788	J	0.0318	0.174	mg/kg dry	1	9/1/23 3:59
Acenaphthene	0.0407	J	0.00991	0.174	mg/kg dry	1	9/1/23 3:59
Acenaphthylene	0.0931	J	0.00604	0.174	mg/kg dry	1	9/1/23 3:59
Anthracene	0.213		0.0252	0.174	mg/kg dry	1	9/1/23 3:59
Benzo(a)anthracene	0.442		0.0175	0.174	mg/kg dry	1	9/1/23 3:59
Benzo(a)pyrene	0.556		0.0303	0.174	mg/kg dry	1	9/1/23 3:59
Benzo(b)fluoranthene	0.644		0.0244	0.174	mg/kg dry	1	9/1/23 3:59

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(g,h,i)perylene	0.354		0.0141	0.174	mg/kg dry	1	9/1/23 3:59
Benzo(k)fluoranthene	0.222		0.0200	0.174	mg/kg dry	1	9/1/23 3:59
Biphenyl	0.0345	J	0.0153	0.174	mg/kg dry	1	9/1/23 3:59
Carbazole	0.0591	J	0.0334	0.435	mg/kg dry	1	9/1/23 3:59
Chrysene	0.663		0.0119	0.174	mg/kg dry	1	9/1/23 3:59
Dibenzo(a,h)anthracene	0.117	J	0.0172	0.174	mg/kg dry	1	9/1/23 3:59
Dibenzofuran	0.0626	J	0.0103	0.174	mg/kg dry	1	9/1/23 3:59
Fluoranthene	0.730		0.0163	0.174	mg/kg dry	1	9/1/23 3:59
Indeno(1,2,3-cd)pyrene	0.249		0.0187	0.174	mg/kg dry	1	9/1/23 3:59
Naphthalene	0.112	J	0.0129	0.174	mg/kg dry	1	9/1/23 3:59
Phenanthrene	0.519		0.0228	0.174	mg/kg dry	1	9/1/23 3:59
Pyrene	1.04		0.0128	0.174	mg/kg dry	1	9/1/23 3:59
TIC_Dodecane, 4-methyl-	1.48	J			mg/kg dry	1	9/1/23 3:59
TIC_Eicosane	1.01	J			mg/kg dry	1	9/1/23 3:59
TIC_Hexadecane	1.13	J			mg/kg dry	1	9/1/23 3:59
TIC_Hexadecanoic acid, butyl ester	5.88	J			mg/kg dry	1	9/1/23 3:59
TIC_Octadecanoic acid, 2-methylpropyl ester	3.48	J			mg/kg dry	1	9/1/23 3:59
TIC_Tetradecane	0.941	J			mg/kg dry	1	9/1/23 3:59

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.0187	J			mg/kg dry	1	8/29/23 17:07

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.19				pH Units	1	8/18/23 17:00

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.791		0.00567	0.0227	mg/kg dry	1	8/18/23 15:16

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5510		0.168	2.83	mg/kg dry	1	8/30/23 11:08
Antimony	1.81		0.154	1.42	mg/kg dry	1	8/30/23 11:08
Arsenic	12.2		0.101	1.42	mg/kg dry	1	8/30/23 11:08

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1520	D	0.428	5.67	mg/kg dry	10	8/30/23 14:15
Beryllium	0.579		0.00328	0.0283	mg/kg dry	1	8/30/23 11:08
Calcium	15400		3.19	28.3	mg/kg dry	1	8/30/23 11:08
Chromium	179		0.0320	0.283	mg/kg dry	1	8/30/23 11:08
Cobalt	6.46		0.0290	0.227	mg/kg dry	1	8/30/23 11:08
Copper	81.3		0.0793	0.283	mg/kg dry	1	8/30/23 11:08
Iron	18800		0.803	5.67	mg/kg dry	1	8/30/23 11:08
Lead	6940	D	1.18	14.2	mg/kg dry	10	8/30/23 14:15
Magnesium	5070		10.0	56.7	mg/kg dry	1	8/30/23 11:08
Manganese	130		0.0352	0.283	mg/kg dry	1	8/30/23 11:08
Nickel	17.1		0.0249	0.142	mg/kg dry	1	8/30/23 11:08
Potassium	749		33.7	113	mg/kg dry	1	8/30/23 11:08
Silver	0.442		0.0482	0.170	mg/kg dry	1	8/30/23 11:08
Sodium	5720		5.40	56.7	mg/kg dry	1	8/30/23 11:08
Thallium	3.13		0.0953	1.42	mg/kg dry	1	8/30/23 11:08
Vanadium	22.8		0.0652	0.567	mg/kg dry	1	8/30/23 11:08
Zinc	99.5		0.0866	0.850	mg/kg dry	1	8/30/23 11:08

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.72		0.00279	0.100	mg/L	1	8/31/23 12:51
Lead	116		0.0255	0.250	mg/L	1	8/31/23 12:51

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.313	J	0.0542	0.340	mg/kg dry	1	9/1/23 4:29
Acenaphthene	0.269		0.0129	0.226	mg/kg dry	1	9/1/23 4:29
Acenaphthylene	0.389		0.00787	0.226	mg/kg dry	1	9/1/23 4:29
Acetophenone	0.120	J	0.0224	0.226	mg/kg dry	1	9/1/23 4:29
Anthracene	0.685		0.0328	0.226	mg/kg dry	1	9/1/23 4:29
Benzo(a)anthracene	1.34		0.0228	0.226	mg/kg dry	1	9/1/23 4:29
Benzo(a)pyrene	1.57		0.0394	0.226	mg/kg dry	1	9/1/23 4:29
Benzo(b)fluoranthene	2.27		0.0318	0.226	mg/kg dry	1	9/1/23 4:29
Benzo(g,h,i)perylene	1.08		0.0184	0.226	mg/kg dry	1	9/1/23 4:29
Benzo(k)fluoranthene	0.570		0.0260	0.226	mg/kg dry	1	9/1/23 4:29
Biphenyl	0.0990	J	0.0199	0.226	mg/kg dry	1	9/1/23 4:29
bis(2-ethylhexyl)phthalate	0.146	J	0.0452	0.226	mg/kg dry	1	9/1/23 4:29
Carbazole	0.113	J	0.0435	0.566	mg/kg dry	1	9/1/23 4:29
Chrysene	1.61		0.0155	0.226	mg/kg dry	1	9/1/23 4:29

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzo(a,h)anthracene	0.270		0.0224	0.226	mg/kg dry	1	9/1/23 4:29
Dibenzofuran	0.238		0.0135	0.226	mg/kg dry	1	9/1/23 4:29
Fluoranthene	2.72		0.0213	0.226	mg/kg dry	1	9/1/23 4:29
Fluorene	0.272		0.0189	0.226	mg/kg dry	1	9/1/23 4:29
Indeno(1,2,3-cd)pyrene	0.759		0.0243	0.226	mg/kg dry	1	9/1/23 4:29
Naphthalene	0.574		0.0168	0.226	mg/kg dry	1	9/1/23 4:29
Phenanthrene	2.02		0.0298	0.226	mg/kg dry	1	9/1/23 4:29
Pyrene	3.08		0.0166	0.226	mg/kg dry	1	9/1/23 4:29
TIC_Hexadecanoic acid, butyl ester	13.3	J			mg/kg dry	1	9/1/23 4:29
TIC_Octadecanoic acid, 2-methylpropyl ester	7.97	J			mg/kg dry	1	9/1/23 4:29

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.61				pH Units	1	8/18/23 17:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00578	0.0431	mg/kg	1	8/31/23 9:52	UJ, RC:3L
Aroclor-1221	ND	U	0.0114	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1232	ND	U	0.0145	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1242	ND	U	0.00846	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1248	ND	U	0.00885	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1254	ND	U	0.00695	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1260	ND	U	0.00539	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1262	ND	U	0.0116	0.0431	mg/kg	1	8/31/23 9:52	
Aroclor-1268	ND	U	0.00521	0.0431	mg/kg	1	8/31/23 9:52	
Total PCBs	ND	U	0.00402	0.0431	mg/kg	1	8/31/23 9:52	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0128	0.131	mg/kg	1	9/5/23 14:09
2,4-D	ND	U	0.0217	0.131	mg/kg	1	9/5/23 14:09

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/30/23 9:43
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/30/23 9:43

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.110**		**0.00653**	**0.0261**	**mg/kg**	**1**	**8/18/23 15:06**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/29/23 13:14

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5180**		**0.194**	**3.26**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L,AA
Antimony	ND	U	0.178	1.63	mg/kg	1	8/30/23 10:40	UJ, RC:4L
Arsenic	**5.43**		**0.116**	**1.63**	**mg/kg**	**1**	**8/30/23 10:40**	
Barium	**216**		**0.0493**	**0.653**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Beryllium	**0.731**		**0.00378**	**0.0326**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L
Cadmium	ND	U	0.0636	0.326	mg/kg	1	8/30/23 10:40	UJ, RC:4L
Calcium	**30300**	D	**36.7**	**326**	**mg/kg**	**10**	**8/30/23 14:13**	J, RC:AA

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**9.98**		**0.0368**	**0.326**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Cobalt	**4.40**		**0.0333**	**0.261**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L,AA
Copper	**27.0**		**0.0913**	**0.326**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Iron	**9660**		**0.924**	**6.53**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Lead	**99.8**		**0.136**	**1.63**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Magnesium	**13500**		**11.5**	**65.3**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L,AA
Manganese	**81.8**		**0.0406**	**0.326**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Nickel	**12.8**		**0.0287**	**0.163**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Potassium	**308**		**38.8**	**131**	**mg/kg**	**1**	**8/30/23 10:40**	
Selenium	**1.89**		**0.313**	**1.63**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L,6L
Silver	**0.487**		**0.0555**	**0.196**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L
Sodium	**1950**		**6.22**	**65.3**	**mg/kg**	**1**	**8/30/23 10:40**	
Thallium	**4.17**		**0.110**	**1.63**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:4L
Vanadium	**26.7**		**0.0750**	**0.653**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA
Zinc	**38.5**		**0.0997**	**0.979**	**mg/kg**	**1**	**8/30/23 10:40**	J, RC:AA

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/31/23 12:48
Barium	**0.276**		**0.00279**	**0.100**	**mg/L**	**1**	**8/31/23 12:48**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/31/23 12:48
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/31/23 12:48
Lead	ND	U	0.0255	0.250	mg/L	1	8/31/23 12:48
Selenium	ND	U	0.0760	0.250	mg/L	1	8/31/23 12:48
Silver	ND	U	0.0232	0.100	mg/L	1	8/31/23 12:48

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000777	0.00170	mg/kg	1	8/31/23 19:41
4,4'-DDE	ND	U	0.000928	0.00170	mg/kg	1	8/31/23 19:41
4,4'-DDT	ND	U	0.00120	0.00170	mg/kg	1	8/31/23 19:41
Aldrin	ND	U	0.000804	0.00170	mg/kg	1	8/31/23 19:41
alpha-BHC	ND	U	0.000505	0.00170	mg/kg	1	8/31/23 19:41
beta-BHC	ND	U	0.000811	0.00170	mg/kg	1	8/31/23 19:41
Chlordane	ND	U	0.000754	0.00170	mg/kg	1	8/31/23 19:41
delta-BHC	ND	U	0.000788	0.00170	mg/kg	1	8/31/23 19:41
Dieldrin	ND	U	0.000888	0.00170	mg/kg	1	8/31/23 19:41
Endosulfan I	ND	U	0.000801	0.00170	mg/kg	1	8/31/23 19:41

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000771	0.00170	mg/kg	1	8/31/23 19:41
Endosulfan sulfate	ND	U	0.000638	0.00170	mg/kg	1	8/31/23 19:41
Endosulfans, Total (alpha and beta)	ND	U	0.000771	0.00170	mg/kg	1	8/31/23 19:41
Endrin	ND	U	0.000586	0.00170	mg/kg	1	8/31/23 19:41
Endrin aldehyde	ND	U	0.000676	0.00170	mg/kg	1	8/31/23 19:41
Endrin ketone	ND	U	0.000598	0.00170	mg/kg	1	8/31/23 19:41
gamma-BHC (Lindane)	ND	U	0.000538	0.00170	mg/kg	1	8/31/23 19:41
Heptachlor	ND	U	0.000454	0.00170	mg/kg	1	8/31/23 19:41
Heptachlor Epoxide	ND	U	0.000856	0.00170	mg/kg	1	8/31/23 19:41
Methoxychlor	ND	U	0.000497	0.00170	mg/kg	1	8/31/23 19:41
Toxaphene	ND	U	0.0817	0.0861	mg/kg	1	8/31/23 19:41

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/30/23 18:34
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/30/23 18:34
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/30/23 18:34
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/30/23 18:34
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/30/23 18:34
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/30/23 18:34
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/30/23 18:34
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/30/23 18:34
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/30/23 18:34
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/30/23 18:34
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/30/23 18:34
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/30/23 18:34
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/30/23 18:34
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/30/23 18:34
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/30/23 18:34
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/30/23 18:34
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/30/23 18:34
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/30/23 18:34
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/30/23 18:34
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/30/23 18:34

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00491	0.0435	mg/kg	1	9/1/23 3:59	
2,3,4,6-Tetrachlorophenol	ND	U	0.0268	0.174	mg/kg	1	9/1/23 3:59	
2,4,5-Trichlorophenol	ND	U	0.0236	0.174	mg/kg	1	9/1/23 3:59	
2,4,6-Trichlorophenol	ND	U	0.0109	0.174	mg/kg	1	9/1/23 3:59	
2,4-Dichlorophenol	ND	U	0.0175	0.174	mg/kg	1	9/1/23 3:59	
2,4-Dimethylphenol	ND	U	0.0171	0.174	mg/kg	1	9/1/23 3:59	
2,4-Dinitrophenol	ND	U	0.0251	0.871	mg/kg	1	9/1/23 3:59	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0185	0.174	mg/kg	1	9/1/23 3:59	
2,6-Dinitrotoluene	ND	U	0.0415	0.174	mg/kg	1	9/1/23 3:59	
2-Chloronaphthalene	ND	U	0.0200	0.174	mg/kg	1	9/1/23 3:59	
2-Chlorophenol	ND	U	0.0230	0.174	mg/kg	1	9/1/23 3:59	
2-Methylnaphthalene	**0.106**	J	**0.0416**	**0.261**	**mg/kg**	**1**	**9/1/23 3:59**	
2-Methylphenol	ND	U	0.0343	0.174	mg/kg	1	9/1/23 3:59	
2-Nitroaniline	ND	U	0.0140	0.174	mg/kg	1	9/1/23 3:59	
2-Nitrophenol	ND	U	0.0193	0.174	mg/kg	1	9/1/23 3:59	
3,3'-Dichlorobenzidine	ND	U	0.0183	0.174	mg/kg	1	9/1/23 3:59	
3+4-Methylphenol	**0.0788**	J	**0.0318**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	J, RC:6H,SH
3-Nitroaniline	ND	U	0.0322	0.174	mg/kg	1	9/1/23 3:59	
4,6-Dinitro-2-methylphenol	ND	U	0.0328	0.435	mg/kg	1	9/1/23 3:59	
4-Bromophenyl-phenyl ether	ND	U	0.0248	0.174	mg/kg	1	9/1/23 3:59	
4-Chloro-3-methylphenol	ND	U	0.0274	0.174	mg/kg	1	9/1/23 3:59	
4-Chloroaniline	ND	U	0.00608	0.174	mg/kg	1	9/1/23 3:59	
4-Chlorophenyl phenyl ether	ND	U	0.00938	0.174	mg/kg	1	9/1/23 3:59	
4-Nitroaniline	ND	U	0.0869	0.174	mg/kg	1	9/1/23 3:59	
4-Nitrophenol	ND	U	0.0111	0.174	mg/kg	1	9/1/23 3:59	
Acenaphthene	**0.0407**	J	**0.00991**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Acenaphthylene	**0.0931**	J	**0.00604**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Acetophenone	ND	U	0.0172	0.174	mg/kg	1	9/1/23 3:59	
Anthracene	**0.213**		**0.0252**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Atrazine	ND	U	0.0163	0.174	mg/kg	1	9/1/23 3:59	
Benzaldehyde	ND	U	0.0534	0.174	mg/kg	1	9/1/23 3:59	
Benzo(a)anthracene	**0.442**		**0.0175**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Benzo(a)pyrene	**0.556**		**0.0303**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Benzo(b)fluoranthene	**0.644**		**0.0244**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Benzo(g,h,i)perylene	**0.354**		**0.0141**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Benzo(k)fluoranthene	**0.222**		**0.0200**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Biphenyl	**0.0345**	J	**0.0153**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
bis(2-chloroethoxy)methane	ND	U	0.0240	0.174	mg/kg	1	9/1/23 3:59	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0191	0.174	mg/kg	1	9/1/23 3:59	
bis(2-chloroisopropyl)ether	ND	U	0.0625	0.174	mg/kg	1	9/1/23 3:59	
bis(2-ethylhexyl)phthalate	ND	U	0.0347	0.174	mg/kg	1	9/1/23 3:59	
Butylbenzylphthalate	ND	U	0.0158	0.174	mg/kg	1	9/1/23 3:59	
Caprolactam	ND	U	0.0224	0.174	mg/kg	1	9/1/23 3:59	UJ, RC:SL
Carbazole	**0.0591**	J	**0.0334**	**0.435**	**mg/kg**	**1**	**9/1/23 3:59**	
Chrysene	**0.663**		**0.0119**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Dibenzo(a,h)anthracene	**0.117**	J	**0.0172**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Dibenzofuran	**0.0626**	J	**0.0103**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Diethylphthalate	ND	U	0.0337	0.174	mg/kg	1	9/1/23 3:59	
Dimethylphthalate	ND	U	0.0108	0.174	mg/kg	1	9/1/23 3:59	
Di-n-butylphthalate	ND	U	0.0710	0.174	mg/kg	1	9/1/23 3:59	
Di-n-octylphthalate	ND	U	0.0356	0.174	mg/kg	1	9/1/23 3:59	
Fluoranthene	**0.730**		**0.0163**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Fluorene	ND	U	0.0145	0.174	mg/kg	1	9/1/23 3:59	
Hexachlorobenzene	ND	U	0.0227	0.174	mg/kg	1	9/1/23 3:59	
Hexachlorobutadiene	ND	U	0.0834	0.174	mg/kg	1	9/1/23 3:59	
Hexachlorocyclopentadiene	ND	U	0.0724	0.435	mg/kg	1	9/1/23 3:59	UJ, RC:SL
Hexachloroethane	ND	U	0.0191	0.174	mg/kg	1	9/1/23 3:59	
Indeno(1,2,3-cd)pyrene	**0.249**		**0.0187**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Isophorone	ND	U	0.0114	0.174	mg/kg	1	9/1/23 3:59	
Naphthalene	**0.112**	J	**0.0129**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Nitrobenzene	ND	U	0.0295	0.174	mg/kg	1	9/1/23 3:59	
n-Nitroso-di-n-propylamine	ND	U	0.00931	0.174	mg/kg	1	9/1/23 3:59	
n-Nitrosodiphenylamine	ND	U	0.0371	0.174	mg/kg	1	9/1/23 3:59	
Pentachlorophenol	ND	U	0.0239	0.435	mg/kg	1	9/1/23 3:59	UJ, RC:SL
Phenanthrene	**0.519**		**0.0228**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	
Phenol	ND	U	0.0141	0.174	mg/kg	1	9/1/23 3:59	
Pyrene	**1.04**		**0.0128**	**0.174**	**mg/kg**	**1**	**9/1/23 3:59**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Dodecane, 4-methyl-	1.48	10.57	J	mg/kg	1	9/1/23 3:59
Eicosane	1.01	11.41	J	mg/kg	1	9/1/23 3:59
Hexadecane	1.13	9.65	J	mg/kg	1	9/1/23 3:59
Hexadecanoic acid, butyl ester	5.88	12.15	J	mg/kg	1	9/1/23 3:59
Octadecanoic acid, 2-methylpropyl ester	3.48	12.96	J	mg/kg	1	9/1/23 3:59

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Tetradecane	0.941	10.61	J	mg/kg	1	9/1/23 3:59
TIC Total	**13.9**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/29/23 19:23	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/29/23 19:23	UJ, RC:6L
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/29/23 19:23	UJ, RC:6L
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/29/23 19:23	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/29/23 19:23	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/29/23 19:23	UJ, RC:6L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/29/23 19:23	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/29/23 19:23	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/29/23 19:23	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/29/23 19:23	UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/29/23 19:23	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000334	0.00229	mg/kg	1	8/29/23 17:07
1,1,2,2-Tetrachloroethane	ND	U	0.000316	0.00229	mg/kg	1	8/29/23 17:07
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000980	0.00229	mg/kg	1	8/29/23 17:07
1,1,2-Trichloroethane	ND	U	0.000386	0.00229	mg/kg	1	8/29/23 17:07
1,1-Dichloroethane	ND	U	0.000334	0.00229	mg/kg	1	8/29/23 17:07
1,1-Dichloroethene	ND	U	0.000424	0.00229	mg/kg	1	8/29/23 17:07
1,2,3-Trichlorobenzene	ND	U	0.000495	0.00229	mg/kg	1	8/29/23 17:07
1,2,4-Trichlorobenzene	ND	U	0.000610	0.00229	mg/kg	1	8/29/23 17:07
1,2,4-Trimethylbenzene	ND	U	0.000316	0.00229	mg/kg	1	8/29/23 17:07
1,2-Dibromo-3-chloropropane	ND	U	0.000559	0.00572	mg/kg	1	8/29/23 17:07
1,2-Dibromoethane	ND	U	0.000289	0.00229	mg/kg	1	8/29/23 17:07
1,2-Dichlorobenzene	ND	U	0.000404	0.00229	mg/kg	1	8/29/23 17:07
1,2-Dichloroethane	ND	U	0.000323	0.00229	mg/kg	1	8/29/23 17:07
1,2-Dichloropropane	ND	U	0.000376	0.00229	mg/kg	1	8/29/23 17:07
1,3-Dichlorobenzene	ND	U	0.000168	0.00229	mg/kg	1	8/29/23 17:07
1,4-Dichlorobenzene	ND	U	0.000330	0.00229	mg/kg	1	8/29/23 17:07
2-Butanone	ND	U	0.000373	0.0114	mg/kg	1	8/29/23 17:07
2-Hexanone	ND	U	0.000214	0.00229	mg/kg	1	8/29/23 17:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H1159
Project:	Red Hook-Gowanus	**Date to Lab:**	8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Methyl-2-pentanone	ND	U	0.000286	0.00229	mg/kg	1	8/29/23 17:07	
Acetone	ND	U	0.000694	0.0572	mg/kg	1	8/29/23 17:07	
Benzene	ND	U	0.000208	0.00229	mg/kg	1	8/29/23 17:07	
Bromochloromethane	ND	U	0.000422	0.00229	mg/kg	1	8/29/23 17:07	
Bromodichloromethane	ND	U	0.000287	0.00229	mg/kg	1	8/29/23 17:07	
Bromoform	ND	U	0.000402	0.00229	mg/kg	1	8/29/23 17:07	
Bromomethane	ND	U	0.000661	0.00229	mg/kg	1	8/29/23 17:07	
Carbon disulfide	ND	U	0.000329	0.00229	mg/kg	1	8/29/23 17:07	
Carbon Tetrachloride	ND	U	0.000345	0.00229	mg/kg	1	8/29/23 17:07	
Chlorobenzene	ND	U	0.000332	0.00229	mg/kg	1	8/29/23 17:07	
Chlorodibromomethane	ND	U	0.000282	0.00229	mg/kg	1	8/29/23 17:07	
Chloroethane	ND	U	0.000390	0.00229	mg/kg	1	8/29/23 17:07	UJ, RC:SL
Chloroform	ND	U	0.000385	0.00229	mg/kg	1	8/29/23 17:07	
Chloromethane	ND	U	0.000882	0.00229	mg/kg	1	8/29/23 17:07	
cis-1,2-Dichloroethene	ND	U	0.000111	0.00229	mg/kg	1	8/29/23 17:07	
cis-1,3-Dichloropropene	ND	U	0.000290	0.00229	mg/kg	1	8/29/23 17:07	
Cyclohexane	ND	U	0.000507	0.00229	mg/kg	1	8/29/23 17:07	
Dichlorodifluoromethane	ND	U	0.000773	0.00229	mg/kg	1	8/29/23 17:07	
EthylBenzene	ND	U	0.000310	0.00229	mg/kg	1	8/29/23 17:07	
Isopropylbenzene	ND	U	0.000359	0.00229	mg/kg	1	8/29/23 17:07	
m+p-Xylenes	ND	U	0.000578	0.00458	mg/kg	1	8/29/23 17:07	
Methyl Acetate	ND	U	0.000303	0.00229	mg/kg	1	8/29/23 17:07	
Methyl tert-Butyl Ether	ND	U	0.000387	0.00229	mg/kg	1	8/29/23 17:07	
Methylcyclohexane	ND	U	0.000369	0.00229	mg/kg	1	8/29/23 17:07	
Methylene Chloride	ND	U	0.000688	0.00572	mg/kg	1	8/29/23 17:07	
o-Xylene	ND	U	0.000294	0.00229	mg/kg	1	8/29/23 17:07	
Styrene	ND	U	0.000327	0.00229	mg/kg	1	8/29/23 17:07	
tert-Butyl alcohol	ND	U	0.00481	0.0229	mg/kg	1	8/29/23 17:07	
Tetrachloroethene	ND	U	0.000227	0.00229	mg/kg	1	8/29/23 17:07	
Toluene	ND	U	0.000184	0.00229	mg/kg	1	8/29/23 17:07	
Total Xylenes	ND	U	0.000294	0.00229	mg/kg	1	8/29/23 17:07	
trans-1,2-Dichloroethene	ND	U	0.000310	0.00229	mg/kg	1	8/29/23 17:07	
trans-1,3-Dichloropropene	ND	U	0.000437	0.00229	mg/kg	1	8/29/23 17:07	
Trichloroethene	ND	U	0.000337	0.00229	mg/kg	1	8/29/23 17:07	
Trichlorofluoromethane	ND	U	0.000263	0.00229	mg/kg	1	8/29/23 17:07	
Vinyl chloride	ND	U	0.000435	0.00229	mg/kg	1	8/29/23 17:07	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H1159
Project:	Red Hook-Gowanus	**Date to Lab:**	8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0187	3.89	J	mg/kg	1	8/29/23 17:07
TIC Total	**0.019**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/29/23 17:55
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/29/23 17:55
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/29/23 17:55
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/29/23 17:55
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/29/23 17:55
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/29/23 17:55
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/29/23 17:55
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/29/23 17:55
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/29/23 17:55
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/29/23 17:55
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/29/23 17:55

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**76.6**				**%**	**1**	**8/18/23 10:00**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/18/23 15:29

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.13	0.13	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.131	0.131	mg/kg	1	8/23/23 15:26

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-01 (Soil) Sample Name: **SCPT-109-3.0-4.5-20230817** Collected: **8/17/2023 8:24:00AM**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.19**				**pH Units**	**1**	**8/18/23 17:00**

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00502	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1221	ND	U	0.00986	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1232	ND	U	0.0126	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1242	ND	U	0.00735	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1248	ND	U	0.00769	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1254	ND	U	0.00604	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1260	ND	U	0.00468	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1262	ND	U	0.0101	0.0374	mg/kg	1	8/31/23 10:15
Aroclor-1268	ND	U	0.00452	0.0374	mg/kg	1	8/31/23 10:15
Total PCBs	ND	U	0.00349	0.0374	mg/kg	1	8/31/23 10:15

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0111	0.113	mg/kg	1	9/5/23 14:18
2,4-D	ND	U	0.0188	0.113	mg/kg	1	9/5/23 14:18

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/30/23 9:52
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/30/23 9:52

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.791**		**0.00567**	**0.0227**	**mg/kg**	**1**	**8/18/23 15:16**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/29/23 13:21

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5510**		**0.168**	**2.83**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Antimony	**1.81**		**0.154**	**1.42**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Arsenic	**12.2**		**0.101**	**1.42**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Barium	**1520**	D	**0.428**	**5.67**	**mg/kg**	**10**	**8/30/23 14:15**
Beryllium	**0.579**		**0.00328**	**0.0283**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Cadmium	ND	U	0.0552	0.283	mg/kg	1	8/30/23 11:08 UJ, RC:4L
Calcium	**15400**		**3.19**	**28.3**	**mg/kg**	**1**	**8/30/23 11:08**
Chromium	**179**		**0.0320**	**0.283**	**mg/kg**	**1**	**8/30/23 11:08**
Cobalt	**6.46**		**0.0290**	**0.227**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Copper	**81.3**		**0.0793**	**0.283**	**mg/kg**	**1**	**8/30/23 11:08**
Iron	**18800**		**0.803**	**5.67**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Lead	**6940**	D	**1.18**	**14.2**	**mg/kg**	**10**	**8/30/23 14:15**
Magnesium	**5070**		**10.0**	**56.7**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Manganese	**130**		**0.0352**	**0.283**	**mg/kg**	**1**	**8/30/23 11:08**
Nickel	**17.1**		**0.0249**	**0.142**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Potassium	**749**		**33.7**	**113**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:AA
Selenium	ND	U	0.272	1.42	mg/kg	1	8/30/23 11:08 UJ, RC:4L,6L
Silver	**0.442**		**0.0482**	**0.170**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Sodium	**5720**		**5.40**	**56.7**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L,AA
Thallium	**3.13**		**0.0953**	**1.42**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Vanadium	**22.8**		**0.0652**	**0.567**	**mg/kg**	**1**	**8/30/23 11:08** J, RC:4L
Zinc	**99.5**		**0.0866**	**0.850**	**mg/kg**	**1**	**8/30/23 11:08**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/31/23 12:51
Barium	**1.72**		**0.00279**	**0.100**	**mg/L**	**1**	**8/31/23 12:51**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/31/23 12:51
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/31/23 12:51
Lead	**116**		**0.0255**	**0.250**	**mg/L**	**1**	**8/31/23 12:51**
Selenium	ND	U	0.0760	0.250	mg/L	1	8/31/23 12:51
Silver	ND	U	0.0232	0.100	mg/L	1	8/31/23 12:51

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000674	0.00147	mg/kg	1	8/31/23 19:59
4,4'-DDE	ND	U	0.000806	0.00147	mg/kg	1	8/31/23 19:59
4,4'-DDT	ND	U	0.00104	0.00147	mg/kg	1	8/31/23 19:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aldrin	ND	U	0.000698	0.00147	mg/kg	1	8/31/23 19:59
alpha-BHC	ND	U	0.000439	0.00147	mg/kg	1	8/31/23 19:59
beta-BHC	ND	U	0.000704	0.00147	mg/kg	1	8/31/23 19:59
Chlordane	ND	U	0.000655	0.00147	mg/kg	1	8/31/23 19:59
delta-BHC	ND	U	0.000685	0.00147	mg/kg	1	8/31/23 19:59
Dieldrin	ND	U	0.000771	0.00147	mg/kg	1	8/31/23 19:59
Endosulfan I	ND	U	0.000696	0.00147	mg/kg	1	8/31/23 19:59
Endosulfan II	ND	U	0.000670	0.00147	mg/kg	1	8/31/23 19:59
Endosulfan sulfate	ND	U	0.000554	0.00147	mg/kg	1	8/31/23 19:59
Endosulfans, Total (alpha and beta)	ND	U	0.000670	0.00147	mg/kg	1	8/31/23 19:59
Endrin	ND	U	0.000509	0.00147	mg/kg	1	8/31/23 19:59
Endrin aldehyde	ND	U	0.000587	0.00147	mg/kg	1	8/31/23 19:59
Endrin ketone	ND	U	0.000519	0.00147	mg/kg	1	8/31/23 19:59
gamma-BHC (Lindane)	ND	U	0.000467	0.00147	mg/kg	1	8/31/23 19:59
Heptachlor	ND	U	0.000394	0.00147	mg/kg	1	8/31/23 19:59
Heptachlor Epoxide	ND	U	0.000743	0.00147	mg/kg	1	8/31/23 19:59
Methoxychlor	ND	U	0.000432	0.00147	mg/kg	1	8/31/23 19:59
Toxaphene	ND	U	0.0710	0.0748	mg/kg	1	8/31/23 19:59

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/30/23 18:52
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/30/23 18:52
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/30/23 18:52
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/30/23 18:52
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/30/23 18:52
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/30/23 18:52
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/30/23 18:52
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/30/23 18:52
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/30/23 18:52
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/30/23 18:52
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/30/23 18:52
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/30/23 18:52
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/30/23 18:52
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/30/23 18:52
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/30/23 18:52
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/30/23 18:52

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8081B - TCLP Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/30/23 18:52
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/30/23 18:52
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/30/23 18:52
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/30/23 18:52

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00639	0.0566	mg/kg	1	9/1/23 4:29	
2,3,4,6-Tetrachlorophenol	ND	U	0.0349	0.226	mg/kg	1	9/1/23 4:29	
2,4,5-Trichlorophenol	ND	U	0.0308	0.226	mg/kg	1	9/1/23 4:29	
2,4,6-Trichlorophenol	ND	U	0.0142	0.226	mg/kg	1	9/1/23 4:29	
2,4-Dichlorophenol	ND	U	0.0228	0.226	mg/kg	1	9/1/23 4:29	
2,4-Dimethylphenol	ND	U	0.0223	0.226	mg/kg	1	9/1/23 4:29	
2,4-Dinitrophenol	ND	U	0.0326	1.13	mg/kg	1	9/1/23 4:29	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0241	0.226	mg/kg	1	9/1/23 4:29	
2,6-Dinitrotoluene	ND	U	0.0541	0.226	mg/kg	1	9/1/23 4:29	
2-Chloronaphthalene	ND	U	0.0260	0.226	mg/kg	1	9/1/23 4:29	
2-Chlorophenol	ND	U	0.0299	0.226	mg/kg	1	9/1/23 4:29	
2-Methylnaphthalene	**0.313**	J	**0.0542**	**0.340**	**mg/kg**	**1**	**9/1/23 4:29**	
2-Methylphenol	ND	U	0.0447	0.226	mg/kg	1	9/1/23 4:29	
2-Nitroaniline	ND	U	0.0182	0.226	mg/kg	1	9/1/23 4:29	
2-Nitrophenol	ND	U	0.0252	0.226	mg/kg	1	9/1/23 4:29	
3,3'-Dichlorobenzidine	ND	U	0.0238	0.226	mg/kg	1	9/1/23 4:29	
3+4-Methylphenol	ND	U	0.0415	0.226	mg/kg	1	9/1/23 4:29	
3-Nitroaniline	ND	U	0.0420	0.226	mg/kg	1	9/1/23 4:29	
4,6-Dinitro-2-methylphenol	ND	U	0.0427	0.566	mg/kg	1	9/1/23 4:29	
4-Bromophenyl-phenyl ether	ND	U	0.0323	0.226	mg/kg	1	9/1/23 4:29	
4-Chloro-3-methylphenol	ND	U	0.0357	0.226	mg/kg	1	9/1/23 4:29	
4-Chloroaniline	ND	U	0.00792	0.226	mg/kg	1	9/1/23 4:29	
4-Chlorophenyl phenyl ether	ND	U	0.0122	0.226	mg/kg	1	9/1/23 4:29	
4-Nitroaniline	ND	U	0.113	0.226	mg/kg	1	9/1/23 4:29	
4-Nitrophenol	ND	U	0.0145	0.226	mg/kg	1	9/1/23 4:29	
Acenaphthene	**0.269**		**0.0129**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Acenaphthylene	**0.389**		**0.00787**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Acetophenone	**0.120**	J	**0.0224**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	J, RC:6H,SH
Anthracene	**0.685**		**0.0328**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Atrazine	ND	U	0.0213	0.226	mg/kg	1	9/1/23 4:29	
Benzaldehyde	ND	U	0.0695	0.226	mg/kg	1	9/1/23 4:29	

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P - Greater than 25% diff. between 2 GC columns.
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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	**1.34**		**0.0228**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Benzo(a)pyrene	**1.57**		**0.0394**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Benzo(b)fluoranthene	**2.27**		**0.0318**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Benzo(g,h,i)perylene	**1.08**		**0.0184**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Benzo(k)fluoranthene	**0.570**		**0.0260**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Biphenyl	**0.0990**	J	**0.0199**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
bis(2-chloroethoxy)methane	ND	U	0.0313	0.226	mg/kg	1	9/1/23 4:29	
bis(2-chloroethyl)ether	ND	U	0.0248	0.226	mg/kg	1	9/1/23 4:29	
bis(2-chloroisopropyl)ether	ND	U	0.0814	0.226	mg/kg	1	9/1/23 4:29	
bis(2-ethylhexyl)phthalate	**0.146**	J	**0.0452**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Butylbenzylphthalate	ND	U	0.0206	0.226	mg/kg	1	9/1/23 4:29	
Caprolactam	ND	U	0.0292	0.226	mg/kg	1	9/1/23 4:29	UJ, RC:SL
Carbazole	**0.113**	J	**0.0435**	**0.566**	**mg/kg**	**1**	**9/1/23 4:29**	
Chrysene	**1.61**		**0.0155**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Dibenzo(a,h)anthracene	**0.270**		**0.0224**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Dibenzofuran	**0.238**		**0.0135**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Diethylphthalate	ND	U	0.0439	0.226	mg/kg	1	9/1/23 4:29	
Dimethylphthalate	ND	U	0.0140	0.226	mg/kg	1	9/1/23 4:29	
Di-n-butylphthalate	ND	U	0.0925	0.226	mg/kg	1	9/1/23 4:29	
Di-n-octylphthalate	ND	U	0.0464	0.226	mg/kg	1	9/1/23 4:29	
Fluoranthene	**2.72**		**0.0213**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Fluorene	**0.272**		**0.0189**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Hexachlorobenzene	ND	U	0.0296	0.226	mg/kg	1	9/1/23 4:29	
Hexachlorobutadiene	ND	U	0.109	0.226	mg/kg	1	9/1/23 4:29	
Hexachlorocyclopentadiene	ND	U	0.0944	0.566	mg/kg	1	9/1/23 4:29	UJ, RC:SL
Hexachloroethane	ND	U	0.0248	0.226	mg/kg	1	9/1/23 4:29	
Indeno(1,2,3-cd)pyrene	**0.759**		**0.0243**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Isophorone	ND	U	0.0148	0.226	mg/kg	1	9/1/23 4:29	
Naphthalene	**0.574**		**0.0168**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Nitrobenzene	ND	U	0.0384	0.226	mg/kg	1	9/1/23 4:29	
n-Nitroso-di-n-propylamine	ND	U	0.0121	0.226	mg/kg	1	9/1/23 4:29	
n-Nitrosodiphenylamine	ND	U	0.0483	0.226	mg/kg	1	9/1/23 4:29	
Pentachlorophenol	ND	U	0.0311	0.566	mg/kg	1	9/1/23 4:29	UJ, RC:SL
Phenanthrene	**2.02**		**0.0298**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	
Phenol	ND	U	0.0184	0.226	mg/kg	1	9/1/23 4:29	
Pyrene	**3.08**		**0.0166**	**0.226**	**mg/kg**	**1**	**9/1/23 4:29**	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H1159
Project:	Red Hook-Gowanus	**Date to Lab:**	8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	13.3	12.15	J	mg/kg	1	9/1/23 4:29
Octadecanoic acid, 2-methylpropyl ester	7.97	12.96	J	mg/kg	1	9/1/23 4:29
TIC Total	**21.3**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/30/23 21:03	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/30/23 21:03	UJ, RC:6L
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/30/23 21:03	UJ, RC:6L
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/30/23 21:03	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/30/23 21:03	
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	8/30/23 21:03	UJ, RC:6L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/30/23 21:03	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/30/23 21:03	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/30/23 21:03	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/30/23 21:03	UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/30/23 21:03	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000301	0.00206	mg/kg	1	8/29/23 17:37
1,1,2,2-Tetrachloroethane	ND	U	0.000284	0.00206	mg/kg	1	8/29/23 17:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000882	0.00206	mg/kg	1	8/29/23 17:37
1,1,2-Trichloroethane	ND	U	0.000347	0.00206	mg/kg	1	8/29/23 17:37
1,1-Dichloroethane	ND	U	0.000301	0.00206	mg/kg	1	8/29/23 17:37
1,1-Dichloroethene	ND	U	0.000381	0.00206	mg/kg	1	8/29/23 17:37
1,2,3-Trichlorobenzene	ND	U	0.000445	0.00206	mg/kg	1	8/29/23 17:37
1,2,4-Trichlorobenzene	ND	U	0.000549	0.00206	mg/kg	1	8/29/23 17:37
1,2,4-Trimethylbenzene	ND	U	0.000284	0.00206	mg/kg	1	8/29/23 17:37
1,2-Dibromo-3-chloropropane	ND	U	0.000503	0.00515	mg/kg	1	8/29/23 17:37
1,2-Dibromoethane	ND	U	0.000260	0.00206	mg/kg	1	8/29/23 17:37
1,2-Dichlorobenzene	ND	U	0.000364	0.00206	mg/kg	1	8/29/23 17:37
1,2-Dichloroethane	ND	U	0.000291	0.00206	mg/kg	1	8/29/23 17:37
1,2-Dichloropropane	ND	U	0.000338	0.00206	mg/kg	1	8/29/23 17:37
1,3-Dichlorobenzene	ND	U	0.000151	0.00206	mg/kg	1	8/29/23 17:37
1,4-Dichlorobenzene	ND	U	0.000297	0.00206	mg/kg	1	8/29/23 17:37
2-Butanone	ND	U	0.000336	0.0103	mg/kg	1	8/29/23 17:37

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Hexanone	ND	U	0.000193	0.00206	mg/kg	1	8/29/23 17:37	
4-Methyl-2-pentanone	ND	U	0.000258	0.00206	mg/kg	1	8/29/23 17:37	
Acetone	ND	U	0.000624	0.0515	mg/kg	1	8/29/23 17:37	
Benzene	ND	U	0.000188	0.00206	mg/kg	1	8/29/23 17:37	
Bromochloromethane	ND	U	0.000380	0.00206	mg/kg	1	8/29/23 17:37	
Bromodichloromethane	ND	U	0.000259	0.00206	mg/kg	1	8/29/23 17:37	
Bromoform	ND	U	0.000362	0.00206	mg/kg	1	8/29/23 17:37	
Bromomethane	ND	U	0.000594	0.00206	mg/kg	1	8/29/23 17:37	
Carbon disulfide	ND	U	0.000296	0.00206	mg/kg	1	8/29/23 17:37	
Carbon Tetrachloride	ND	U	0.000310	0.00206	mg/kg	1	8/29/23 17:37	
Chlorobenzene	ND	U	0.000299	0.00206	mg/kg	1	8/29/23 17:37	
Chlorodibromomethane	ND	U	0.000253	0.00206	mg/kg	1	8/29/23 17:37	
Chloroethane	ND	U	0.000351	0.00206	mg/kg	1	8/29/23 17:37	UJ, RC:SL
Chloroform	ND	U	0.000346	0.00206	mg/kg	1	8/29/23 17:37	
Chloromethane	ND	U	0.000793	0.00206	mg/kg	1	8/29/23 17:37	
cis-1,2-Dichloroethene	ND	U	0.0000996	0.00206	mg/kg	1	8/29/23 17:37	
cis-1,3-Dichloropropene	ND	U	0.000261	0.00206	mg/kg	1	8/29/23 17:37	
Cyclohexane	ND	U	0.000456	0.00206	mg/kg	1	8/29/23 17:37	
Dichlorodifluoromethane	ND	U	0.000695	0.00206	mg/kg	1	8/29/23 17:37	
EthylBenzene	ND	U	0.000279	0.00206	mg/kg	1	8/29/23 17:37	
Isopropylbenzene	ND	U	0.000324	0.00206	mg/kg	1	8/29/23 17:37	
m+p-Xylenes	ND	U	0.000520	0.00412	mg/kg	1	8/29/23 17:37	
Methyl Acetate	ND	U	0.000273	0.00206	mg/kg	1	8/29/23 17:37	
Methyl tert-Butyl Ether	ND	U	0.000348	0.00206	mg/kg	1	8/29/23 17:37	
Methylcyclohexane	ND	U	0.000332	0.00206	mg/kg	1	8/29/23 17:37	
Methylene Chloride	ND	U	0.000619	0.00515	mg/kg	1	8/29/23 17:37	
o-Xylene	ND	U	0.000265	0.00206	mg/kg	1	8/29/23 17:37	
Styrene	ND	U	0.000295	0.00206	mg/kg	1	8/29/23 17:37	
tert-Butyl alcohol	ND	U	0.00433	0.0206	mg/kg	1	8/29/23 17:37	
Tetrachloroethene	ND	U	0.000204	0.00206	mg/kg	1	8/29/23 17:37	
Toluene	ND	U	0.000166	0.00206	mg/kg	1	8/29/23 17:37	
Total Xylenes	ND	U	0.000265	0.00206	mg/kg	1	8/29/23 17:37	
trans-1,2-Dichloroethene	ND	U	0.000279	0.00206	mg/kg	1	8/29/23 17:37	
trans-1,3-Dichloropropene	ND	U	0.000394	0.00206	mg/kg	1	8/29/23 17:37	
Trichloroethene	ND	U	0.000303	0.00206	mg/kg	1	8/29/23 17:37	
Trichlorofluoromethane	ND	U	0.000237	0.00206	mg/kg	1	8/29/23 17:37	
Vinyl chloride	ND	U	0.000392	0.00206	mg/kg	1	8/29/23 17:37	

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1159
Date to Lab: 8/17/2023 2:40:00PM

23H1159-02 (Soil) Sample Name: **SCPT-101-4.0-5.0-20230817** Collected: **8/17/2023 11:49:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/29/23 18:21
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/29/23 18:21
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/29/23 18:21
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/29/23 18:21
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/29/23 18:21
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/29/23 18:21
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/29/23 18:21
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/29/23 18:21
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/29/23 18:21
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/29/23 18:21
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/29/23 18:21

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.2**				**%**	**1**	**8/18/23 10:00**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/18/23 15:29

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.11	0.11	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.113	0.113	mg/kg	1	8/23/23 15:26

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.61**				**pH Units**	**1**	**8/18/23 17:00**

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H1250
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 17, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
SCPT-102-4.0-5.0-20230818	23H1250-01	8/18/2023	Soil
SCPT-108-5.0-6.0-20230818	23H1250-02	8/18/2023	Soil

Data validation was performed on the analytical data for two (2) samples collected August 18, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOC Hexachlorobenzene associated with TCLP analysis was rejected due to low recovery of the laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30%

relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	SCPT-102-4.0-5.0-20230818 SCPT-108-5.0-6.0-20230818	2-Butanone 2-Hexanene Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	SCPT-102-4.0-5.0-20230818	2,4,6-TBP	> CL	J (Detects) No action (NDs)	3H

- Since only one acid surrogate was outside control limits, no qualification was required.
- Dilution analyses exhibited surrogates outside control limits; since surrogates were diluted outside the calibration range, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	SCPT-102-4.0-5.0-20230818 SCPT-108-5.0-6.0-20230818	2,4,6-Trichlorophenol	10% < %R < CL	J (detects) UJ (non-	6L

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		2,4-Dinitrotoluene		detects)	
		Hexachlorobenzene	10% > %R < CL	J (detects) R (non-detects)	6L
8270E	SCPT-102-4.0-5.0-20230818 SCPT-108-5.0-6.0-20230818	Acetophenone	> CL	J (Detects) No action (NDs)	6H
		3-Nitroaniline			
		3+4-Methylphenol			
		Phenol			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	SCPT-102-4.0-5.0-20230818 SCPT-108-5.0-6.0-20230818	2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Hexachlorobenzene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	SCPT-102-4.0-5.0-20230818 SCPT-108-5.0-6.0-20230818	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Acetophenone Benzaldehyde bis(2-chloroethyl)ether Isophorone Nitrobenzene n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	SCPT-102-4.0-5.0-20230818	DCB	> CL	J (Detects) No action (NDs)	3H
	SCPT-108-5.0-6.0-20230818	TCMX	> CL	J (Detects) No action (NDs)	3H
8151A	SCPT-108-5.0-6.0-20230818	DCAA	> CL	J (Detects) No action (NDs)	3H
8081B	SCPT-102-4.0-5.0-20230818	DCB	> CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	SCPT-102-4.0-5.0-20230818 SCPT-108-5.0-6.0-20230818	Selenium	30% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established

acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 17, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

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Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H1250

Yu & Associates

Project: Red Hook-Gowanus

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 09, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H1250

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SCPT-102-4.0-5.0-20230818	23H1250-01	Soil	08/18/2023 07:26	08/18/2023 15:30
SCPT-108-5.0-6.0-20230818	23H1250-02	Soil	08/18/2023 11:07	08/18/2023 15:30

PN: 23H1250

APL 23H1250

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CHAIN OF CUSTODY

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ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 1568541	SAMPLED BY: AM

PAGE ____ OF ____

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#____

PWSID#____

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

[x] NYS Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
1250-01	SCPT-102-4.0-5.0-20230818	8/18/23	0726	X		S	5		TCL VOCs, SVOCs, Pest, PCB, TAL metals, Cyanide, Herb, Full TCLP (VOC, SVOCs, Pest, Herb, Metals), RCRA Characteristics
-02	SCPT-108-5.0-6.0-20230818	8/18/23	1107	X		S	5		

RELINQUISHED BY (Print) Axell Marmol	DATE 8/18/23	RECEIVED BY (Print) DAN MESHANJIAN	8/18/23
Signature	Time 1255	Signature	1255
RELINQUISHED BY (Print) DAN MESHANJIAN	DATE 8/18/23	RECEIVED BY (Print)	
Signature	Time	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.3

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7471B / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).
Method 1311/6010D:
The percent recoveries for Arsenic, Chromium and Lead were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Method 9014:
The percent recovery for Reactive Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.
Methods 1311/7470A / 7471B / 1010A / 9045D:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23H1250-02 has surrogates outside of the QC limits (low and high), due to matrix interference.

ANALYSIS: PCBs [8082A]

Samples 23H1250-01 and -02 have surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for 4,4'-DDT was outside of the QC limits for the matrix spike (low).

Sample 23H1250-01 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

Samples 23H1250-01, -01RE2 and -02RE1 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Sample 23H1250-02 has one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interference.

Reviewed By: _____ (SK) 10/11/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2410		0.172	2.89	mg/kg dry	1	9/1/23 9:30
Arsenic	2.18		0.103	1.45	mg/kg dry	1	9/1/23 9:30
Barium	59.0		0.0437	0.578	mg/kg dry	1	9/1/23 9:30
Beryllium	0.266		0.00335	0.0289	mg/kg dry	1	9/1/23 9:30
Calcium	69700	D	32.5	289	mg/kg dry	10	9/1/23 11:17
Chromium	8.79		0.0326	0.289	mg/kg dry	1	9/1/23 9:30
Cobalt	2.26		0.0295	0.231	mg/kg dry	1	9/1/23 9:30
Copper	23.9		0.0809	0.289	mg/kg dry	1	9/1/23 9:30
Iron	5660		0.819	5.78	mg/kg dry	1	9/1/23 9:30
Lead	160		0.121	1.45	mg/kg dry	1	9/1/23 9:30
Magnesium	1390		10.2	57.8	mg/kg dry	1	9/1/23 9:30
Manganese	85.3		0.0360	0.289	mg/kg dry	1	9/1/23 9:30
Nickel	5.20		0.0254	0.145	mg/kg dry	1	9/1/23 9:30
Potassium	279		34.4	116	mg/kg dry	1	9/1/23 9:30
Sodium	1050		5.51	57.8	mg/kg dry	1	9/1/23 9:30
Vanadium	6.99		0.0665	0.578	mg/kg dry	1	9/1/23 9:30
Zinc	28.1		0.0883	0.867	mg/kg dry	1	9/1/23 9:30

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.811		0.00279	0.100	mg/L	1	8/31/23 12:44

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT [2C]	0.000194		3.19E-7	0.0000200	mg/L	1	8/30/23 19:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	13.5	D	0.189	1.18	mg/kg dry	5	9/1/23 23:48
Acenaphthene	160	D	0.180	3.15	mg/kg dry	20	9/5/23 17:57
Acenaphthylene	45.7	D	0.0274	0.788	mg/kg dry	5	9/1/23 23:48
Anthracene	157	D	0.457	3.15	mg/kg dry	20	9/5/23 17:57
Benzo(a)anthracene	86.8	D	0.318	3.15	mg/kg dry	20	9/5/23 17:57
Benzo(a)pyrene	73.2	D	0.550	3.15	mg/kg dry	20	9/5/23 17:57
Benzo(b)fluoranthene	65.4	D	0.443	3.15	mg/kg dry	20	9/5/23 17:57
Benzo(g,h,i)perylene	47.2	D	0.0640	0.788	mg/kg dry	5	9/1/23 23:48
Benzo(k)fluoranthene	14.2	D	0.0907	0.788	mg/kg dry	5	9/1/23 23:48
Biphenyl	3.14	D	0.0693	0.788	mg/kg dry	5	9/1/23 23:48
Chrysene	87.8	D	0.216	3.15	mg/kg dry	20	9/5/23 17:57

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzo(a,h)anthracene	2.48	D	0.0782	0.788	mg/kg dry	5	9/1/23 23:48
Dibenzofuran	3.04	D	0.0470	0.788	mg/kg dry	5	9/1/23 23:48
Fluoranthene	249	D	1.48	15.8	mg/kg dry	100	9/8/23 1:52
Fluorene	144	D	0.263	3.15	mg/kg dry	20	9/5/23 17:57
Indeno(1,2,3-cd)pyrene	25.9	D	0.0847	0.788	mg/kg dry	5	9/1/23 23:48
Naphthalene	181	D	0.234	3.15	mg/kg dry	20	9/5/23 17:57
Phenanthrene	562	D	2.07	15.8	mg/kg dry	100	9/8/23 1:52
Pyrene	414	D	1.16	15.8	mg/kg dry	100	9/8/23 1:52
TIC_Benzene, 1,3,5-trimethyl-	30.8	J, D			mg/kg dry	5	9/1/23 23:48
TIC_Benzene, 1,3-diethyl-	24.2	J, D			mg/kg dry	5	9/1/23 23:48
TIC_Indane	23.4	J, D			mg/kg dry	5	9/1/23 23:48
TIC_Naphthalene, 1,4,6-trimethyl-	14.4	J, D			mg/kg dry	5	9/1/23 23:48
TIC_Naphthalene, 1-ethyl-	32.9	J, D			mg/kg dry	5	9/1/23 23:48
TIC_Naphthalene, 2,3-dimethyl-	73.0	J, D			mg/kg dry	5	9/1/23 23:48
TIC_Naphthalene, 2,6-dimethyl-	64.8	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (01)	14.7	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (02)	19.6	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (03)	28.1	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (04)	41.8	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (05)	16.2	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (06)	22.5	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (07)	19.0	J, D			mg/kg dry	5	9/1/23 23:48
TIC_unknown (08)	24.9	J, D			mg/kg dry	5	9/1/23 23:48

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.471		0.000743	0.00539	mg/kg dry	1	8/30/23 16:50
Benzene	0.00245	J	0.000490	0.00539	mg/kg dry	1	8/30/23 16:50
Carbon disulfide	0.00774		0.000773	0.00539	mg/kg dry	1	8/30/23 16:50
EthylBenzene	0.0718		0.000730	0.00539	mg/kg dry	1	8/30/23 16:50
Isopropylbenzene	0.0569		0.000846	0.00539	mg/kg dry	1	8/30/23 16:50
m+p-Xylenes	0.0549		0.00136	0.0108	mg/kg dry	1	8/30/23 16:50
Methyl tert-Butyl Ether	0.0142		0.000910	0.00539	mg/kg dry	1	8/30/23 16:50
Methylcyclohexane	0.00333	J	0.000867	0.00539	mg/kg dry	1	8/30/23 16:50
o-Xylene	0.0652		0.000692	0.00539	mg/kg dry	1	8/30/23 16:50
Toluene	0.00620		0.000434	0.00539	mg/kg dry	1	8/30/23 16:50
Total Xylenes	0.120		0.000692	0.00539	mg/kg dry	1	8/30/23 16:50

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1H-Indene, 1-methyl-	0.314	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, (3-methyl-2-butenyl)-	0.145	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 1,2,4,5-tetramethyl-	0.123	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 1,3-diethyl-	0.189	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 1-ethyl-2-methyl-	0.143	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	0.127	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 2-butenyl-	0.163	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 2-ethenyl-1,4-dimethyl-	0.206	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, 4-ethyl-1,2-dimethyl-	0.177	J			mg/kg dry	1	8/30/23 16:50
TIC_Benzene, cyclopropyl-	0.311	J			mg/kg dry	1	8/30/23 16:50
TIC_Indan, 1-methyl- (01)	0.330	J			mg/kg dry	1	8/30/23 16:50
TIC_Indan, 1-methyl- (02)	0.183	J			mg/kg dry	1	8/30/23 16:50
TIC_Lab Contamination	0.303	J			mg/kg dry	1	8/30/23 16:50
TIC_Naphthalene, 2-methyl-	0.211	J			mg/kg dry	1	8/30/23 16:50
TIC_TIC:Naphthalene	0.691	J			mg/kg dry	1	8/30/23 16:50

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.78				pH Units	1	8/21/23 11:30

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818**

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.123		0.0189	0.0518	mg/kg dry	1	8/30/23 14:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2360		0.183	3.08	mg/kg dry	1	9/1/23 9:32
Antimony	2.28		0.168	1.54	mg/kg dry	1	9/1/23 9:32
Arsenic	11.5		0.110	1.54	mg/kg dry	1	9/1/23 9:32
Barium	146		0.0466	0.617	mg/kg dry	1	9/1/23 9:32
Beryllium	0.258		0.00357	0.0308	mg/kg dry	1	9/1/23 9:32
Cadmium	0.589		0.0601	0.308	mg/kg dry	1	9/1/23 9:32
Calcium	17500		3.47	30.8	mg/kg dry	1	9/1/23 9:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	23.2		0.0348	0.308	mg/kg dry	1	9/1/23 9:32
Cobalt	7.68		0.0315	0.247	mg/kg dry	1	9/1/23 9:32
Copper	73.4		0.0863	0.308	mg/kg dry	1	9/1/23 9:32
Iron	49000	D	8.74	61.7	mg/kg dry	10	9/1/23 11:19
Lead	461		0.129	1.54	mg/kg dry	1	9/1/23 9:32
Magnesium	913		10.9	61.7	mg/kg dry	1	9/1/23 9:32
Manganese	237		0.0384	0.308	mg/kg dry	1	9/1/23 9:32
Nickel	25.4		0.0271	0.154	mg/kg dry	1	9/1/23 9:32
Potassium	355		36.7	123	mg/kg dry	1	9/1/23 9:32
Silver	0.282		0.0525	0.185	mg/kg dry	1	9/1/23 9:32
Sodium	1640		5.88	61.7	mg/kg dry	1	9/1/23 9:32
Vanadium	19.0		0.0709	0.617	mg/kg dry	1	9/1/23 9:32
Zinc	376	D	0.942	9.25	mg/kg dry	10	9/1/23 11:19

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.292		0.00279	0.100	mg/L	1	8/31/23 12:46

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endrin aldehyde [2C]	2.63	D	0.0661	0.166	mg/kg dry	100	9/6/23 18:58

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.000849		3.78E-7	0.0000200	mg/L	1	8/30/23 19:29
4,4'-DDT	0.000353		3.19E-7	0.0000200	mg/L	1	8/30/23 19:29
Endosulfan II	0.000745		2.54E-7	0.0000200	mg/L	1	8/30/23 19:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	184	D	4.07	25.5	mg/kg dry	100	9/5/23 18:28
Acenaphthene	26.8	D	0.969	17.0	mg/kg dry	100	9/5/23 18:28
Acenaphthylene	19.9	D	0.591	17.0	mg/kg dry	100	9/5/23 18:28
Anthracene	65.1	D	2.46	17.0	mg/kg dry	100	9/5/23 18:28
Benzo(a)anthracene	46.5	D	1.71	17.0	mg/kg dry	100	9/5/23 18:28
Benzo(a)pyrene	35.6	D	2.96	17.0	mg/kg dry	100	9/5/23 18:28
Benzo(b)fluoranthene	36.7	D	2.39	17.0	mg/kg dry	100	9/5/23 18:28
Benzo(g,h,i)perylene	25.9	D	1.38	17.0	mg/kg dry	100	9/5/23 18:28
Benzo(k)fluoranthene	8.33		0.0195	0.170	mg/kg dry	1	9/2/23 0:18
Biphenyl	63.2	D	1.49	17.0	mg/kg dry	100	9/5/23 18:28

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chrysene	43.3	D	1.16	17.0	mg/kg dry	100	9/5/23 18:28
Dibenzo(a,h)anthracene	1.20		0.0169	0.170	mg/kg dry	1	9/2/23 0:18
Fluoranthene	92.1	D	1.60	17.0	mg/kg dry	100	9/5/23 18:28
Fluorene	72.8	D	1.42	17.0	mg/kg dry	100	9/5/23 18:28
Indeno(1,2,3-cd)pyrene	10.4		0.0183	0.170	mg/kg dry	1	9/2/23 0:18
Naphthalene	619	D	1.26	17.0	mg/kg dry	100	9/5/23 18:28
Phenanthrene	254	D	2.23	17.0	mg/kg dry	100	9/5/23 18:28
Pyrene	159	D	1.25	17.0	mg/kg dry	100	9/5/23 18:28
TIC_.alpha.-Methylstyrene	1.83	J			mg/kg dry	1	9/2/23 0:18
TIC_Benzene, (1-bromoethyl)-	2.69	J			mg/kg dry	1	9/2/23 0:18
TIC_Benzene, 1-ethenyl-3-methyl-	9.68	J			mg/kg dry	1	9/2/23 0:18
TIC_Benzene, 2-ethenyl-1,4-dimethyl-	1.37	J			mg/kg dry	1	9/2/23 0:18
TIC_Indene	5.18	J			mg/kg dry	1	9/2/23 0:18
TIC_Naphthalene, 1-ethyl-	8.30	J			mg/kg dry	1	9/2/23 0:18
TIC_Naphthalene, 2,3-dimethyl-	7.14	J			mg/kg dry	1	9/2/23 0:18
TIC_Naphthalene, 2,7-dimethyl-	7.31	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (01)	12.1	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (02)	3.41	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (03)	5.98	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (04)	22.7	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (05)	4.59	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (06)	1.69	J			mg/kg dry	1	9/2/23 0:18
TIC_unknown (07)	2.47	J			mg/kg dry	1	9/2/23 0:18

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	234	D	0.244	1.77	mg/kg dry	263	8/31/23 15:53
Benzene	0.237		0.000204	0.00224	mg/kg dry	1	8/30/23 17:19
Carbon disulfide	0.0876		0.000321	0.00224	mg/kg dry	1	8/30/23 17:19
Chloromethane	0.0105		0.000862	0.00224	mg/kg dry	1	8/30/23 17:19
Cyclohexane	0.00693		0.000496	0.00224	mg/kg dry	1	8/30/23 17:19
EthylBenzene	0.390		0.000304	0.00224	mg/kg dry	1	8/30/23 17:19
Isopropylbenzene	0.127		0.000352	0.00224	mg/kg dry	1	8/30/23 17:19
m+p-Xylenes	0.462		0.000566	0.00448	mg/kg dry	1	8/30/23 17:19
Methylcyclohexane	0.0430		0.000361	0.00224	mg/kg dry	1	8/30/23 17:19
o-Xylene	0.281		0.000288	0.00224	mg/kg dry	1	8/30/23 17:19

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	0.137		0.000180	0.00224	mg/kg dry	1	8/30/23 17:19
Total Xylenes	0.743		0.000288	0.00224	mg/kg dry	1	8/30/23 17:19
TIC_1H-Indene, 2,3-dihydro-4-methyl-	0.126	J			mg/kg dry	1	8/30/23 17:19
TIC_2-Ethyl-3-methylcyclopentene	0.108	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, 1,2,3-trimethyl-	0.142	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, 1,3,5-trimethyl-	0.137	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, 1,4-diethyl-	0.183	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, 1-ethyl-2-methyl-	0.195	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, 1-ethyl-3-methyl-	0.172	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, 2-ethyl-1,3-dimethyl-	0.147	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, cyclopropyl-	0.299	J			mg/kg dry	1	8/30/23 17:19
TIC_Benzene, propyl-	0.140	J			mg/kg dry	1	8/30/23 17:19
TIC_Cyclobutane, (1-methylethylidene)-	0.439	J			mg/kg dry	1	8/30/23 17:19
TIC_Cyclohexene, 1-methyl-	0.104	J			mg/kg dry	1	8/30/23 17:19
TIC_Cyclopentene, 1-methyl-	0.136	J			mg/kg dry	1	8/30/23 17:19
TIC_Indan, 1-methyl-	0.145	J			mg/kg dry	1	8/30/23 17:19
TIC_TIC:Naphthalene	1.64	J			mg/kg dry	1	8/30/23 17:19

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.0285	D	0.00129	0.0100	mg/L	10	9/1/23 0:03

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.76				pH Units	1	8/21/23 11:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00524	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1221	ND	U	0.0103	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1232	ND	U	0.0131	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1242	ND	U	0.00768	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1248	ND	U	0.00804	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1254	ND	U	0.00631	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1260	ND	U	0.00490	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1262	ND	U	0.0105	0.0391	mg/kg	1	8/31/23 10:37
Aroclor-1268	ND	U	0.00473	0.0391	mg/kg	1	8/31/23 10:37
Total PCBs	ND	U	0.00365	0.0391	mg/kg	1	8/31/23 10:37

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0116	0.118	mg/kg	1	9/5/23 14:28
2,4-D	ND	U	0.0197	0.118	mg/kg	1	9/5/23 14:28

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:02
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:02

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.0176	0.0483	mg/kg	1	8/30/23 14:10

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/29/23 13:24

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2410**		**0.172**	**2.89**	**mg/kg**	**1**	**9/1/23 9:30**
Antimony	ND	U	0.157	1.45	mg/kg	1	9/1/23 9:30
Arsenic	**2.18**		**0.103**	**1.45**	**mg/kg**	**1**	**9/1/23 9:30**
Barium	**59.0**		**0.0437**	**0.578**	**mg/kg**	**1**	**9/1/23 9:30**
Beryllium	**0.266**		**0.00335**	**0.0289**	**mg/kg**	**1**	**9/1/23 9:30**
Cadmium	ND	U	0.0563	0.289	mg/kg	1	9/1/23 9:30
Calcium	**69700**	D	**32.5**	**289**	**mg/kg**	**10**	**9/1/23 11:17**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**8.79**		**0.0326**	**0.289**	**mg/kg**	**1**	**9/1/23 9:30**	
Cobalt	**2.26**		**0.0295**	**0.231**	**mg/kg**	**1**	**9/1/23 9:30**	
Copper	**23.9**		**0.0809**	**0.289**	**mg/kg**	**1**	**9/1/23 9:30**	
Iron	**5660**		**0.819**	**5.78**	**mg/kg**	**1**	**9/1/23 9:30**	
Lead	**160**		**0.121**	**1.45**	**mg/kg**	**1**	**9/1/23 9:30**	
Magnesium	**1390**		**10.2**	**57.8**	**mg/kg**	**1**	**9/1/23 9:30**	
Manganese	**85.3**		**0.0360**	**0.289**	**mg/kg**	**1**	**9/1/23 9:30**	
Nickel	**5.20**		**0.0254**	**0.145**	**mg/kg**	**1**	**9/1/23 9:30**	
Potassium	**279**		**34.4**	**116**	**mg/kg**	**1**	**9/1/23 9:30**	
Selenium	ND	U	0.277	1.45	mg/kg	1	9/1/23 9:30	UJ, RC:6L
Silver	ND	U	0.0492	0.173	mg/kg	1	9/1/23 9:30	
Sodium	**1050**		**5.51**	**57.8**	**mg/kg**	**1**	**9/1/23 9:30**	
Thallium	ND	U	0.0972	1.45	mg/kg	1	9/1/23 9:30	
Vanadium	**6.99**		**0.0665**	**0.578**	**mg/kg**	**1**	**9/1/23 9:30**	
Zinc	**28.1**		**0.0883**	**0.867**	**mg/kg**	**1**	**9/1/23 9:30**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/31/23 12:44
Barium	**0.811**		**0.00279**	**0.100**	**mg/L**	**1**	**8/31/23 12:44**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/31/23 12:44
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/31/23 12:44
Lead	ND	U	0.0255	0.250	mg/L	1	8/31/23 12:44
Selenium	ND	U	0.0760	0.250	mg/L	1	8/31/23 12:44
Silver	ND	U	0.0232	0.100	mg/L	1	8/31/23 12:44

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000705	0.00154	mg/kg	1	8/31/23 20:17
4,4'-DDE	ND	U	0.000843	0.00154	mg/kg	1	8/31/23 20:17
4,4'-DDT	ND	U	0.00109	0.00154	mg/kg	1	8/31/23 20:17
Aldrin	ND	U	0.000730	0.00154	mg/kg	1	8/31/23 20:17
alpha-BHC	ND	U	0.000459	0.00154	mg/kg	1	8/31/23 20:17
beta-BHC	ND	U	0.000736	0.00154	mg/kg	1	8/31/23 20:17
Chlordane	ND	U	0.000685	0.00154	mg/kg	1	8/31/23 20:17
delta-BHC	ND	U	0.000716	0.00154	mg/kg	1	8/31/23 20:17
Dieldrin	ND	U	0.000806	0.00154	mg/kg	1	8/31/23 20:17
Endosulfan I	ND	U	0.000728	0.00154	mg/kg	1	8/31/23 20:17

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000700	0.00154	mg/kg	1	8/31/23 20:17
Endosulfan sulfate	ND	U	0.000579	0.00154	mg/kg	1	8/31/23 20:17
Endosulfans, Total (alpha and beta)	ND	U	0.000700	0.00154	mg/kg	1	8/31/23 20:17
Endrin	ND	U	0.000532	0.00154	mg/kg	1	8/31/23 20:17
Endrin aldehyde	ND	U	0.000614	0.00154	mg/kg	1	8/31/23 20:17
Endrin ketone	ND	U	0.000543	0.00154	mg/kg	1	8/31/23 20:17
gamma-BHC (Lindane)	ND	U	0.000488	0.00154	mg/kg	1	8/31/23 20:17
Heptachlor	ND	U	0.000412	0.00154	mg/kg	1	8/31/23 20:17
Heptachlor Epoxide	ND	U	0.000777	0.00154	mg/kg	1	8/31/23 20:17
Methoxychlor	ND	U	0.000451	0.00154	mg/kg	1	8/31/23 20:17
Toxaphene	ND	U	0.0742	0.0782	mg/kg	1	8/31/23 20:17

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/30/23 19:11
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/30/23 19:11
4,4'-DDT [2C]	**0.000194**		**3.19E-7**	**0.0000200**	**mg/L**	**1**	**8/30/23 19:11**
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/30/23 19:11
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/30/23 19:11
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/30/23 19:11
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/30/23 19:11
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/30/23 19:11
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/30/23 19:11
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/30/23 19:11
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/30/23 19:11
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/30/23 19:11
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/30/23 19:11
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/30/23 19:11
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/30/23 19:11
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/30/23 19:11
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/30/23 19:11
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/30/23 19:11
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/30/23 19:11
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/30/23 19:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-202 30818** Collected: **8/18/2023 7:26:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0223	0.197	mg/kg	5	9/1/23 23:48	
2,3,4,6-Tetrachlorophenol	ND	U	0.121	0.788	mg/kg	5	9/1/23 23:48	
2,4,5-Trichlorophenol	ND	U	0.107	0.788	mg/kg	5	9/1/23 23:48	
2,4,6-Trichlorophenol	ND	U	0.0494	0.788	mg/kg	5	9/1/23 23:48	
2,4-Dichlorophenol	ND	U	0.0794	0.788	mg/kg	5	9/1/23 23:48	
2,4-Dimethylphenol	ND	U	0.0776	0.788	mg/kg	5	9/1/23 23:48	
2,4-Dinitrophenol	ND	U	0.114	3.95	mg/kg	5	9/1/23 23:48	
2,4-Dinitrotoluene	ND	U	0.0841	0.788	mg/kg	5	9/1/23 23:48	
2,6-Dinitrotoluene	ND	U	0.188	0.788	mg/kg	5	9/1/23 23:48	
2-Chloronaphthalene	ND	U	0.0907	0.788	mg/kg	5	9/1/23 23:48	
2-Chlorophenol	ND	U	0.104	0.788	mg/kg	5	9/1/23 23:48	
2-Methylnaphthalene	**13.5**	D	**0.189**	**1.18**	**mg/kg**	**5**	**9/1/23 23:48**	
2-Methylphenol	ND	U	0.156	0.788	mg/kg	5	9/1/23 23:48	
2-Nitroaniline	ND	U	0.0634	0.788	mg/kg	5	9/1/23 23:48	
2-Nitrophenol	ND	U	0.0877	0.788	mg/kg	5	9/1/23 23:48	
3,3'-Dichlorobenzidine	ND	U	0.0829	0.788	mg/kg	5	9/1/23 23:48	
3+4-Methylphenol	ND	U	0.145	0.788	mg/kg	5	9/1/23 23:48	
3-Nitroaniline	ND	U	0.146	0.788	mg/kg	5	9/1/23 23:48	
4,6-Dinitro-2-methylphenol	ND	U	0.149	1.97	mg/kg	5	9/1/23 23:48	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.113	0.788	mg/kg	5	9/1/23 23:48	
4-Chloro-3-methylphenol	ND	U	0.124	0.788	mg/kg	5	9/1/23 23:48	
4-Chloroaniline	ND	U	0.0276	0.788	mg/kg	5	9/1/23 23:48	
4-Chlorophenyl phenyl ether	ND	U	0.0426	0.788	mg/kg	5	9/1/23 23:48	
4-Nitroaniline	ND	U	0.395	0.788	mg/kg	5	9/1/23 23:48	
4-Nitrophenol	ND	U	0.0505	0.788	mg/kg	5	9/1/23 23:48	
Acenaphthene	**160**	D	**0.180**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Acenaphthylene	**45.7**	D	**0.0274**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
Acetophenone	ND	U	0.0782	0.788	mg/kg	5	9/1/23 23:48	
Anthracene	**157**	D	**0.457**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Atrazine	ND	U	0.0741	0.788	mg/kg	5	9/1/23 23:48	
Benzaldehyde	ND	U	0.242	0.788	mg/kg	5	9/1/23 23:48	
Benzo(a)anthracene	**86.8**	D	**0.318**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Benzo(a)pyrene	**73.2**	D	**0.550**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Benzo(b)fluoranthene	**65.4**	D	**0.443**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Benzo(g,h,i)perylene	**47.2**	D	**0.0640**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
Benzo(k)fluoranthene	**14.2**	D	**0.0907**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
Biphenyl	**3.14**	D	**0.0693**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
bis(2-chloroethoxy)methane	ND	U	0.109	0.788	mg/kg	5	9/1/23 23:48	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0865	0.788	mg/kg	5	9/1/23 23:48	
bis(2-chloroisopropyl)ether	ND	U	0.284	0.788	mg/kg	5	9/1/23 23:48	
bis(2-ethylhexyl)phthalate	ND	U	0.158	0.788	mg/kg	5	9/1/23 23:48	
Butylbenzylphthalate	ND	U	0.0717	0.788	mg/kg	5	9/1/23 23:48	
Caprolactam	ND	U	0.102	0.788	mg/kg	5	9/1/23 23:48	
Carbazole	ND	U	0.152	1.97	mg/kg	5	9/1/23 23:48	
Chrysene	**87.8**	D	**0.216**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Dibenzo(a,h)anthracene	**2.48**	D	**0.0782**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
Dibenzofuran	**3.04**	D	**0.0470**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
Diethylphthalate	ND	U	0.153	0.788	mg/kg	5	9/1/23 23:48	
Dimethylphthalate	ND	U	0.0489	0.788	mg/kg	5	9/1/23 23:48	
Di-n-butylphthalate	ND	U	0.322	0.788	mg/kg	5	9/1/23 23:48	
Di-n-octylphthalate	ND	U	0.162	0.788	mg/kg	5	9/1/23 23:48	
Fluoranthene	**249**	D	**1.48**	**15.8**	**mg/kg**	**100**	**9/8/23 1:52**	
Fluorene	**144**	D	**0.263**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Hexachlorobenzene	ND	U	0.103	0.788	mg/kg	5	9/1/23 23:48	
Hexachlorobutadiene	ND	U	0.379	0.788	mg/kg	5	9/1/23 23:48	
Hexachlorocyclopentadiene	ND	U	0.329	1.97	mg/kg	5	9/1/23 23:48	UJ, RC:SL
Hexachloroethane	ND	U	0.0865	0.788	mg/kg	5	9/1/23 23:48	
Indeno(1,2,3-cd)pyrene	**25.9**	D	**0.0847**	**0.788**	**mg/kg**	**5**	**9/1/23 23:48**	
Isophorone	ND	U	0.0517	0.788	mg/kg	5	9/1/23 23:48	
Naphthalene	**181**	D	**0.234**	**3.15**	**mg/kg**	**20**	**9/5/23 17:57**	
Nitrobenzene	ND	U	0.134	0.788	mg/kg	5	9/1/23 23:48	
n-Nitroso-di-n-propylamine	ND	U	0.0422	0.788	mg/kg	5	9/1/23 23:48	
n-Nitrosodiphenylamine	ND	U	0.168	0.788	mg/kg	5	9/1/23 23:48	
Pentachlorophenol	ND	U	0.108	1.97	mg/kg	5	9/1/23 23:48	UJ, RC:SL
Phenanthrene	**562**	D	**2.07**	**15.8**	**mg/kg**	**100**	**9/8/23 1:52**	
Phenol	ND	U	0.0640	0.788	mg/kg	5	9/1/23 23:48	
Pyrene	**414**	D	**1.16**	**15.8**	**mg/kg**	**100**	**9/8/23 1:52**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,3,5-trimethyl-	30.8	6.09	J, D	mg/kg	5	9/1/23 23:48
Benzene, 1,3-diethyl-	24.2	6.55	J, D	mg/kg	5	9/1/23 23:48
Indane	23.4	6.45	J, D	mg/kg	5	9/1/23 23:48
Naphthalene, 1,4,6-trimethyl-	14.4	9.61	J, D	mg/kg	5	9/1/23 23:48
Naphthalene, 1-ethyl-	32.9	8.81	J, D	mg/kg	5	9/1/23 23:48
Naphthalene, 2,3-dimethyl-	73.0	8.96	J, D	mg/kg	5	9/1/23 23:48

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 2,6-dimethyl-	64.8	8.88	J, D	mg/kg	5	9/1/23 23:48
unknown (01)	14.7	6.32	J, D	mg/kg	5	9/1/23 23:48
unknown (02)	19.6	8.36	J, D	mg/kg	5	9/1/23 23:48
unknown (03)	28.1	8.98	J, D	mg/kg	5	9/1/23 23:48
unknown (04)	41.8	9.08	J, D	mg/kg	5	9/1/23 23:48
unknown (05)	16.2	9.65	J, D	mg/kg	5	9/1/23 23:48
unknown (06)	22.5	9.70	J, D	mg/kg	5	9/1/23 23:48
unknown (07)	19.0	9.78	J, D	mg/kg	5	9/1/23 23:48
unknown (08)	24.9	9.94	J, D	mg/kg	5	9/1/23 23:48
TIC Total	**450**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/30/23 21:37
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/30/23 21:37 UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/30/23 21:37 UJ, RC:SL
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/30/23 21:37
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/30/23 21:37
Hexachlorobenzene	~~ND~~	~~U~~	0.00183	0.0200	mg/L	1	8/30/23 21:37 R, RC:SL
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/30/23 21:37
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/30/23 21:37
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/30/23 21:37
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/30/23 21:37 UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/30/23 21:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000786	0.00539	mg/kg	1	8/30/23 16:50
1,1,2,2-Tetrachloroethane	ND	U	0.000743	0.00539	mg/kg	1	8/30/23 16:50
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00231	0.00539	mg/kg	1	8/30/23 16:50
1,1,2-Trichloroethane	ND	U	0.000908	0.00539	mg/kg	1	8/30/23 16:50
1,1-Dichloroethane	ND	U	0.000786	0.00539	mg/kg	1	8/30/23 16:50
1,1-Dichloroethene	ND	U	0.000996	0.00539	mg/kg	1	8/30/23 16:50
1,2,3-Trichlorobenzene	ND	U	0.00116	0.00539	mg/kg	1	8/30/23 16:50
1,2,4-Trichlorobenzene	ND	U	0.00144	0.00539	mg/kg	1	8/30/23 16:50
1,2,4-Trimethylbenzene	**0.471**		**0.000743**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**
1,2-Dibromo-3-chloropropane	ND	U	0.00131	0.0135	mg/kg	1	8/30/23 16:50

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-202 30818** Collected: **8/18/2023 7:26:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromoethane	ND	U	0.000679	0.00539	mg/kg	1	8/30/23 16:50	
1,2-Dichlorobenzene	ND	U	0.000951	0.00539	mg/kg	1	8/30/23 16:50	
1,2-Dichloroethane	ND	U	0.000759	0.00539	mg/kg	1	8/30/23 16:50	
1,2-Dichloropropane	ND	U	0.000883	0.00539	mg/kg	1	8/30/23 16:50	
1,3-Dichlorobenzene	ND	U	0.000396	0.00539	mg/kg	1	8/30/23 16:50	
1,4-Dichlorobenzene	ND	U	0.000776	0.00539	mg/kg	1	8/30/23 16:50	
2-Butanone	ND	U	0.000878	0.0269	mg/kg	1	8/30/23 16:50	
2-Hexanone	ND	U	0.000504	0.00539	mg/kg	1	8/30/23 16:50	
4-Methyl-2-pentanone	ND	U	0.000673	0.00539	mg/kg	1	8/30/23 16:50	
Acetone	ND	U	0.00163	0.135	mg/kg	1	8/30/23 16:50	
Benzene	**0.00245**	J	**0.000490**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
Bromochloromethane	ND	U	0.000994	0.00539	mg/kg	1	8/30/23 16:50	
Bromodichloromethane	ND	U	0.000676	0.00539	mg/kg	1	8/30/23 16:50	
Bromoform	ND	U	0.000945	0.00539	mg/kg	1	8/30/23 16:50	
Bromomethane	ND	U	0.00155	0.00539	mg/kg	1	8/30/23 16:50	
Carbon disulfide	**0.00774**		**0.000773**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
Carbon Tetrachloride	ND	U	0.000811	0.00539	mg/kg	1	8/30/23 16:50	
Chlorobenzene	ND	U	0.000781	0.00539	mg/kg	1	8/30/23 16:50	
Chlorodibromomethane	ND	U	0.000663	0.00539	mg/kg	1	8/30/23 16:50	
Chloroethane	ND	U	0.000918	0.00539	mg/kg	1	8/30/23 16:50	UJ, RC:SL
Chloroform	ND	U	0.000905	0.00539	mg/kg	1	8/30/23 16:50	
Chloromethane	ND	U	0.00207	0.00539	mg/kg	1	8/30/23 16:50	
cis-1,2-Dichloroethene	ND	U	0.000260	0.00539	mg/kg	1	8/30/23 16:50	
cis-1,3-Dichloropropene	ND	U	0.000681	0.00539	mg/kg	1	8/30/23 16:50	
Cyclohexane	ND	U	0.00119	0.00539	mg/kg	1	8/30/23 16:50	
Dichlorodifluoromethane	ND	U	0.00182	0.00539	mg/kg	1	8/30/23 16:50	
EthylBenzene	**0.0718**		**0.000730**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
Isopropylbenzene	**0.0569**		**0.000846**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
m+p-Xylenes	**0.0549**		**0.00136**	**0.0108**	**mg/kg**	**1**	**8/30/23 16:50**	
Methyl Acetate	ND	U	0.000714	0.00539	mg/kg	1	8/30/23 16:50	
Methyl tert-Butyl Ether	**0.0142**		**0.000910**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
Methylcyclohexane	**0.00333**	J	**0.000867**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
Methylene Chloride	ND	U	0.00162	0.0135	mg/kg	1	8/30/23 16:50	
o-Xylene	**0.0652**		**0.000692**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	
Styrene	ND	U	0.000770	0.00539	mg/kg	1	8/30/23 16:50	
tert-Butyl alcohol	ND	U	0.0113	0.0539	mg/kg	1	8/30/23 16:50	
Tetrachloroethene	ND	U	0.000533	0.00539	mg/kg	1	8/30/23 16:50	
Toluene	**0.00620**		**0.000434**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total Xylenes	**0.120**		**0.000692**	**0.00539**	**mg/kg**	**1**	**8/30/23 16:50**
trans-1,2-Dichloroethene	ND	U	0.000730	0.00539	mg/kg	1	8/30/23 16:50
trans-1,3-Dichloropropene	ND	U	0.00103	0.00539	mg/kg	1	8/30/23 16:50
Trichloroethene	ND	U	0.000792	0.00539	mg/kg	1	8/30/23 16:50
Trichlorofluoromethane	ND	U	0.000619	0.00539	mg/kg	1	8/30/23 16:50
Vinyl chloride	ND	U	0.00102	0.00539	mg/kg	1	8/30/23 16:50

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	0.314	20.79	J	mg/kg	1	8/30/23 16:50
Benzene, (3-methyl-2-butenyl)-	0.145	21.06	J	mg/kg	1	8/30/23 16:50
Benzene, 1,2,4,5-tetramethyl-	0.123	19.73	J	mg/kg	1	8/30/23 16:50
Benzene, 1,3-diethyl-	0.189	18.44	J	mg/kg	1	8/30/23 16:50
Benzene, 1-ethyl-2-methyl-	0.143	16.93	J	mg/kg	1	8/30/23 16:50
Benzene, 1-methyl-4-(1-methylethyl)-	0.127	17.69	J	mg/kg	1	8/30/23 16:50
Benzene, 2-butenyl-	0.163	20.05	J	mg/kg	1	8/30/23 16:50
Benzene, 2-ethenyl-1,4-dimethyl-	0.206	20.49	J	mg/kg	1	8/30/23 16:50
Benzene, 4-ethyl-1,2-dimethyl-	0.177	19.06	J	mg/kg	1	8/30/23 16:50
Benzene, cyclopropyl-	0.311	18.26	J	mg/kg	1	8/30/23 16:50
Indan, 1-methyl- (01)	0.330	19.23	J	mg/kg	1	8/30/23 16:50
Indan, 1-methyl- (02)	0.183	20.26	J	mg/kg	1	8/30/23 16:50
Lab Contamination	0.303	3.91	J	mg/kg	1	8/30/23 16:50
Naphthalene, 2-methyl-	0.211	23.52	J	mg/kg	1	8/30/23 16:50
TIC:Naphthalene	0.691	21.58	J	mg/kg	1	8/30/23 16:50
TIC Total	**3.62**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/31/23 23:37
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/31/23 23:37
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/31/23 23:37
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/31/23 23:37
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/31/23 23:37
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/31/23 23:37
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/31/23 23:37
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/31/23 23:37
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/31/23 23:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-01 (Soil) Sample Name: **SCPT-102-4.0-5.0-20230818** Collected: **8/18/2023 7:26:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/31/23 23:37
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/31/23 23:37

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.4**				**%**	**1**	**8/21/23 17:00**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/22/23 16:45

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.118	0.118	mg/kg	1	8/23/23 15:26

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.78**				**pH Units**	**1**	**8/21/23 11:30**

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00565	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1221	ND	U	0.0111	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1232	ND	U	0.0141	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1242	ND	U	0.00828	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1248	ND	U	0.00866	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1254	ND	U	0.00680	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1260	ND	U	0.00528	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1262	ND	U	0.0113	0.0421	mg/kg	1	9/1/23 14:08
Aroclor-1268	ND	U	0.00510	0.0421	mg/kg	1	9/1/23 14:08
Total PCBs	ND	U	0.00393	0.0421	mg/kg	1	9/1/23 14:08

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0125	0.128	mg/kg	1	9/5/23 14:37
2,4-D	ND	U	0.0212	0.128	mg/kg	1	9/5/23 14:37

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:11
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:11

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.123**		**0.0189**	**0.0518**	**mg/kg**	**1**	**8/30/23 14:13**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/29/23 13:26

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2360**		**0.183**	**3.08**	**mg/kg**	**1**	**9/1/23 9:32**
Antimony	**2.28**		**0.168**	**1.54**	**mg/kg**	**1**	**9/1/23 9:32**
Arsenic	**11.5**		**0.110**	**1.54**	**mg/kg**	**1**	**9/1/23 9:32**
Barium	**146**		**0.0466**	**0.617**	**mg/kg**	**1**	**9/1/23 9:32**
Beryllium	**0.258**		**0.00357**	**0.0308**	**mg/kg**	**1**	**9/1/23 9:32**
Cadmium	**0.589**		**0.0601**	**0.308**	**mg/kg**	**1**	**9/1/23 9:32**
Calcium	**17500**		**3.47**	**30.8**	**mg/kg**	**1**	**9/1/23 9:32**
Chromium	**23.2**		**0.0348**	**0.308**	**mg/kg**	**1**	**9/1/23 9:32**
Cobalt	**7.68**		**0.0315**	**0.247**	**mg/kg**	**1**	**9/1/23 9:32**
Copper	**73.4**		**0.0863**	**0.308**	**mg/kg**	**1**	**9/1/23 9:32**
Iron	**49000**	D	**8.74**	**61.7**	**mg/kg**	**10**	**9/1/23 11:19**
Lead	**461**		**0.129**	**1.54**	**mg/kg**	**1**	**9/1/23 9:32**
Magnesium	**913**		**10.9**	**61.7**	**mg/kg**	**1**	**9/1/23 9:32**
Manganese	**237**		**0.0384**	**0.308**	**mg/kg**	**1**	**9/1/23 9:32**
Nickel	**25.4**		**0.0271**	**0.154**	**mg/kg**	**1**	**9/1/23 9:32**
Potassium	**355**		**36.7**	**123**	**mg/kg**	**1**	**9/1/23 9:32**
Selenium	ND	U	0.296	1.54	mg/kg	1	9/1/23 9:32 UJ, RC:6L
Silver	**0.282**		**0.0525**	**0.185**	**mg/kg**	**1**	**9/1/23 9:32**
Sodium	**1640**		**5.88**	**61.7**	**mg/kg**	**1**	**9/1/23 9:32**
Thallium	ND	U	0.104	1.54	mg/kg	1	9/1/23 9:32

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	**19.0**		**0.0709**	**0.617**	**mg/kg**	**1**	**9/1/23 9:32**
Zinc	**376**	D	**0.942**	**9.25**	**mg/kg**	**10**	**9/1/23 11:19**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	8/31/23 12:46
Barium	**0.292**		**0.00279**	**0.100**	**mg/L**	**1**	**8/31/23 12:46**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	8/31/23 12:46
Chromium	ND	U	0.00240	0.0500	mg/L	1	8/31/23 12:46
Lead	ND	U	0.0255	0.250	mg/L	1	8/31/23 12:46
Selenium	ND	U	0.0760	0.250	mg/L	1	8/31/23 12:46
Silver	ND	U	0.0232	0.100	mg/L	1	8/31/23 12:46

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.0760	0.166	mg/kg	100	9/6/23 18:58
4,4'-DDE	ND	U	0.0908	0.166	mg/kg	100	9/6/23 18:58
4,4'-DDT	ND	U	0.117	0.166	mg/kg	100	9/6/23 18:58
Aldrin	ND	U	0.0787	0.166	mg/kg	100	9/6/23 18:58
alpha-BHC	ND	U	0.0494	0.166	mg/kg	100	9/6/23 18:58
beta-BHC	ND	U	0.0793	0.166	mg/kg	100	9/6/23 18:58
Chlordane	ND	U	0.0738	0.166	mg/kg	100	9/6/23 18:58
delta-BHC	ND	U	0.0771	0.166	mg/kg	100	9/6/23 18:58
Dieldrin	ND	U	0.0868	0.166	mg/kg	100	9/6/23 18:58
Endosulfan I	ND	U	0.0784	0.166	mg/kg	100	9/6/23 18:58
Endosulfan II	ND	U	0.0755	0.166	mg/kg	100	9/6/23 18:58
Endosulfan sulfate	ND	U	0.0624	0.166	mg/kg	100	9/6/23 18:58
Endosulfans, Total (alpha and beta)	ND	U	0.0755	0.166	mg/kg	100	9/6/23 18:58
Endrin	ND	U	0.0573	0.166	mg/kg	100	9/6/23 18:58
Endrin aldehyde [2C]	**2.63**	D	**0.0661**	**0.166**	**mg/kg**	**100**	**9/6/23 18:58**
Endrin ketone	ND	U	0.0585	0.166	mg/kg	100	9/6/23 18:58
gamma-BHC (Lindane)	ND	U	0.0526	0.166	mg/kg	100	9/6/23 18:58
Heptachlor	ND	U	0.0444	0.166	mg/kg	100	9/6/23 18:58
Heptachlor Epoxide	ND	U	0.0838	0.166	mg/kg	100	9/6/23 18:58
Methoxychlor	ND	U	0.0487	0.166	mg/kg	100	9/6/23 18:58
Toxaphene	ND	U	8.00	8.43	mg/kg	100	9/6/23 18:58

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	**0.000849**		**3.78E-7**	**0.0000200**	**mg/L**	**1**	**8/30/23 19:29**
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/30/23 19:29
4,4'-DDT	**0.000353**		**3.19E-7**	**0.0000200**	**mg/L**	**1**	**8/30/23 19:29**
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/30/23 19:29
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/30/23 19:29
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/30/23 19:29
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/30/23 19:29
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/30/23 19:29
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/30/23 19:29
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/30/23 19:29
Endosulfan II	**0.000745**		**2.54E-7**	**0.0000200**	**mg/L**	**1**	**8/30/23 19:29**
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/30/23 19:29
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/30/23 19:29
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/30/23 19:29
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/30/23 19:29
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/30/23 19:29
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/30/23 19:29
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/30/23 19:29
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/30/23 19:29
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/30/23 19:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00480	0.0425	mg/kg	1	9/2/23 0:18
2,3,4,6-Tetrachlorophenol	ND	U	0.0262	0.170	mg/kg	1	9/2/23 0:18
2,4,5-Trichlorophenol	ND	U	0.0231	0.170	mg/kg	1	9/2/23 0:18
2,4,6-Trichlorophenol	ND	U	0.0106	0.170	mg/kg	1	9/2/23 0:18
2,4-Dichlorophenol	ND	U	0.0171	0.170	mg/kg	1	9/2/23 0:18
2,4-Dimethylphenol	ND	U	0.0167	0.170	mg/kg	1	9/2/23 0:18
2,4-Dinitrophenol	ND	U	0.0245	0.852	mg/kg	1	9/2/23 0:18UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0181	0.170	mg/kg	1	9/2/23 0:18
2,6-Dinitrotoluene	ND	U	0.0406	0.170	mg/kg	1	9/2/23 0:18
2-Chloronaphthalene	ND	U	0.0195	0.170	mg/kg	1	9/2/23 0:18
2-Chlorophenol	ND	U	0.0225	0.170	mg/kg	1	9/2/23 0:18
2-Methylnaphthalene	**184**	D	**4.07**	**25.5**	**mg/kg**	**100**	**9/5/23 18:28**
2-Methylphenol	ND	U	0.0336	0.170	mg/kg	1	9/2/23 0:18
2-Nitroaniline	ND	U	0.0137	0.170	mg/kg	1	9/2/23 0:18
2-Nitrophenol	ND	U	0.0189	0.170	mg/kg	1	9/2/23 0:18

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3,3'-Dichlorobenzidine	ND	U	0.0179	0.170	mg/kg	1	9/2/23 0:18	
3+4-Methylphenol	ND	U	0.0312	0.170	mg/kg	1	9/2/23 0:18	
3-Nitroaniline	ND	U	0.0315	0.170	mg/kg	1	9/2/23 0:18	
4,6-Dinitro-2-methylphenol	ND	U	0.0321	0.425	mg/kg	1	9/2/23 0:18	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0243	0.170	mg/kg	1	9/2/23 0:18	
4-Chloro-3-methylphenol	ND	U	0.0268	0.170	mg/kg	1	9/2/23 0:18	
4-Chloroaniline	ND	U	0.00595	0.170	mg/kg	1	9/2/23 0:18	
4-Chlorophenyl phenyl ether	ND	U	0.00918	0.170	mg/kg	1	9/2/23 0:18	
4-Nitroaniline	ND	U	0.0850	0.170	mg/kg	1	9/2/23 0:18	
4-Nitrophenol	ND	U	0.0109	0.170	mg/kg	1	9/2/23 0:18	
Acenaphthene	**26.8**	D	**0.969**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Acenaphthylene	**19.9**	D	**0.591**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Acetophenone	ND	U	0.0169	0.170	mg/kg	1	9/2/23 0:18	
Anthracene	**65.1**	D	**2.46**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Atrazine	ND	U	0.0160	0.170	mg/kg	1	9/2/23 0:18	
Benzaldehyde	ND	U	0.0522	0.170	mg/kg	1	9/2/23 0:18	
Benzo(a)anthracene	**46.5**	D	**1.71**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Benzo(a)pyrene	**35.6**	D	**2.96**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Benzo(b)fluoranthene	**36.7**	D	**2.39**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Benzo(g,h,i)perylene	**25.9**	D	**1.38**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Benzo(k)fluoranthene	**8.33**		**0.0195**	**0.170**	**mg/kg**	**1**	**9/2/23 0:18**	
Biphenyl	**63.2**	D	**1.49**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
bis(2-chloroethoxy)methane	ND	U	0.0235	0.170	mg/kg	1	9/2/23 0:18	
bis(2-chloroethyl)ether	ND	U	0.0186	0.170	mg/kg	1	9/2/23 0:18	
bis(2-chloroisopropyl)ether	ND	U	0.0612	0.170	mg/kg	1	9/2/23 0:18	
bis(2-ethylhexyl)phthalate	ND	U	0.0340	0.170	mg/kg	1	9/2/23 0:18	
Butylbenzylphthalate	ND	U	0.0155	0.170	mg/kg	1	9/2/23 0:18	
Caprolactam	ND	U	0.0220	0.170	mg/kg	1	9/2/23 0:18	
Carbazole	ND	U	0.0327	0.425	mg/kg	1	9/2/23 0:18	
Chrysene	**43.3**	D	**1.16**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Dibenzo(a,h)anthracene	**1.20**		**0.0169**	**0.170**	**mg/kg**	**1**	**9/2/23 0:18**	
Dibenzofuran	ND	U	0.0101	0.170	mg/kg	1	9/2/23 0:18	
Diethylphthalate	ND	U	0.0329	0.170	mg/kg	1	9/2/23 0:18	
Dimethylphthalate	ND	U	0.0105	0.170	mg/kg	1	9/2/23 0:18	
Di-n-butylphthalate	ND	U	0.0695	0.170	mg/kg	1	9/2/23 0:18	
Di-n-octylphthalate	ND	U	0.0349	0.170	mg/kg	1	9/2/23 0:18	
Fluoranthene	**92.1**	D	**1.60**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	
Fluorene	**72.8**	D	**1.42**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorobenzene	ND	U	0.0222	0.170	mg/kg	1	9/2/23 0:18
Hexachlorobutadiene	ND	U	0.0816	0.170	mg/kg	1	9/2/23 0:18
Hexachlorocyclopentadiene	ND	U	0.0709	0.425	mg/kg	1	9/2/23 0:18UJ, RC:SL
Hexachloroethane	ND	U	0.0186	0.170	mg/kg	1	9/2/23 0:18
Indeno(1,2,3-cd)pyrene	**10.4**		**0.0183**	**0.170**	**mg/kg**	**1**	**9/2/23 0:18**
Isophorone	ND	U	0.0111	0.170	mg/kg	1	9/2/23 0:18
Naphthalene	**619**	D	**1.26**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**
Nitrobenzene	ND	U	0.0289	0.170	mg/kg	1	9/2/23 0:18
n-Nitroso-di-n-propylamine	ND	U	0.00910	0.170	mg/kg	1	9/2/23 0:18
n-Nitrosodiphenylamine	ND	U	0.0363	0.170	mg/kg	1	9/2/23 0:18
Pentachlorophenol	ND	U	0.0234	0.425	mg/kg	1	9/2/23 0:18UJ, RC:SL
Phenanthrene	**254**	D	**2.23**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**
Phenol	ND	U	0.0138	0.170	mg/kg	1	9/2/23 0:18
Pyrene	**159**	D	**1.25**	**17.0**	**mg/kg**	**100**	**9/5/23 18:28**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
.alpha.-Methylstyrene	1.83	5.99	J	mg/kg	1	9/2/23 0:18
Benzene, (1-bromoethyl)-	2.69	7.14	J	mg/kg	1	9/2/23 0:18
Benzene, 1-ethenyl-3-methyl-	9.68	6.12	J	mg/kg	1	9/2/23 0:18
Benzene, 2-ethenyl-1,4-dimethyl-	1.37	6.90	J	mg/kg	1	9/2/23 0:18
Indene	5.18	6.55	J	mg/kg	1	9/2/23 0:18
Naphthalene, 1-ethyl-	8.30	8.83	J	mg/kg	1	9/2/23 0:18
Naphthalene, 2,3-dimethyl-	7.14	9.10	J	mg/kg	1	9/2/23 0:18
Naphthalene, 2,7-dimethyl-	7.31	8.90	J	mg/kg	1	9/2/23 0:18
unknown (01)	12.1	5.23	J	mg/kg	1	9/2/23 0:18
unknown (02)	3.41	6.16	J	mg/kg	1	9/2/23 0:18
unknown (03)	5.98	8.52	J	mg/kg	1	9/2/23 0:18
unknown (04)	22.7	8.96	J	mg/kg	1	9/2/23 0:18
unknown (05)	4.59	9.28	J	mg/kg	1	9/2/23 0:18
unknown (06)	1.69	11.48	J	mg/kg	1	9/2/23 0:18
unknown (07)	2.47	16.06	J	mg/kg	1	9/2/23 0:18
TIC Total	**96.5**					

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/30/23 22:11	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/30/23 22:11	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/30/23 22:11	UJ, RC:SL
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/30/23 22:11	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/30/23 22:11	
Hexachlorobenzene	~~ND~~	~~U~~	0.00183	0.0200	mg/L	1	8/30/23 22:11	R, RC:SL,6L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/30/23 22:11	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/30/23 22:11	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/30/23 22:11	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/30/23 22:11	UJ, RC:SL
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/30/23 22:11	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000327	0.00224	mg/kg	1	8/30/23 17:19
1,1,2,2-Tetrachloroethane	ND	U	0.000309	0.00224	mg/kg	1	8/30/23 17:19
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000959	0.00224	mg/kg	1	8/30/23 17:19
1,1,2-Trichloroethane	ND	U	0.000377	0.00224	mg/kg	1	8/30/23 17:19
1,1-Dichloroethane	ND	U	0.000327	0.00224	mg/kg	1	8/30/23 17:19
1,1-Dichloroethene	ND	U	0.000414	0.00224	mg/kg	1	8/30/23 17:19
1,2,3-Trichlorobenzene	ND	U	0.000484	0.00224	mg/kg	1	8/30/23 17:19
1,2,4-Trichlorobenzene	ND	U	0.000597	0.00224	mg/kg	1	8/30/23 17:19
1,2,4-Trimethylbenzene	**234**	D	**0.244**	**1.77**	**mg/kg**	**263**	**8/31/23 15:53**
1,2-Dibromo-3-chloropropane	ND	U	0.000547	0.00560	mg/kg	1	8/30/23 17:19
1,2-Dibromoethane	ND	U	0.000282	0.00224	mg/kg	1	8/30/23 17:19
1,2-Dichlorobenzene	ND	U	0.000395	0.00224	mg/kg	1	8/30/23 17:19
1,2-Dichloroethane	ND	U	0.000316	0.00224	mg/kg	1	8/30/23 17:19
1,2-Dichloropropane	ND	U	0.000367	0.00224	mg/kg	1	8/30/23 17:19
1,3-Dichlorobenzene	ND	U	0.000165	0.00224	mg/kg	1	8/30/23 17:19
1,4-Dichlorobenzene	ND	U	0.000323	0.00224	mg/kg	1	8/30/23 17:19
2-Butanone	ND	U	0.000365	0.0112	mg/kg	1	8/30/23 17:19
2-Hexanone	ND	U	0.000209	0.00224	mg/kg	1	8/30/23 17:19
4-Methyl-2-pentanone	ND	U	0.000280	0.00224	mg/kg	1	8/30/23 17:19
Acetone	ND	U	0.000679	0.0560	mg/kg	1	8/30/23 17:19
Benzene	**0.237**		**0.000204**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**
Bromochloromethane	ND	U	0.000413	0.00224	mg/kg	1	8/30/23 17:19
Bromodichloromethane	ND	U	0.000281	0.00224	mg/kg	1	8/30/23 17:19

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000393	0.00224	mg/kg	1	8/30/23 17:19	
Bromomethane	ND	U	0.000646	0.00224	mg/kg	1	8/30/23 17:19	
Carbon disulfide	**0.0876**		**0.000321**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
Carbon Tetrachloride	ND	U	0.000337	0.00224	mg/kg	1	8/30/23 17:19	
Chlorobenzene	ND	U	0.000325	0.00224	mg/kg	1	8/30/23 17:19	
Chlorodibromomethane	ND	U	0.000276	0.00224	mg/kg	1	8/30/23 17:19	
Chloroethane	ND	U	0.000382	0.00224	mg/kg	1	8/30/23 17:19	UJ, RC:SL
Chloroform	ND	U	0.000376	0.00224	mg/kg	1	8/30/23 17:19	
Chloromethane	**0.0105**		**0.000862**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
cis-1,2-Dichloroethene	ND	U	0.000108	0.00224	mg/kg	1	8/30/23 17:19	
cis-1,3-Dichloropropene	ND	U	0.000283	0.00224	mg/kg	1	8/30/23 17:19	
Cyclohexane	**0.00693**		**0.000496**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
Dichlorodifluoromethane	ND	U	0.000756	0.00224	mg/kg	1	8/30/23 17:19	
EthylBenzene	**0.390**		**0.000304**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
Isopropylbenzene	**0.127**		**0.000352**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
m+p-Xylenes	**0.462**		**0.000566**	**0.00448**	**mg/kg**	**1**	**8/30/23 17:19**	
Methyl Acetate	ND	U	0.000297	0.00224	mg/kg	1	8/30/23 17:19	
Methyl tert-Butyl Ether	ND	U	0.000379	0.00224	mg/kg	1	8/30/23 17:19	
Methylcyclohexane	**0.0430**		**0.000361**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
Methylene Chloride	ND	U	0.000673	0.00560	mg/kg	1	8/30/23 17:19	
o-Xylene	**0.281**		**0.000288**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
Styrene	ND	U	0.000320	0.00224	mg/kg	1	8/30/23 17:19	
tert-Butyl alcohol	ND	U	0.00470	0.0224	mg/kg	1	8/30/23 17:19	
Tetrachloroethene	ND	U	0.000222	0.00224	mg/kg	1	8/30/23 17:19	
Toluene	**0.137**		**0.000180**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
Total Xylenes	**0.743**		**0.000288**	**0.00224**	**mg/kg**	**1**	**8/30/23 17:19**	
trans-1,2-Dichloroethene	ND	U	0.000304	0.00224	mg/kg	1	8/30/23 17:19	
trans-1,3-Dichloropropene	ND	U	0.000428	0.00224	mg/kg	1	8/30/23 17:19	
Trichloroethene	ND	U	0.000329	0.00224	mg/kg	1	8/30/23 17:19	
Trichlorofluoromethane	ND	U	0.000258	0.00224	mg/kg	1	8/30/23 17:19	
Vinyl chloride	ND	U	0.000426	0.00224	mg/kg	1	8/30/23 17:19	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 2,3-dihydro-4-methyl-	0.126	20.49	J	mg/kg	1	8/30/23 17:19
2-Ethyl-3-methylcyclopentene	0.108	12.94	J	mg/kg	1	8/30/23 17:19
Benzene, 1,2,3-trimethyl-	0.142	16.64	J	mg/kg	1	8/30/23 17:19
Benzene, 1,3,5-trimethyl-	0.137	17.93	J	mg/kg	1	8/30/23 17:19

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1250
Date to Lab: 8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,4-diethyl-	0.183	18.44	J	mg/kg	1	8/30/23 17:19
Benzene, 1-ethyl-2-methyl-	0.195	16.93	J	mg/kg	1	8/30/23 17:19
Benzene, 1-ethyl-3-methyl-	0.172	16.46	J	mg/kg	1	8/30/23 17:19
Benzene, 2-ethyl-1,3-dimethyl-	0.147	19.06	J	mg/kg	1	8/30/23 17:19
Benzene, cyclopropyl-	0.299	18.26	J	mg/kg	1	8/30/23 17:19
Benzene, propyl-	0.140	16.31	J	mg/kg	1	8/30/23 17:19
Cyclobutane, (1-methylethylidene)-	0.439	10.47	J	mg/kg	1	8/30/23 17:19
Cyclohexene, 1-methyl-	0.104	11.08	J	mg/kg	1	8/30/23 17:19
Cyclopentene, 1-methyl-	0.136	6.82	J	mg/kg	1	8/30/23 17:19
Indan, 1-methyl-	0.145	19.23	J	mg/kg	1	8/30/23 17:19
TIC:Naphthalene	1.64	21.60	J	mg/kg	1	8/30/23 17:19
TIC Total	**4.12**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	9/1/23 0:03
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	9/1/23 0:03
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	9/1/23 0:03
2-Butanone	ND	U	0.100	0.100	mg/L	10	9/1/23 0:03
Benzene	**0.0285**	D	**0.00129**	**0.0100**	**mg/L**	**10**	**9/1/23 0:03**
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	9/1/23 0:03
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	9/1/23 0:03
Chloroform	ND	U	0.00365	0.0100	mg/L	10	9/1/23 0:03
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	9/1/23 0:03
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	9/1/23 0:03
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	9/1/23 0:03

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**78.3**				**%**	**1**	**8/21/23 17:00**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	8/22/23 16:45

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H1250
Project:	Red Hook-Gowanus	**Date to Lab:**	8/18/2023 3:30:00PM

23H1250-02 (Soil) Sample Name: **SCPT-108-5.0-6.0-20230818** Collected: **8/18/2023 11:07:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	ND	U	0.13	0.13	mg/kg	1	8/22/23 18:30

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.128	0.128	mg/kg	1	8/23/23 15:26

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.76**				**pH Units**	**1**	**8/21/23 11:30**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H1331
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: June 10, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
SCPT-111-4.0-5.0-20230821	23H1331-01	8/21/2023	Soil
SCPT-110-4.0-5.0-20230821	23H1331-02	8/21/2023	Soil

Data validation was performed on the analytical data for two (2) samples collected August 21, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOC Hexachlorobenzene associated with TCLP analysis was rejected due to low recovery of the laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, surrogates, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D-TCLP	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	4-Bromobenzene	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	Phenol-d6	> CL	J (Detects) No action (NDs)	3H

- Since only one acid surrogate was outside control limits, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	2,4,6-Trichlorophenol	10% < %R < CL	J (detects) UJ (non-detects)	6L
		2,4-Dinitrotoluene			
		Hexachlorobenzene	10% > %R < CL	J (detects) R (non-detects)	6L
8270E	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	Acetophenone	> CL	J (Detects) No action (NDs)	6H
		3-Nitroaniline			
		3+4-Methylphenol			
		Phenol			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Hexachlorobenzene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Acetophenone Benzaldehyde bis(2-chloroethyl)ether Isophorone Nitrobenzene n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	SCPT-110-4.0-5.0-20230821	DCB	10% < %R < CL	J (detects) UJ (non-detects)	3L
8081B	SCPT-111-4.0-5.0-20230821	DCB	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis performed on sample SCPT-111-4.0-5.0-20230821 for herbicides exhibited acceptable recoveries.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A-TCLP	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	2,4-D 2,4-TP (Silvex)	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	SCPT-111-4.0-5.0-20230821 SCPT-110-4.0-5.0-20230821	Selenium	30% < %R < CL	J (detects) UJ (non-detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: June 10, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H1331

Yu & Associates

Project: Owls Head Phase 2

Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Nov 13, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H1331

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SCPT-111-4.0-5.0-20230821	23H1331-01	Soil	08/21/2023 07:51	08/21/2023 16:34
SCPT-110-4.0-5.0-20230821	23H1331-02	Soil	08/21/2023 11:10	08/21/2023 16:34

PN: 23H1331

APL 23H1331

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CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 1568541	SAMPLED BY: AM

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

☒ NYS Category B

CONTAMINATION LEVEL

☐ HIGH ☐ MEDIUM ☐ LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23H1331	SCPT-111-4.0-5.0-20230821	8/21/23	0751	X		S	5		TCL VOCs, SVOCs, Pest, PCB, TAL metals, Cyanide, Herb, Full TCLP (VOCs, SVOCs, Pest, Herb, Metals), RCRA Characteristics
	SCPT-110-4.0-5.0-20230821	8/21/23	1110	X		S	5		

RELINQUISHED BY (Print) Acxell Marmol	DATE	RECEIVED BY (Print) Alfonso Rivera (AHL)	8/21/23
Signature	Time	Signature	1223
RELINQUISHED BY (Print) Alfonso Rivera (AHL)	DATE 8/21/23	RECEIVED BY (Print)	
Signature	Time 1634	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.1

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7471B / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for some metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).
Method 7471B:
The percent recovery for Mercury was outside of the QC limits for the matrix spike duplicate (low). The blank spike met all QC criteria.
Methods 1311/7470A / 1311/6010D / 1010A / 9014 / 9045D:
All samples met the QC criteria.
Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23H1331-02 has one surrogate (DCAA-2) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PCBs [8082A]

Sample 23H1331-01 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.
Sample 23H1331-02 has one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

Sample 23H1331-01 has two surrogates (Decachlorobiphenyl, Decachlorobiphenyl [2C]) outside of the QC limits (low and high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were outside of the QC limits for the matrix spike (low).
The percent recoveries for 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol and Hexachlorocyclopentadience were outside of the QC limits for the matrix spike duplicate (low). The blank spike met all QC criteria.

Samples 23H1331-01 and -02 have one surrogate (Phenol-d6) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAI0014-CCV1) was outside of the QC limits for Chloroethane (low).

The percent recoveries for several compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.
The percent recoveries for some compounds were outside of the QC limits for the tclp blank spike (low).

Samples 23H1331-01 and -02 have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low), due to matrix interference.

Reviewed By: _____ (SK) 11/14/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-20230821**

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.353		0.0166	0.0455	mg/kg dry	1	8/31/23 13:57

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8000		0.183	3.09	mg/kg dry	1	9/1/23 10:45
Arsenic	3.78		0.110	1.54	mg/kg dry	1	9/1/23 10:45
Barium	44.6		0.0467	0.618	mg/kg dry	1	9/1/23 10:45
Beryllium	0.542		0.00358	0.0309	mg/kg dry	1	9/1/23 10:45
Calcium	3280		3.47	30.9	mg/kg dry	1	9/1/23 10:45
Chromium	13.2		0.0349	0.309	mg/kg dry	1	9/1/23 10:45
Cobalt	6.30		0.0316	0.247	mg/kg dry	1	9/1/23 10:45
Copper	31.2		0.0864	0.309	mg/kg dry	1	9/1/23 10:45
Iron	13600		0.875	6.18	mg/kg dry	1	9/1/23 10:45
Lead	100		0.129	1.54	mg/kg dry	1	9/1/23 10:45
Magnesium	2420		10.9	61.8	mg/kg dry	1	9/1/23 10:45
Manganese	138		0.0384	0.309	mg/kg dry	1	9/1/23 10:45
Nickel	21.5		0.0271	0.154	mg/kg dry	1	9/1/23 10:45
Potassium	752		36.7	124	mg/kg dry	1	9/1/23 10:45
Sodium	205		5.89	61.8	mg/kg dry	1	9/1/23 10:45
Vanadium	19.0		0.0710	0.618	mg/kg dry	1	9/1/23 10:45
Zinc	68.6		0.0944	0.927	mg/kg dry	1	9/1/23 10:45

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	3.51		0.00279	0.100	mg/L	1	9/5/23 12:50
Lead	0.794		0.0255	0.250	mg/L	1	9/5/23 12:50

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dieldrin	0.0000220		2.71E-7	0.0000200	mg/L	1	8/30/23 19:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.122	J	0.0396	0.248	mg/kg dry	1	9/2/23 0:48
Acenaphthene	0.165		0.00943	0.165	mg/kg dry	1	9/2/23 0:48
Acenaphthylene	1.51		0.00575	0.165	mg/kg dry	1	9/2/23 0:48
Anthracene	0.675		0.0240	0.165	mg/kg dry	1	9/2/23 0:48
Benzo(a)anthracene	1.02		0.0166	0.165	mg/kg dry	1	9/2/23 0:48
Benzo(a)pyrene	2.04		0.0288	0.165	mg/kg dry	1	9/2/23 0:48

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-20230821**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(b)fluoranthene	2.20		0.0232	0.165	mg/kg dry	1	9/2/23 0:48
Benzo(g,h,i)perylene	4.08		0.0134	0.165	mg/kg dry	1	9/2/23 0:48
Benzo(k)fluoranthene	0.712		0.0190	0.165	mg/kg dry	1	9/2/23 0:48
Carbazole	0.0809	J	0.0318	0.414	mg/kg dry	1	9/2/23 0:48
Chrysene	1.18		0.0113	0.165	mg/kg dry	1	9/2/23 0:48
Dibenzo(a,h)anthracene	0.135	J	0.0164	0.165	mg/kg dry	1	9/2/23 0:48
Fluoranthene	1.65		0.0155	0.165	mg/kg dry	1	9/2/23 0:48
Fluorene	0.295		0.0138	0.165	mg/kg dry	1	9/2/23 0:48
Indeno(1,2,3-cd)pyrene	2.06		0.0178	0.165	mg/kg dry	1	9/2/23 0:48
Naphthalene	0.153	J	0.0122	0.165	mg/kg dry	1	9/2/23 0:48
Phenanthrene	1.02		0.0217	0.165	mg/kg dry	1	9/2/23 0:48
Pyrene	2.67		0.0122	0.165	mg/kg dry	1	9/2/23 0:48
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.527	J			mg/kg dry	1	9/2/23 0:48
TIC_Benzene, cyclopropyl-	1.53	J			mg/kg dry	1	9/2/23 0:48
TIC_Hexadecanoic acid, butyl ester	13.3	J			mg/kg dry	1	9/2/23 0:48
TIC_Octadecanoic acid, butyl ester	8.26	J			mg/kg dry	1	9/2/23 0:48
TIC_Styrene	1.50	J			mg/kg dry	1	9/2/23 0:48
TIC_unknown (01)	0.718	J			mg/kg dry	1	9/2/23 0:48
TIC_unknown (02)	0.748	J			mg/kg dry	1	9/2/23 0:48
TIC_unknown (03)	0.536	J			mg/kg dry	1	9/2/23 0:48
TIC_unknown (04)	1.25	J			mg/kg dry	1	9/2/23 0:48

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
EthylBenzene	0.00411		0.000227	0.00168	mg/kg dry	1	9/1/23 6:37
Toluene	0.000627	J	0.000135	0.00168	mg/kg dry	1	9/1/23 6:37
TIC_1H-Naphthalen-2-one, 3,4,5,6,7,8-hexahyd	0.00728	J			mg/kg dry	1	9/1/23 6:37
TIC_1-Methyldecahydronaphthalene	0.00690	J			mg/kg dry	1	9/1/23 6:37
TIC_2,6-Dimethylbicyclo[3.2.1]octane	0.00491	J			mg/kg dry	1	9/1/23 6:37
TIC_3,4-Methylenedioxy-N-methylbenzylamine	0.00500	J			mg/kg dry	1	9/1/23 6:37
TIC_Benzene, (1-methyl-1-propenyl)-, (Z)-	0.00646	J			mg/kg dry	1	9/1/23 6:37
TIC_Benzene, 1-ethyl-4-methyl-	0.00537	J			mg/kg dry	1	9/1/23 6:37
TIC_Cyclohexane, 1,1,3,5-tetramethyl-, trans	0.00611	J			mg/kg dry	1	9/1/23 6:37

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-20230821**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexane, 1,2,3-trimethyl-	0.00836	J			mg/kg dry	1	9/1/23 6:37
TIC_Cyclohexane, 2-butyl-1,1,3-trimethyl-	0.00927	J			mg/kg dry	1	9/1/23 6:37
TIC_Cyclohexanone, 5-methyl-2-(1-methylethen	0.00936	J			mg/kg dry	1	9/1/23 6:37
TIC_Cyclopentane	0.00679	J			mg/kg dry	1	9/1/23 6:37
TIC_Decane, 2,3,7-trimethyl-	0.00663	J			mg/kg dry	1	9/1/23 6:37
TIC_Lab Contamination	0.0139	J			mg/kg dry	1	9/1/23 6:37
TIC_Naphthalene, decahydro-2-methyl-	0.00622	J			mg/kg dry	1	9/1/23 6:37
TIC_Tricyclo[4.4.0.0(2,8)]dec-3-en-5-ol	0.0121	J			mg/kg dry	1	9/1/23 6:37

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	0.28		0.13	0.13	mg/kg dry	1	8/31/23 14:57

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	7.77				pH Units	1	8/22/23 12:00

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-20230821**

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.158		0.0162	0.0445	mg/kg dry	1	8/31/23 13:59

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3550		0.178	3.00	mg/kg dry	1	9/1/23 10:47
Antimony	1.79		0.163	1.50	mg/kg dry	1	9/1/23 10:47
Arsenic	3.29		0.107	1.50	mg/kg dry	1	9/1/23 10:47
Barium	99.6		0.0453	0.599	mg/kg dry	1	9/1/23 10:47
Beryllium	0.506		0.00347	0.0300	mg/kg dry	1	9/1/23 10:47
Cadmium	1.57		0.0584	0.300	mg/kg dry	1	9/1/23 10:47
Calcium	39400	D	33.7	300	mg/kg dry	10	9/1/23 12:05
Chromium	15.7		0.0338	0.300	mg/kg dry	1	9/1/23 10:47
Cobalt	4.34		0.0306	0.240	mg/kg dry	1	9/1/23 10:47
Copper	428	D	0.838	3.00	mg/kg dry	10	9/1/23 12:05
Iron	11100		0.849	5.99	mg/kg dry	1	9/1/23 10:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-20230821**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Lead	320		0.125	1.50	mg/kg dry	1	9/1/23 10:47
Magnesium	1620		10.6	59.9	mg/kg dry	1	9/1/23 10:47
Manganese	122		0.0373	0.300	mg/kg dry	1	9/1/23 10:47
Nickel	14.3		0.0263	0.150	mg/kg dry	1	9/1/23 10:47
Potassium	614		35.6	120	mg/kg dry	1	9/1/23 10:47
Sodium	471		5.71	59.9	mg/kg dry	1	9/1/23 10:47
Vanadium	16.4		0.0689	0.599	mg/kg dry	1	9/1/23 10:47
Zinc	5420	D	9.15	89.9	mg/kg dry	100	9/3/23 8:50

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	1.55		0.00279	0.100	mg/L	1	9/1/23 13:00
Lead	0.282		0.0255	0.250	mg/L	1	9/1/23 13:00

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endrin aldehyde [2C]	0.0114		0.000624	0.00157	mg/kg dry	1	9/1/23 18:43

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.535		0.0384	0.241	mg/kg dry	1	9/1/23 22:47
3+4-Methylphenol	0.169		0.0294	0.160	mg/kg dry	1	9/1/23 22:47
Acenaphthene	1.05		0.00914	0.160	mg/kg dry	1	9/1/23 22:47
Acenaphthylene	0.576		0.00558	0.160	mg/kg dry	1	9/1/23 22:47
Acetophenone	0.218		0.0159	0.160	mg/kg dry	1	9/1/23 22:47
Anthracene	1.56		0.0232	0.160	mg/kg dry	1	9/1/23 22:47
Benzaldehyde	0.279		0.0493	0.160	mg/kg dry	1	9/1/23 22:47
Benzo(a)anthracene	2.33		0.0161	0.160	mg/kg dry	1	9/1/23 22:47
Benzo(a)pyrene	2.32		0.0279	0.160	mg/kg dry	1	9/1/23 22:47
Benzo(b)fluoranthene	2.88		0.0225	0.160	mg/kg dry	1	9/1/23 22:47
Benzo(g,h,i)perylene	1.68		0.0130	0.160	mg/kg dry	1	9/1/23 22:47
Benzo(k)fluoranthene	1.28		0.0184	0.160	mg/kg dry	1	9/1/23 22:47
Biphenyl	0.227		0.0141	0.160	mg/kg dry	1	9/1/23 22:47
Carbazole	0.429		0.0308	0.401	mg/kg dry	1	9/1/23 22:47
Chrysene	2.51		0.0110	0.160	mg/kg dry	1	9/1/23 22:47
Dibenzo(a,h)anthracene	0.131	J	0.0159	0.160	mg/kg dry	1	9/1/23 22:47
Dibenzofuran	0.630		0.00955	0.160	mg/kg dry	1	9/1/23 22:47
Fluoranthene	6.54		0.0151	0.160	mg/kg dry	1	9/1/23 22:47
Fluorene	1.03		0.0134	0.160	mg/kg dry	1	9/1/23 22:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-20230821**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	1.15		0.0172	0.160	mg/kg dry	1	9/1/23 22:47
Naphthalene	1.14		0.0119	0.160	mg/kg dry	1	9/1/23 22:47
Phenanthrene	5.81		0.0211	0.160	mg/kg dry	1	9/1/23 22:47
Pyrene	6.51		0.0118	0.160	mg/kg dry	1	9/1/23 22:47
TIC_Benzene, cyclopropyl-	1.20	J			mg/kg dry	1	9/1/23 22:47
TIC_Heptane, 3,3,5-trimethyl-	1.27	J			mg/kg dry	1	9/1/23 22:47
TIC_Hexadecane	1.29	J			mg/kg dry	1	9/1/23 22:47
TIC_Hexadecanoic acid, butyl ester	21.9	J			mg/kg dry	1	9/1/23 22:47
TIC_Octadecanoic acid, 2-methylpropyl ester	7.73	J			mg/kg dry	1	9/1/23 22:47
TIC_Pentadecane, 7-methyl-	1.25	J			mg/kg dry	1	9/1/23 22:47
TIC_unknown (01)	1.59	J			mg/kg dry	1	9/1/23 22:47
TIC_unknown (02)	1.20	J			mg/kg dry	1	9/1/23 22:47

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1,3,4-Trimethyladamantane	0.00663	J			mg/kg dry	1	9/1/23 7:07
TIC_2H-Imidazo[4,5-b]pyridin-2-one, 1,3-dihy	0.00431	J			mg/kg dry	1	9/1/23 7:07
TIC_2-Methyladamantane	0.0108	J			mg/kg dry	1	9/1/23 7:07
TIC_3,8,11-Trioxatetracyclo[4.4.1.02,4.07,9]	0.00499	J			mg/kg dry	1	9/1/23 7:07
TIC_Adamantane	0.00688	J			mg/kg dry	1	9/1/23 7:07
TIC_Adamantane, 1,3-dimethyl-	0.00479	J			mg/kg dry	1	9/1/23 7:07
TIC_Cyclohexane, 1,1,4,4-tetramethyl-2,6-bis	0.00456	J			mg/kg dry	1	9/1/23 7:07
TIC_Tricyclo[3.3.1.1(3,7)-]decane, 1-bromo-	0.0116	J			mg/kg dry	1	9/1/23 7:07

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	0.74		0.12	0.12	mg/kg dry	1	8/31/23 14:57

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.20				pH Units	1	8/22/23 12:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00550	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1221	ND	U	0.0108	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1232	ND	U	0.0138	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1242	ND	U	0.00805	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1248	ND	U	0.00842	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1254	ND	U	0.00661	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1260	ND	U	0.00513	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1262	ND	U	0.0110	0.0410	mg/kg	1	8/31/23 17:16
Aroclor-1268	ND	U	0.00496	0.0410	mg/kg	1	8/31/23 17:16
Total PCBs	ND	U	0.00383	0.0410	mg/kg	1	8/31/23 17:16

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.124	mg/kg	1	9/5/23 14:47
2,4-D	ND	U	0.0206	0.124	mg/kg	1	9/5/23 14:47

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:21
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:21

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.353**		**0.0166**	**0.0455**	**mg/kg**	**1**	**8/31/23 13:57**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/29/23 13:29

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8000**		**0.183**	**3.09**	**mg/kg**	**1**	**9/1/23 10:45**
Antimony	ND	U	0.168	1.54	mg/kg	1	9/1/23 10:45
Arsenic	**3.78**		**0.110**	**1.54**	**mg/kg**	**1**	**9/1/23 10:45**
Barium	**44.6**		**0.0467**	**0.618**	**mg/kg**	**1**	**9/1/23 10:45**
Beryllium	**0.542**		**0.00358**	**0.0309**	**mg/kg**	**1**	**9/1/23 10:45**
Cadmium	ND	U	0.0602	0.309	mg/kg	1	9/1/23 10:45
Calcium	**3280**		**3.47**	**30.9**	**mg/kg**	**1**	**9/1/23 10:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chromium	**13.2**		**0.0349**	**0.309**	**mg/kg**	**1**	**9/1/23 10:45**	
Cobalt	**6.30**		**0.0316**	**0.247**	**mg/kg**	**1**	**9/1/23 10:45**	
Copper	**31.2**		**0.0864**	**0.309**	**mg/kg**	**1**	**9/1/23 10:45**	
Iron	**13600**		**0.875**	**6.18**	**mg/kg**	**1**	**9/1/23 10:45**	
Lead	**100**		**0.129**	**1.54**	**mg/kg**	**1**	**9/1/23 10:45**	
Magnesium	**2420**		**10.9**	**61.8**	**mg/kg**	**1**	**9/1/23 10:45**	
Manganese	**138**		**0.0384**	**0.309**	**mg/kg**	**1**	**9/1/23 10:45**	
Nickel	**21.5**		**0.0271**	**0.154**	**mg/kg**	**1**	**9/1/23 10:45**	
Potassium	**752**		**36.7**	**124**	**mg/kg**	**1**	**9/1/23 10:45**	
Selenium	ND	U	0.297	1.54	mg/kg	1	9/1/23 10:45	UJ, RC:6L
Silver	ND	U	0.0525	0.185	mg/kg	1	9/1/23 10:45	
Sodium	**205**		**5.89**	**61.8**	**mg/kg**	**1**	**9/1/23 10:45**	
Thallium	ND	U	0.104	1.54	mg/kg	1	9/1/23 10:45	
Vanadium	**19.0**		**0.0710**	**0.618**	**mg/kg**	**1**	**9/1/23 10:45**	
Zinc	**68.6**		**0.0944**	**0.927**	**mg/kg**	**1**	**9/1/23 10:45**	

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	9/5/23 12:50
Barium	**3.51**		**0.00279**	**0.100**	**mg/L**	**1**	**9/5/23 12:50**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	9/5/23 12:50
Chromium	ND	U	0.00240	0.0500	mg/L	1	9/5/23 12:50
Lead	**0.794**		**0.0255**	**0.250**	**mg/L**	**1**	**9/5/23 12:50**
Selenium	ND	U	0.0760	0.250	mg/L	1	9/5/23 12:50
Silver	ND	U	0.0232	0.100	mg/L	1	9/5/23 12:50

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000739	0.00161	mg/kg	1	9/1/23 18:24	UJ, RC:3L
4,4'-DDE	ND	U	0.000883	0.00161	mg/kg	1	9/1/23 18:24	
4,4'-DDT	ND	U	0.00114	0.00161	mg/kg	1	9/1/23 18:24	
Aldrin	ND	U	0.000765	0.00161	mg/kg	1	9/1/23 18:24	
alpha-BHC	ND	U	0.000481	0.00161	mg/kg	1	9/1/23 18:24	
beta-BHC	ND	U	0.000771	0.00161	mg/kg	1	9/1/23 18:24	
Chlordane	ND	U	0.000718	0.00161	mg/kg	1	9/1/23 18:24	
delta-BHC	ND	U	0.000750	0.00161	mg/kg	1	9/1/23 18:24	
Dieldrin	ND	U	0.000844	0.00161	mg/kg	1	9/1/23 18:24	
Endosulfan I	ND	U	0.000762	0.00161	mg/kg	1	9/1/23 18:24	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000734	0.00161	mg/kg	1	9/1/23 18:24	UJ, RC:3L
Endosulfan sulfate	ND	U	0.000607	0.00161	mg/kg	1	9/1/23 18:24	
Endosulfans, Total (alpha and beta)	ND	U	0.000734	0.00161	mg/kg	1	9/1/23 18:24	
Endrin	ND	U	0.000558	0.00161	mg/kg	1	9/1/23 18:24	
Endrin aldehyde	ND	U	0.000643	0.00161	mg/kg	1	9/1/23 18:24	
Endrin ketone	ND	U	0.000569	0.00161	mg/kg	1	9/1/23 18:24	
gamma-BHC (Lindane)	ND	U	0.000512	0.00161	mg/kg	1	9/1/23 18:24	
Heptachlor	ND	U	0.000432	0.00161	mg/kg	1	9/1/23 18:24	
Heptachlor Epoxide	ND	U	0.000815	0.00161	mg/kg	1	9/1/23 18:24	
Methoxychlor	ND	U	0.000473	0.00161	mg/kg	1	9/1/23 18:24	
Toxaphene	ND	U	0.0778	0.0820	mg/kg	1	9/1/23 18:24	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/30/23 19:47
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/30/23 19:47
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/30/23 19:47
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/30/23 19:47
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/30/23 19:47
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/30/23 19:47
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/30/23 19:47
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/30/23 19:47
Dieldrin	**0.0000220**		**2.71E-7**	**0.0000200**	**mg/L**	**1**	**8/30/23 19:47**
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/30/23 19:47
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/30/23 19:47
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/30/23 19:47
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/30/23 19:47
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/30/23 19:47
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/30/23 19:47
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/30/23 19:47
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/30/23 19:47
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/30/23 19:47
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/30/23 19:47
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/30/23 19:47

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00467	0.0414	mg/kg	1	9/2/23 0:48	
2,3,4,6-Tetrachlorophenol	ND	U	0.0255	0.165	mg/kg	1	9/2/23 0:48	
2,4,5-Trichlorophenol	ND	U	0.0225	0.165	mg/kg	1	9/2/23 0:48	
2,4,6-Trichlorophenol	ND	U	0.0103	0.165	mg/kg	1	9/2/23 0:48	
2,4-Dichlorophenol	ND	U	0.0166	0.165	mg/kg	1	9/2/23 0:48	
2,4-Dimethylphenol	ND	U	0.0163	0.165	mg/kg	1	9/2/23 0:48	
2,4-Dinitrophenol	ND	U	0.0238	0.828	mg/kg	1	9/2/23 0:48	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0176	0.165	mg/kg	1	9/2/23 0:48	
2,6-Dinitrotoluene	ND	U	0.0395	0.165	mg/kg	1	9/2/23 0:48	
2-Chloronaphthalene	ND	U	0.0190	0.165	mg/kg	1	9/2/23 0:48	
2-Chlorophenol	ND	U	0.0219	0.165	mg/kg	1	9/2/23 0:48	
2-Methylnaphthalene	**0.122**	J	**0.0396**	**0.248**	**mg/kg**	**1**	**9/2/23 0:48**	
2-Methylphenol	ND	U	0.0327	0.165	mg/kg	1	9/2/23 0:48	
2-Nitroaniline	ND	U	0.0133	0.165	mg/kg	1	9/2/23 0:48	
2-Nitrophenol	ND	U	0.0184	0.165	mg/kg	1	9/2/23 0:48	
3,3'-Dichlorobenzidine	ND	U	0.0174	0.165	mg/kg	1	9/2/23 0:48	
3+4-Methylphenol	ND	U	0.0303	0.165	mg/kg	1	9/2/23 0:48	
3-Nitroaniline	ND	U	0.0307	0.165	mg/kg	1	9/2/23 0:48	
4,6-Dinitro-2-methylphenol	ND	U	0.0312	0.414	mg/kg	1	9/2/23 0:48	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0236	0.165	mg/kg	1	9/2/23 0:48	
4-Chloro-3-methylphenol	ND	U	0.0261	0.165	mg/kg	1	9/2/23 0:48	
4-Chloroaniline	ND	U	0.00579	0.165	mg/kg	1	9/2/23 0:48	
4-Chlorophenyl phenyl ether	ND	U	0.00893	0.165	mg/kg	1	9/2/23 0:48	
4-Nitroaniline	ND	U	0.0827	0.165	mg/kg	1	9/2/23 0:48	
4-Nitrophenol	ND	U	0.0106	0.165	mg/kg	1	9/2/23 0:48	
Acenaphthene	**0.165**		**0.00943**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Acenaphthylene	**1.51**		**0.00575**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Acetophenone	ND	U	0.0164	0.165	mg/kg	1	9/2/23 0:48	
Anthracene	**0.675**		**0.0240**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Atrazine	ND	U	0.0155	0.165	mg/kg	1	9/2/23 0:48	
Benzaldehyde	ND	U	0.0508	0.165	mg/kg	1	9/2/23 0:48	
Benzo(a)anthracene	**1.02**		**0.0166**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Benzo(a)pyrene	**2.04**		**0.0288**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Benzo(b)fluoranthene	**2.20**		**0.0232**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Benzo(g,h,i)perylene	**4.08**		**0.0134**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Benzo(k)fluoranthene	**0.712**		**0.0190**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Biphenyl	ND	U	0.0145	0.165	mg/kg	1	9/2/23 0:48	
bis(2-chloroethoxy)methane	ND	U	0.0228	0.165	mg/kg	1	9/2/23 0:48	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0181	0.165	mg/kg	1	9/2/23 0:48	
bis(2-chloroisopropyl)ether	ND	U	0.0595	0.165	mg/kg	1	9/2/23 0:48	
bis(2-ethylhexyl)phthalate	ND	U	0.0330	0.165	mg/kg	1	9/2/23 0:48	
Butylbenzylphthalate	ND	U	0.0150	0.165	mg/kg	1	9/2/23 0:48	
Caprolactam	ND	U	0.0214	0.165	mg/kg	1	9/2/23 0:48	
Carbazole	**0.0809**	J	**0.0318**	**0.414**	**mg/kg**	**1**	**9/2/23 0:48**	
Chrysene	**1.18**		**0.0113**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Dibenzo(a,h)anthracene	**0.135**	J	**0.0164**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Dibenzofuran	ND	U	0.00985	0.165	mg/kg	1	9/2/23 0:48	
Diethylphthalate	ND	U	0.0320	0.165	mg/kg	1	9/2/23 0:48	
Dimethylphthalate	ND	U	0.0103	0.165	mg/kg	1	9/2/23 0:48	
Di-n-butylphthalate	ND	U	0.0676	0.165	mg/kg	1	9/2/23 0:48	
Di-n-octylphthalate	ND	U	0.0339	0.165	mg/kg	1	9/2/23 0:48	
Fluoranthene	**1.65**		**0.0155**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Fluorene	**0.295**		**0.0138**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Hexachlorobenzene	ND	U	0.0216	0.165	mg/kg	1	9/2/23 0:48	
Hexachlorobutadiene	ND	U	0.0794	0.165	mg/kg	1	9/2/23 0:48	
Hexachlorocyclopentadiene	ND	U	0.0689	0.414	mg/kg	1	9/2/23 0:48	UJ, RC:SL
Hexachloroethane	ND	U	0.0181	0.165	mg/kg	1	9/2/23 0:48	
Indeno(1,2,3-cd)pyrene	**2.06**		**0.0178**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Isophorone	ND	U	0.0108	0.165	mg/kg	1	9/2/23 0:48	
Naphthalene	**0.153**	J	**0.0122**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Nitrobenzene	ND	U	0.0281	0.165	mg/kg	1	9/2/23 0:48	
n-Nitroso-di-n-propylamine	ND	U	0.00885	0.165	mg/kg	1	9/2/23 0:48	
n-Nitrosodiphenylamine	ND	U	0.0353	0.165	mg/kg	1	9/2/23 0:48	
Pentachlorophenol	ND	U	0.0227	0.414	mg/kg	1	9/2/23 0:48	UJ, RC:SL
Phenanthrene	**1.02**		**0.0217**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	
Phenol	ND	U	0.0134	0.165	mg/kg	1	9/2/23 0:48	
Pyrene	**2.67**		**0.0122**	**0.165**	**mg/kg**	**1**	**9/2/23 0:48**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-methyl-2-(1-methylethyl)-	0.527	7.72	J	mg/kg	1	9/2/23 0:48
Benzene, cyclopropyl-	1.53	6.10	J	mg/kg	1	9/2/23 0:48
Hexadecanoic acid, butyl ester	13.3	12.15	J	mg/kg	1	9/2/23 0:48
Octadecanoic acid, butyl ester	8.26	12.96	J	mg/kg	1	9/2/23 0:48
Styrene	1.50	5.21	J	mg/kg	1	9/2/23 0:48

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	0.718	7.10	J	mg/kg	1	9/2/23 0:48
unknown (02)	0.748	7.79	J	mg/kg	1	9/2/23 0:48
unknown (03)	0.536	8.08	J	mg/kg	1	9/2/23 0:48
unknown (04)	1.25	9.02	J	mg/kg	1	9/2/23 0:48
TIC Total	**28.4**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/30/23 22:44	
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/30/23 22:44	UJ, RC:6L
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/30/23 22:44	UJ, RC:6L
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/30/23 22:44	
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/30/23 22:44	
Hexachlorobenzene	~~ND~~	~~U~~	0.00183	0.0200	mg/L	1	8/30/23 22:44	R, RC:6L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/30/23 22:44	
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/30/23 22:44	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/30/23 22:44	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/30/23 22:44	UJ, RC:6L
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/30/23 22:44	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000245	0.00168	mg/kg	1	9/1/23 6:37
1,1,2,2-Tetrachloroethane	ND	U	0.000232	0.00168	mg/kg	1	9/1/23 6:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000718	0.00168	mg/kg	1	9/1/23 6:37
1,1,2-Trichloroethane	ND	U	0.000283	0.00168	mg/kg	1	9/1/23 6:37
1,1-Dichloroethane	ND	U	0.000245	0.00168	mg/kg	1	9/1/23 6:37
1,1-Dichloroethene	ND	U	0.000310	0.00168	mg/kg	1	9/1/23 6:37
1,2,3-Trichlorobenzene	ND	U	0.000362	0.00168	mg/kg	1	9/1/23 6:37
1,2,4-Trichlorobenzene	ND	U	0.000447	0.00168	mg/kg	1	9/1/23 6:37
1,2,4-Trimethylbenzene	ND	U	0.000232	0.00168	mg/kg	1	9/1/23 6:37
1,2-Dibromo-3-chloropropane	ND	U	0.000409	0.00420	mg/kg	1	9/1/23 6:37
1,2-Dibromoethane	ND	U	0.000211	0.00168	mg/kg	1	9/1/23 6:37
1,2-Dichlorobenzene	ND	U	0.000296	0.00168	mg/kg	1	9/1/23 6:37
1,2-Dichloroethane	ND	U	0.000237	0.00168	mg/kg	1	9/1/23 6:37
1,2-Dichloropropane	ND	U	0.000275	0.00168	mg/kg	1	9/1/23 6:37
1,3-Dichlorobenzene	ND	U	0.000123	0.00168	mg/kg	1	9/1/23 6:37

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dichlorobenzene	ND	U	0.000242	0.00168	mg/kg	1	9/1/23 6:37	
2-Butanone	ND	U	0.000274	0.00839	mg/kg	1	9/1/23 6:37	
2-Hexanone	ND	U	0.000157	0.00168	mg/kg	1	9/1/23 6:37	
4-Methyl-2-pentanone	ND	U	0.000210	0.00168	mg/kg	1	9/1/23 6:37	
Acetone	ND	U	0.000508	0.0420	mg/kg	1	9/1/23 6:37	
Benzene	ND	U	0.000153	0.00168	mg/kg	1	9/1/23 6:37	
Bromochloromethane	ND	U	0.000310	0.00168	mg/kg	1	9/1/23 6:37	
Bromodichloromethane	ND	U	0.000211	0.00168	mg/kg	1	9/1/23 6:37	
Bromoform	ND	U	0.000295	0.00168	mg/kg	1	9/1/23 6:37	
Bromomethane	ND	U	0.000484	0.00168	mg/kg	1	9/1/23 6:37	
Carbon disulfide	ND	U	0.000241	0.00168	mg/kg	1	9/1/23 6:37	
Carbon Tetrachloride	ND	U	0.000253	0.00168	mg/kg	1	9/1/23 6:37	
Chlorobenzene	ND	U	0.000243	0.00168	mg/kg	1	9/1/23 6:37	
Chlorodibromomethane	ND	U	0.000206	0.00168	mg/kg	1	9/1/23 6:37	
Chloroethane	ND	U	0.000286	0.00168	mg/kg	1	9/1/23 6:37	UJ, RC:SL
Chloroform	ND	U	0.000282	0.00168	mg/kg	1	9/1/23 6:37	
Chloromethane	ND	U	0.000646	0.00168	mg/kg	1	9/1/23 6:37	
cis-1,2-Dichloroethene	ND	U	0.0000811	0.00168	mg/kg	1	9/1/23 6:37	
cis-1,3-Dichloropropene	ND	U	0.000212	0.00168	mg/kg	1	9/1/23 6:37	
Cyclohexane	ND	U	0.000372	0.00168	mg/kg	1	9/1/23 6:37	
Dichlorodifluoromethane	ND	U	0.000566	0.00168	mg/kg	1	9/1/23 6:37	
EthylBenzene	**0.00411**		**0.000227**	**0.00168**	**mg/kg**	**1**	**9/1/23 6:37**	
Isopropylbenzene	ND	U	0.000263	0.00168	mg/kg	1	9/1/23 6:37	
m+p-Xylenes	ND	U	0.000424	0.00336	mg/kg	1	9/1/23 6:37	
Methyl Acetate	ND	U	0.000222	0.00168	mg/kg	1	9/1/23 6:37	
Methyl tert-Butyl Ether	ND	U	0.000284	0.00168	mg/kg	1	9/1/23 6:37	
Methylcyclohexane	ND	U	0.000270	0.00168	mg/kg	1	9/1/23 6:37	
Methylene Chloride	ND	U	0.000504	0.00420	mg/kg	1	9/1/23 6:37	
o-Xylene	ND	U	0.000216	0.00168	mg/kg	1	9/1/23 6:37	
Styrene	ND	U	0.000240	0.00168	mg/kg	1	9/1/23 6:37	
tert-Butyl alcohol	ND	U	0.00352	0.0168	mg/kg	1	9/1/23 6:37	
Tetrachloroethene	ND	U	0.000166	0.00168	mg/kg	1	9/1/23 6:37	
Toluene	**0.000627**	J	**0.000135**	**0.00168**	**mg/kg**	**1**	**9/1/23 6:37**	
Total Xylenes	ND	U	0.000216	0.00168	mg/kg	1	9/1/23 6:37	
trans-1,2-Dichloroethene	ND	U	0.000227	0.00168	mg/kg	1	9/1/23 6:37	
trans-1,3-Dichloropropene	ND	U	0.000321	0.00168	mg/kg	1	9/1/23 6:37	
Trichloroethene	ND	U	0.000247	0.00168	mg/kg	1	9/1/23 6:37	
Trichlorofluoromethane	ND	U	0.000193	0.00168	mg/kg	1	9/1/23 6:37	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil) Sample Name: **SCPT-111-4.0-5.0-2023 0821** Collected: **8/21/2023 7:51:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vinyl chloride	ND	U	0.000319	0.00168	mg/kg	1	9/1/23 6:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Naphthalen-2-one, 3,4,5,6,7,8-hexahyd	0.00728	23.44	J	mg/kg	1	9/1/23 6:37
1-Methyldecahydronaphthalene	0.00690	19.85	J	mg/kg	1	9/1/23 6:37
2,6-Dimethylbicyclo[3.2.1]octane	0.00491	18.44	J	mg/kg	1	9/1/23 6:37
3,4-Methylenedioxy-N-methylbenzyl amine	0.00500	22.37	J	mg/kg	1	9/1/23 6:37
Benzene, (1-methyl-1-propenyl)-, (Z)-	0.00646	19.18	J	mg/kg	1	9/1/23 6:37
Benzene, 1-ethyl-4-methyl-	0.00537	16.87	J	mg/kg	1	9/1/23 6:37
Cyclohexane, 1,1,3,5-tetramethyl-, trans	0.00611	21.98	J	mg/kg	1	9/1/23 6:37
Cyclohexane, 1,2,3-trimethyl-	0.00836	22.27	J	mg/kg	1	9/1/23 6:37
Cyclohexane, 2-butyl-1,1,3-trimethyl-	0.00927	21.37	J	mg/kg	1	9/1/23 6:37
Cyclohexanone, 5-methyl-2-(1-methylethen	0.00936	19.50	J	mg/kg	1	9/1/23 6:37
Cyclopentane	0.00679	3.96	J	mg/kg	1	9/1/23 6:37
Decane, 2,3,7-trimethyl-	0.00663	20.30	J	mg/kg	1	9/1/23 6:37
Lab Contamination	0.0139	3.89	J	mg/kg	1	9/1/23 6:37
Naphthalene, decahydro-2-methyl-	0.00622	20.51	J	mg/kg	1	9/1/23 6:37
Tricyclo[4.4.0.0(2,8)]dec-3-en-5-ol	0.0121	20.76	J	mg/kg	1	9/1/23 6:37
TIC Total	**0.115**					

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/31/23 21:54 UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/31/23 21:54
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/31/23 21:54
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/31/23 21:54
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/31/23 21:54
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/31/23 21:54
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/31/23 21:54
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/31/23 21:54
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/31/23 21:54
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/31/23 21:54

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-01 (Soil)

Sample Name: **SCPT-111-4.0-5.0-2023 0821**
Collected: **8/21/2023 7:51:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/31/23 21:54

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.5**				**%**	**1**	**8/22/23 8:30**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	9/5/23 13:29

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	**0.28**		**0.13**	**0.13**	**mg/kg**	**1**	**8/31/23 14:57**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.124	0.124	mg/kg	1	8/24/23 9:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**7.77**				**pH Units**	**1**	**8/22/23 12:00**

23H1331-02 (Soil)

Sample Name: **SCPT-110-4.0-5.0-202 30821**
Collected: **8/21/2023 11:10:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00533	0.0397	mg/kg	1	8/31/23 17:38	UJ, RC:3L
Aroclor-1221	ND	U	0.0105	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1232	ND	U	0.0133	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1242	ND	U	0.00781	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1248	ND	U	0.00817	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1254	ND	U	0.00641	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1260	ND	U	0.00498	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1262	ND	U	0.0107	0.0397	mg/kg	1	8/31/23 17:38	
Aroclor-1268	ND	U	0.00481	0.0397	mg/kg	1	8/31/23 17:38	
Total PCBs	ND	U	0.00371	0.0397	mg/kg	1	8/31/23 17:38	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0118	0.120	mg/kg	1	9/5/23 14:56
2,4-D	ND	U	0.0200	0.120	mg/kg	1	9/5/23 14:56

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:30
2,4-D	ND	U	0.00900	0.0200	mg/L	1	8/30/23 10:30

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.158**		**0.0162**	**0.0445**	**mg/kg**	**1**	**8/31/23 13:59**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	8/29/23 13:31

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**3550**		**0.178**	**3.00**	**mg/kg**	**1**	**9/1/23 10:47**	
Antimony	**1.79**		**0.163**	**1.50**	**mg/kg**	**1**	**9/1/23 10:47**	
Arsenic	**3.29**		**0.107**	**1.50**	**mg/kg**	**1**	**9/1/23 10:47**	
Barium	**99.6**		**0.0453**	**0.599**	**mg/kg**	**1**	**9/1/23 10:47**	
Beryllium	**0.506**		**0.00347**	**0.0300**	**mg/kg**	**1**	**9/1/23 10:47**	
Cadmium	**1.57**		**0.0584**	**0.300**	**mg/kg**	**1**	**9/1/23 10:47**	
Calcium	**39400**	D	**33.7**	**300**	**mg/kg**	**10**	**9/1/23 12:05**	
Chromium	**15.7**		**0.0338**	**0.300**	**mg/kg**	**1**	**9/1/23 10:47**	
Cobalt	**4.34**		**0.0306**	**0.240**	**mg/kg**	**1**	**9/1/23 10:47**	
Copper	**428**	D	**0.838**	**3.00**	**mg/kg**	**10**	**9/1/23 12:05**	
Iron	**11100**		**0.849**	**5.99**	**mg/kg**	**1**	**9/1/23 10:47**	
Lead	**320**		**0.125**	**1.50**	**mg/kg**	**1**	**9/1/23 10:47**	
Magnesium	**1620**		**10.6**	**59.9**	**mg/kg**	**1**	**9/1/23 10:47**	
Manganese	**122**		**0.0373**	**0.300**	**mg/kg**	**1**	**9/1/23 10:47**	
Nickel	**14.3**		**0.0263**	**0.150**	**mg/kg**	**1**	**9/1/23 10:47**	
Potassium	**614**		**35.6**	**120**	**mg/kg**	**1**	**9/1/23 10:47**	
Selenium	ND	U	0.288	1.50	mg/kg	1	9/1/23 10:47	UJ, RC:6L
Silver	ND	U	0.0510	0.180	mg/kg	1	9/1/23 10:47	
Sodium	**471**		**5.71**	**59.9**	**mg/kg**	**1**	**9/1/23 10:47**	
Thallium	ND	U	0.101	1.50	mg/kg	1	9/1/23 10:47	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	**16.4**		**0.0689**	**0.599**	**mg/kg**	**1**	**9/1/23 10:47**
Zinc	**5420**	D	**9.15**	**89.9**	**mg/kg**	**100**	**9/3/23 8:50**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	9/1/23 13:00
Barium	**1.55**		**0.00279**	**0.100**	**mg/L**	**1**	**9/1/23 13:00**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	9/1/23 13:00
Chromium	ND	U	0.00240	0.0500	mg/L	1	9/1/23 13:00
Lead	**0.282**		**0.0255**	**0.250**	**mg/L**	**1**	**9/1/23 13:00**
Selenium	ND	U	0.0760	0.250	mg/L	1	9/1/23 13:00
Silver	ND	U	0.0232	0.100	mg/L	1	9/1/23 13:00

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000717	0.00157	mg/kg	1	9/1/23 18:43
4,4'-DDE	ND	U	0.000856	0.00157	mg/kg	1	9/1/23 18:43
4,4'-DDT	ND	U	0.00111	0.00157	mg/kg	1	9/1/23 18:43
Aldrin	ND	U	0.000742	0.00157	mg/kg	1	9/1/23 18:43
alpha-BHC	ND	U	0.000466	0.00157	mg/kg	1	9/1/23 18:43
beta-BHC	ND	U	0.000748	0.00157	mg/kg	1	9/1/23 18:43
Chlordane	ND	U	0.000696	0.00157	mg/kg	1	9/1/23 18:43
delta-BHC	ND	U	0.000727	0.00157	mg/kg	1	9/1/23 18:43
Dieldrin	ND	U	0.000819	0.00157	mg/kg	1	9/1/23 18:43
Endosulfan I	ND	U	0.000739	0.00157	mg/kg	1	9/1/23 18:43
Endosulfan II	ND	U	0.000712	0.00157	mg/kg	1	9/1/23 18:43
Endosulfan sulfate	ND	U	0.000589	0.00157	mg/kg	1	9/1/23 18:43
Endosulfans, Total (alpha and beta)	ND	U	0.000712	0.00157	mg/kg	1	9/1/23 18:43
Endrin	ND	U	0.000541	0.00157	mg/kg	1	9/1/23 18:43
Endrin aldehyde [2C]	**0.0114**		**0.000624**	**0.00157**	**mg/kg**	**1**	**9/1/23 18:43**
Endrin ketone	ND	U	0.000552	0.00157	mg/kg	1	9/1/23 18:43
gamma-BHC (Lindane)	ND	U	0.000496	0.00157	mg/kg	1	9/1/23 18:43
Heptachlor	ND	U	0.000419	0.00157	mg/kg	1	9/1/23 18:43
Heptachlor Epoxide	ND	U	0.000790	0.00157	mg/kg	1	9/1/23 18:43
Methoxychlor	ND	U	0.000459	0.00157	mg/kg	1	9/1/23 18:43
Toxaphene	ND	U	0.0754	0.0795	mg/kg	1	9/1/23 18:43

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	8/30/23 20:06
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	8/30/23 20:06
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	8/30/23 20:06
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	8/30/23 20:06
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	8/30/23 20:06
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	8/30/23 20:06
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	8/30/23 20:06
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	8/30/23 20:06
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	8/30/23 20:06
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	8/30/23 20:06
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	8/30/23 20:06
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	8/30/23 20:06
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	8/30/23 20:06
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	8/30/23 20:06
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	8/30/23 20:06
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	8/30/23 20:06
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	8/30/23 20:06
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	8/30/23 20:06
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	8/30/23 20:06
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	8/30/23 20:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00453	0.0401	mg/kg	1	9/1/23 22:47	
2,3,4,6-Tetrachlorophenol	ND	U	0.0247	0.160	mg/kg	1	9/1/23 22:47	
2,4,5-Trichlorophenol	ND	U	0.0218	0.160	mg/kg	1	9/1/23 22:47	
2,4,6-Trichlorophenol	ND	U	0.0100	0.160	mg/kg	1	9/1/23 22:47	
2,4-Dichlorophenol	ND	U	0.0161	0.160	mg/kg	1	9/1/23 22:47	
2,4-Dimethylphenol	ND	U	0.0158	0.160	mg/kg	1	9/1/23 22:47	
2,4-Dinitrophenol	ND	U	0.0231	0.803	mg/kg	1	9/1/23 22:47	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0171	0.160	mg/kg	1	9/1/23 22:47	
2,6-Dinitrotoluene	ND	U	0.0383	0.160	mg/kg	1	9/1/23 22:47	
2-Chloronaphthalene	ND	U	0.0184	0.160	mg/kg	1	9/1/23 22:47	
2-Chlorophenol	ND	U	0.0212	0.160	mg/kg	1	9/1/23 22:47	
2-Methylnaphthalene	**0.535**		**0.0384**	**0.241**	**mg/kg**	**1**	**9/1/23 22:47**	
2-Methylphenol	ND	U	0.0317	0.160	mg/kg	1	9/1/23 22:47	
2-Nitroaniline	ND	U	0.0129	0.160	mg/kg	1	9/1/23 22:47	
2-Nitrophenol	ND	U	0.0178	0.160	mg/kg	1	9/1/23 22:47	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3,3'-Dichlorobenzidine	ND	U	0.0169	0.160	mg/kg	1	9/1/23 22:47
3+4-Methylphenol	**0.169**		**0.0294**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47** J, RC:6H
3-Nitroaniline	ND	U	0.0297	0.160	mg/kg	1	9/1/23 22:47
4,6-Dinitro-2-methylphenol	ND	U	0.0302	0.401	mg/kg	1	9/1/23 22:47 UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.0229	0.160	mg/kg	1	9/1/23 22:47
4-Chloro-3-methylphenol	ND	U	0.0253	0.160	mg/kg	1	9/1/23 22:47
4-Chloroaniline	ND	U	0.00561	0.160	mg/kg	1	9/1/23 22:47
4-Chlorophenyl phenyl ether	ND	U	0.00866	0.160	mg/kg	1	9/1/23 22:47
4-Nitroaniline	ND	U	0.0802	0.160	mg/kg	1	9/1/23 22:47
4-Nitrophenol	ND	U	0.0103	0.160	mg/kg	1	9/1/23 22:47
Acenaphthene	**1.05**		**0.00914**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Acenaphthylene	**0.576**		**0.00558**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Acetophenone	**0.218**		**0.0159**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47** J, RC:6H,SH
Anthracene	**1.56**		**0.0232**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Atrazine	ND	U	0.0151	0.160	mg/kg	1	9/1/23 22:47
Benzaldehyde	**0.279**		**0.0493**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**J, RC:SH
Benzo(a)anthracene	**2.33**		**0.0161**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Benzo(a)pyrene	**2.32**		**0.0279**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Benzo(b)fluoranthene	**2.88**		**0.0225**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Benzo(g,h,i)perylene	**1.68**		**0.0130**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Benzo(k)fluoranthene	**1.28**		**0.0184**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Biphenyl	**0.227**		**0.0141**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
bis(2-chloroethoxy)methane	ND	U	0.0222	0.160	mg/kg	1	9/1/23 22:47
bis(2-chloroethyl)ether	ND	U	0.0176	0.160	mg/kg	1	9/1/23 22:47
bis(2-chloroisopropyl)ether	ND	U	0.0577	0.160	mg/kg	1	9/1/23 22:47
bis(2-ethylhexyl)phthalate	ND	U	0.0320	0.160	mg/kg	1	9/1/23 22:47
Butylbenzylphthalate	ND	U	0.0146	0.160	mg/kg	1	9/1/23 22:47
Caprolactam	ND	U	0.0207	0.160	mg/kg	1	9/1/23 22:47
Carbazole	**0.429**		**0.0308**	**0.401**	**mg/kg**	**1**	**9/1/23 22:47**
Chrysene	**2.51**		**0.0110**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Dibenzo(a,h)anthracene	**0.131**	J	**0.0159**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Dibenzofuran	**0.630**		**0.00955**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Diethylphthalate	ND	U	0.0311	0.160	mg/kg	1	9/1/23 22:47
Dimethylphthalate	ND	U	0.00995	0.160	mg/kg	1	9/1/23 22:47
Di-n-butylphthalate	ND	U	0.0655	0.160	mg/kg	1	9/1/23 22:47
Di-n-octylphthalate	ND	U	0.0329	0.160	mg/kg	1	9/1/23 22:47
Fluoranthene	**6.54**		**0.0151**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Fluorene	**1.03**		**0.0134**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorobenzene	ND	U	0.0210	0.160	mg/kg	1	9/1/23 22:47
Hexachlorobutadiene	ND	U	0.0770	0.160	mg/kg	1	9/1/23 22:47
Hexachlorocyclopentadiene	ND	U	0.0668	0.401	mg/kg	1	9/1/23 22:47 UJ, RC:SL
Hexachloroethane	ND	U	0.0176	0.160	mg/kg	1	9/1/23 22:47
Indeno(1,2,3-cd)pyrene	**1.15**		**0.0172**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Isophorone	ND	U	0.0105	0.160	mg/kg	1	9/1/23 22:47
Naphthalene	**1.14**		**0.0119**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Nitrobenzene	ND	U	0.0272	0.160	mg/kg	1	9/1/23 22:47
n-Nitroso-di-n-propylamine	ND	U	0.00859	0.160	mg/kg	1	9/1/23 22:47
n-Nitrosodiphenylamine	ND	U	0.0342	0.160	mg/kg	1	9/1/23 22:47
Pentachlorophenol	ND	U	0.0220	0.401	mg/kg	1	9/1/23 22:47 UJ, RC:SL
Phenanthrene	**5.81**		**0.0211**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**
Phenol	ND	U	0.0130	0.160	mg/kg	1	9/1/23 22:47
Pyrene	**6.51**		**0.0118**	**0.160**	**mg/kg**	**1**	**9/1/23 22:47**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, cyclopropyl-	1.20	6.10	J	mg/kg	1	9/1/23 22:47
Heptane, 3,3,5-trimethyl-	1.27	7.89	J	mg/kg	1	9/1/23 22:47
Hexadecane	1.29	8.49	J	mg/kg	1	9/1/23 22:47
Hexadecanoic acid, butyl ester	21.9	12.15	J	mg/kg	1	9/1/23 22:47
Octadecanoic acid, 2-methylpropyl ester	7.73	12.96	J	mg/kg	1	9/1/23 22:47
Pentadecane, 7-methyl-	1.25	8.95	J	mg/kg	1	9/1/23 22:47
unknown (01)	1.59	5.20	J	mg/kg	1	9/1/23 22:47
unknown (02)	1.20	9.01	J	mg/kg	1	9/1/23 22:47
TIC Total	**37.4**					

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	8/30/23 23:16
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	8/30/23 23:16 UJ, RC:6L
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	8/30/23 23:16 UJ, RC:6L
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	8/30/23 23:16
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	8/30/23 23:16
Hexachlorobenzene	~~ND~~	~~U~~	0.00183	0.0200	mg/L	1	8/30/23 23:16 R, RC:6L
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	8/30/23 23:16
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	8/30/23 23:16

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	8/30/23 23:16	
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	8/30/23 23:16	UJ, RC:6L
Pyridine	ND	U	0.000494	0.0200	mg/L	1	8/30/23 23:16	

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000251	0.00172	mg/kg	1	9/1/23 7:07	
1,1,2,2-Tetrachloroethane	ND	U	0.000237	0.00172	mg/kg	1	9/1/23 7:07	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000736	0.00172	mg/kg	1	9/1/23 7:07	
1,1,2-Trichloroethane	ND	U	0.000290	0.00172	mg/kg	1	9/1/23 7:07	
1,1-Dichloroethane	ND	U	0.000251	0.00172	mg/kg	1	9/1/23 7:07	
1,1-Dichloroethene	ND	U	0.000318	0.00172	mg/kg	1	9/1/23 7:07	
1,2,3-Trichlorobenzene	ND	U	0.000372	0.00172	mg/kg	1	9/1/23 7:07	
1,2,4-Trichlorobenzene	ND	U	0.000458	0.00172	mg/kg	1	9/1/23 7:07	
1,2,4-Trimethylbenzene	ND	U	0.000237	0.00172	mg/kg	1	9/1/23 7:07	
1,2-Dibromo-3-chloropropane	ND	U	0.000420	0.00430	mg/kg	1	9/1/23 7:07	
1,2-Dibromoethane	ND	U	0.000217	0.00172	mg/kg	1	9/1/23 7:07	
1,2-Dichlorobenzene	ND	U	0.000304	0.00172	mg/kg	1	9/1/23 7:07	
1,2-Dichloroethane	ND	U	0.000243	0.00172	mg/kg	1	9/1/23 7:07	
1,2-Dichloropropane	ND	U	0.000282	0.00172	mg/kg	1	9/1/23 7:07	
1,3-Dichlorobenzene	ND	U	0.000126	0.00172	mg/kg	1	9/1/23 7:07	
1,4-Dichlorobenzene	ND	U	0.000248	0.00172	mg/kg	1	9/1/23 7:07	
2-Butanone	ND	U	0.000280	0.00860	mg/kg	1	9/1/23 7:07	
2-Hexanone	ND	U	0.000161	0.00172	mg/kg	1	9/1/23 7:07	
4-Methyl-2-pentanone	ND	U	0.000215	0.00172	mg/kg	1	9/1/23 7:07	
Acetone	ND	U	0.000521	0.0430	mg/kg	1	9/1/23 7:07	
Benzene	ND	U	0.000157	0.00172	mg/kg	1	9/1/23 7:07	
Bromochloromethane	ND	U	0.000317	0.00172	mg/kg	1	9/1/23 7:07	
Bromodichloromethane	ND	U	0.000216	0.00172	mg/kg	1	9/1/23 7:07	
Bromoform	ND	U	0.000302	0.00172	mg/kg	1	9/1/23 7:07	
Bromomethane	ND	U	0.000496	0.00172	mg/kg	1	9/1/23 7:07	
Carbon disulfide	ND	U	0.000247	0.00172	mg/kg	1	9/1/23 7:07	
Carbon Tetrachloride	ND	U	0.000259	0.00172	mg/kg	1	9/1/23 7:07	
Chlorobenzene	ND	U	0.000249	0.00172	mg/kg	1	9/1/23 7:07	
Chlorodibromomethane	ND	U	0.000212	0.00172	mg/kg	1	9/1/23 7:07	
Chloroethane	ND	U	0.000293	0.00172	mg/kg	1	9/1/23 7:07	UJ, RC:SL
Chloroform	ND	U	0.000289	0.00172	mg/kg	1	9/1/23 7:07	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-20230821** Collected: **8/21/2023 11:10:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	ND	U	0.000662	0.00172	mg/kg	1	9/1/23 7:07
cis-1,2-Dichloroethene	ND	U	0.0000832	0.00172	mg/kg	1	9/1/23 7:07
cis-1,3-Dichloropropene	ND	U	0.000218	0.00172	mg/kg	1	9/1/23 7:07
Cyclohexane	ND	U	0.000381	0.00172	mg/kg	1	9/1/23 7:07
Dichlorodifluoromethane	ND	U	0.000581	0.00172	mg/kg	1	9/1/23 7:07
EthylBenzene	ND	U	0.000233	0.00172	mg/kg	1	9/1/23 7:07
Isopropylbenzene	ND	U	0.000270	0.00172	mg/kg	1	9/1/23 7:07
m+p-Xylenes	ND	U	0.000434	0.00344	mg/kg	1	9/1/23 7:07
Methyl Acetate	ND	U	0.000228	0.00172	mg/kg	1	9/1/23 7:07
Methyl tert-Butyl Ether	ND	U	0.000291	0.00172	mg/kg	1	9/1/23 7:07
Methylcyclohexane	ND	U	0.000277	0.00172	mg/kg	1	9/1/23 7:07
Methylene Chloride	ND	U	0.000517	0.00430	mg/kg	1	9/1/23 7:07
o-Xylene	ND	U	0.000221	0.00172	mg/kg	1	9/1/23 7:07
Styrene	ND	U	0.000246	0.00172	mg/kg	1	9/1/23 7:07
tert-Butyl alcohol	ND	U	0.00361	0.0172	mg/kg	1	9/1/23 7:07
Tetrachloroethene	ND	U	0.000170	0.00172	mg/kg	1	9/1/23 7:07
Toluene	ND	U	0.000138	0.00172	mg/kg	1	9/1/23 7:07
Total Xylenes	ND	U	0.000221	0.00172	mg/kg	1	9/1/23 7:07
trans-1,2-Dichloroethene	ND	U	0.000233	0.00172	mg/kg	1	9/1/23 7:07
trans-1,3-Dichloropropene	ND	U	0.000329	0.00172	mg/kg	1	9/1/23 7:07
Trichloroethene	ND	U	0.000253	0.00172	mg/kg	1	9/1/23 7:07
Trichlorofluoromethane	ND	U	0.000198	0.00172	mg/kg	1	9/1/23 7:07
Vinyl chloride	ND	U	0.000327	0.00172	mg/kg	1	9/1/23 7:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,4-Trimethyladamantane	0.00663	22.15	J	mg/kg	1	9/1/23 7:07
2H-Imidazo[4,5-b]pyridin-2-one, 1,3-dihy	0.00431	22.37	J	mg/kg	1	9/1/23 7:07
2-Methyladamantane	0.0108	20.75	J	mg/kg	1	9/1/23 7:07
3,8,11-Trioxatetracyclo[4.4.1.02,4.07,9]	0.00499	23.44	J	mg/kg	1	9/1/23 7:07
Adamantane	0.00688	19.17	J	mg/kg	1	9/1/23 7:07
Adamantane, 1,3-dimethyl-	0.00479	19.75	J	mg/kg	1	9/1/23 7:07
Cyclohexane, 1,1,4,4-tetramethyl-2,6-bis	0.00456	22.03	J	mg/kg	1	9/1/23 7:07
Tricyclo[3.3.1.1(3,7)-]decane, 1-bromo-	0.0116	19.51	J	mg/kg	1	9/1/23 7:07
TIC Total	**0.055**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H1331
Date to Lab: 8/21/2023 4:34:00PM

23H1331-02 (Soil) Sample Name: **SCPT-110-4.0-5.0-202 30821** Collected: **8/21/2023 11:10:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	9/1/23 0:29	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	9/1/23 0:29	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	9/1/23 0:29	
2-Butanone	ND	U	0.100	0.100	mg/L	10	9/1/23 0:29	
Benzene	ND	U	0.00129	0.0100	mg/L	10	9/1/23 0:29	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	9/1/23 0:29	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	9/1/23 0:29	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	9/1/23 0:29	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	9/1/23 0:29	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	9/1/23 0:29	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	9/1/23 0:29	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**83.0**				**%**	**1**	**8/22/23 8:30**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	9/5/23 13:29

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Cyanide	**0.74**		**0.12**	**0.12**	**mg/kg**	**1**	**8/31/23 14:57**

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.120	0.120	mg/kg	1	8/24/23 9:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.20**				**pH Units**	**1**	**8/22/23 12:00**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H1612
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: June 12, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MR-302-6.0-8.0-20230823	23H1612-01	8/23/2023	Soil
MR-302-25.0-27.0-20230823	23H1612-02	8/23/2023	Soil
MR-302-65.0-67.0-20230823	23H1612-03	8/23/2023	Soil

Data validation was performed on the analytical data for three (3) samples collected August 23, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D; 1311/8260D
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E; 1311/8270E
Pesticides	USEPA SW-846 8081B; 1311/8081B
Herbicides	USEPA SW-846 8151A; 1311/8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6020B; 1311/6020B
Mercury	USEPA 7473; 1311/7470A
Total Cyanide	USEPA SW846 9010C+9014
Reactive Cyanide	USEPA SW846 9010C+9014
Reactive Sulfide	USEPA SW846 9030B
Ignitability	USEPA SW846 1010A
Corrosivity-pH	USEPA SW846 9045D

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibrations, surrogates, and laboratory control samples.

Chain of Custody:

- No issues noted with the Chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D and	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.
TCLP VOCs by 1311/8260D	Soil	14 Days from collection to leachate and analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D-TCLP	MR-302-6.0-8.0-20230823 MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	4-Bromobenzene	10% < %R < CL	J (detects) UJ (non-detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	Chloroethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	MR-302-6.0-8.0-20230823	Bromomethane Chloroethane Chloromethane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP SVOCs by 1311/8270E	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester and Octadecanoic acid, butyl ester. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table:

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	Phenol-d6	> CL	J (Detects) No action (NDs)	3H

- Since only one acid surrogate was outside control limits, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	MR-302-6.0-8.0-20230823 MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	All target compounds	> CL	J (Detects) No action (NDs)	6H
8270E	MR-302-6.0-8.0-20230823 MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	Acetophenone	> CL	J (Detects) No action (NDs)	6H
		3-Nitroaniline			
		3+4-Methylphenol			
		Phenol			
		2_Methylphenol			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS and/or MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	MR-302-6.0-8.0-20230823	All target compounds	> CL	J (Detects) No action (NDs)	6H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a

correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-TCLP	MR-302-6.0-8.0-20230823 MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	2,4-Dinitrotoluene Hexachlorobutadiene Hexachloroethane Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8270E	MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Acetophenone Benzaldehyde bis(2-chloroethyl)ether Isophorone Nitrobenzene n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MR-302-6.0-8.0-20230823	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		2-Methylphenol 3+4-Methylphenol Acetophenone Benzaldehyde Hexachlorobutadiene Nitrobenzene n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
TCLP Herbicides by 1311/8151A	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.
TCLP Pesticides by 1311/8081B	Soil	14 Days from collection to leachate and 7 days from leachate to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	MR-302-6.0-8.0-20230823 MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	2,4-TP (Silvex)	10% < %R < CL	J (detects) UJ (non-detects)	6L
8181B-TCLP	MR-302-6.0-8.0-20230823 MR-302-25.0-27.0-20230823 MR-302-65.0-67.0-20230823	4,4'-DDD 4,4'-DDT Aldrin alpha-Chlordane Chlordane Endosulfan I Endosulfan sulfate Endrin	10% < %R < CL	J (detects) UJ (non-detects)	6L

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		gamma-BHC gamma-Chlordane Heptachlor			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement is not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- A MS/MSD analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilize retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
TCLP Metals by 1311/6010D	Soil	180 days from collection to Leachate and 180 days to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
TCLP Mercury by 1311/7473	Soil	28 days from collection to Leachate and 28 days to analysis	Cool to <6 °C.
Reactive Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Reactive Sulfide by SW-846 9030B	Soil	7 days from collection to analysis	Cool to <6 °C.
Ignitability by SW-846 1010A	Soil	14 days from collection to analysis	Cool to <6 °C.
Corrosivity by SW-846 9045	Soil	7 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- The method blank had a detection of Zinc. Associated sample results were all grater than five times the blank detection and therefore no qualification weas required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

- The MS/MSD analysis performed on sample MR-302-6.0-8.0-20230823 exhibited acceptable recoveries and RPD.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample within this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on a sample within this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for samples in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: June 12, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial Dilution

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H1612

Yu & Associates

Project: Red Hook-Gowanus



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Nov 13, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H1612

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MR-302-6.0-8.0-20230823	23H1612-01	Soil	08/23/2023 09:32	08/25/2023 14:05
MR-302-25.0-27.0-20230823	23H1612-02	Soil	08/23/2023 12:06	08/25/2023 14:05
MR-302-65.0-67.0-20230823	23H1612-03	Soil	08/23/2023 13:30	08/25/2023 14:05

PN: 23H1612

APL
AQUA PRO-TECH LABORATORIES
www.aquaprotechlabs.com

APL 23H1612
AQUA PRO-TECH LABORATORIES
BUILDING 6
www.aquaprotechlabs.com

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☐ LOW

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO:
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus PDI Investigation	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 156854	SAMPLED BY: AM

TURN-AROUND TIME
- ☒ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required
  - ☐ 48 hr. date & time required
  - ☐ 72 hr. date & time required
  - ☐ 1 week

REPORT FORMAT
- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP# ____

PWSID# ____

☒ NYS Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
1612	MR-302-6.0-8.0-20230823	8/23/23	0932	X		S	5		TCL VOCs, SVOCs, Pest, PCB, TAL metals, cyanide, Herb, Full TCLP (VOCs, SVOCs, Pest, Herb, Metals), RCRA Characteristics
	MR-302-25.0-27.0-20230823	8/23/23	1206	X		S	5		
	MR-302-65.0-67.0-20230823	8/23/23	1330	X		S	5		

RELINQUISHED BY (Print)	Aczell Marmol	DATE	8/25
Signature		Time	1400
RELINQUISHED BY (Print)	VITO DEROSA	DATE	8/25/23
Signature		Time	1405
RELINQUISHED BY (Print)		DATE	
Signature		Time	

RECEIVED BY (Print)	VITO DEROSA
Signature	
RECEIVED BY (Print)	Rubel F
Signature	mf
RECEIVED BY (Print)	
Signature	

8/25/23 1405

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 22.3°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

23H1612

Sample Condition Upon Receipt Form (SCUR)

Pace ANALYTICAL SERVICES

Affix Sample Label Here

Date and Initials of person:
Examining contents: _____
Label: _____
Deliver to location: % Solids
pH: n/a

Thermometer Used: laser Date: 8/25/23 Time: 1405 Initials: mif

State of Origin: _____

Cooler #1 Temp.°C: 22.3 **(Visual)** _____ **(Correction Factor)** _____ **(Actual)**

☑ Samples on ice, cooling process has begun mif

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ Other _____

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☑ No **Ice:** Wet Blue Melted None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Samples were collected by Pace employee ☐ Yes ☑ No ☐ N/A

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐ N/A	
Relinquished Signature on COC	☑Yes ☐ No ☐ N/A	
Sampler Name and Signature on COC	☑Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐Yes ☑ No ☐ N/A	
Sufficient Volume	☑Yes ☐ No ☐ N/A	
Correct Containers Used	☑Yes ☐ No ☐ N/A	
Containers Intact	☑Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐Yes ☐ No ☑ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: Vials, Microbiology, O&G, Metals	☐Yes ☐ No ☑ N/A	
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☑N/A	
Trip Blank Present:	☐Yes ☐ No ☑N/A	

Additional Login Comments:

Client notification/ Resolution

Person Contacted: Date/Time:

Comments/Resolution:

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 1311/6010D / 7471B / 1311/7470A / 1010A / 9045D / 9014 / 9030B]

Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

Method 1311/7470A:
The percent recovery for Mercury was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 7471B:
The percent recovery for Mercury was outside of the QC limits for the matrix spike (low). The blank spike met all QC criteria.

Methods 1311/6010D / 1010A / 9045D / 9014:
All samples met the QC criteria.

Method 9030B:
The percent recovery for Reactive Sulfide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

ANALYSIS: Herbicides [8151A]

The percent recovery for 2,4,5-TP (Silvex) was outside of the QC limits for the blank spike (low).

ANALYSIS: PCBs [8082A]

All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]

The percent recoveries for some compounds were outside of the QC limits for the tclp blank spike (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Samples 23H1612-02 and -03 have one surrogate (Phenol-d6) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low).

The percent recoveries for several compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low). The blank spikes met all QC criteria.

Reviewed By: _____ (SK) 11/15/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823**

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.29		0.0253	0.0694	mg/kg dry	1	9/6/23 14:16

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5010		0.332	5.59	mg/kg dry	1	9/7/23 12:28
Arsenic	9.58		0.199	2.79	mg/kg dry	1	9/7/23 12:28
Barium	198		0.0845	1.12	mg/kg dry	1	9/7/23 12:28
Beryllium	0.562		0.00647	0.0559	mg/kg dry	1	9/7/23 12:28
Cadmium	0.989		0.109	0.559	mg/kg dry	1	9/7/23 12:28
Calcium	94300	D	62.9	559	mg/kg dry	10	9/7/23 14:34
Chromium	12.2		0.0631	0.559	mg/kg dry	1	9/7/23 12:28
Cobalt	5.26		0.0571	0.447	mg/kg dry	1	9/7/23 12:28
Copper	98.9		0.156	0.559	mg/kg dry	1	9/7/23 12:28
Iron	12000		1.58	11.2	mg/kg dry	1	9/7/23 12:28
Lead	826		0.233	2.79	mg/kg dry	1	9/7/23 12:28
Magnesium	3320		19.7	112	mg/kg dry	1	9/7/23 12:28
Manganese	175		0.0695	0.559	mg/kg dry	1	9/7/23 12:28
Nickel	17.1		0.0491	0.279	mg/kg dry	1	9/7/23 12:28
Potassium	480		66.5	224	mg/kg dry	1	9/7/23 12:28
Silver	1.05		0.0950	0.335	mg/kg dry	1	9/7/23 12:28
Sodium	2360		10.7	112	mg/kg dry	1	9/7/23 12:28
Vanadium	21.2		0.129	1.12	mg/kg dry	1	9/7/23 12:28
Zinc	307	B	0.171	1.68	mg/kg dry	1	9/7/23 12:28

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.963		0.00279	0.100	mg/L	1	9/8/23 13:20
Lead	5.56		0.0255	0.250	mg/L	1	9/8/23 13:20

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endrin aldehyde [2C]	0.00167	J	0.00110	0.00276	mg/kg dry	1	9/1/23 16:31

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.109	J	0.0677	0.425	mg/kg dry	1	9/5/23 16:53
Acenaphthene	0.209	J	0.0161	0.282	mg/kg dry	1	9/5/23 16:53
Acenaphthylene	0.136	J	0.00983	0.282	mg/kg dry	1	9/5/23 16:53
Anthracene	0.491		0.0410	0.282	mg/kg dry	1	9/5/23 16:53

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	1.06		0.0285	0.282	mg/kg dry	1	9/5/23 16:53
Benzo(a)pyrene	1.59		0.0493	0.282	mg/kg dry	1	9/5/23 16:53
Benzo(b)fluoranthene	1.43		0.0397	0.282	mg/kg dry	1	9/5/23 16:53
Benzo(g,h,i)perylene	1.18		0.0229	0.282	mg/kg dry	1	9/5/23 16:53
Benzo(k)fluoranthene	0.821		0.0325	0.282	mg/kg dry	1	9/5/23 16:53
Carbazole	0.0960	J	0.0544	0.707	mg/kg dry	1	9/5/23 16:53
Chrysene	1.13		0.0194	0.282	mg/kg dry	1	9/5/23 16:53
Dibenzo(a,h)anthracene	0.0999	J	0.0280	0.282	mg/kg dry	1	9/5/23 16:53
Dibenzofuran	0.148	J	0.0168	0.282	mg/kg dry	1	9/5/23 16:53
Fluoranthene	1.95		0.0265	0.282	mg/kg dry	1	9/5/23 16:53
Fluorene	0.237	J	0.0236	0.282	mg/kg dry	1	9/5/23 16:53
Indeno(1,2,3-cd)pyrene	0.796		0.0304	0.282	mg/kg dry	1	9/5/23 16:53
Naphthalene	0.188	J	0.0209	0.282	mg/kg dry	1	9/5/23 16:53
Phenanthrene	1.52		0.0372	0.282	mg/kg dry	1	9/5/23 16:53
Pyrene	2.07		0.0208	0.282	mg/kg dry	1	9/5/23 16:53
TIC_Hexadecanoic acid, butyl ester	22.8	J, B			mg/kg dry	1	9/5/23 16:53
TIC_Octadecanoic acid, 2-methylpropyl ester	10.2	J, B			mg/kg dry	1	9/5/23 16:53

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0191		0.000575	0.00401	mg/kg dry	1	9/5/23 21:07
TIC_Naphthalene, 1,3-dimethyl-	0.0179	J			mg/kg dry	1	9/5/23 21:07
TIC_Nonane	0.0111	J			mg/kg dry	1	9/5/23 21:07

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	27.2	D	2.12	2.12	mg/kg dry	10	8/30/23 17:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	9.67				pH Units	1	8/28/23 12:15

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	10600		0.184	3.11	mg/kg dry	1	9/7/23 12:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	4.17		0.111	1.55	mg/kg dry	1	9/7/23 12:30
Barium	49.1		0.0470	0.621	mg/kg dry	1	9/7/23 12:30
Beryllium	0.645		0.00360	0.0311	mg/kg dry	1	9/7/23 12:30
Cadmium	0.351		0.0605	0.311	mg/kg dry	1	9/7/23 12:30
Calcium	15600		3.49	31.1	mg/kg dry	1	9/7/23 12:30
Chromium	16.5		0.0351	0.311	mg/kg dry	1	9/7/23 12:30
Cobalt	9.53		0.0317	0.248	mg/kg dry	1	9/7/23 12:30
Copper	29.0		0.0869	0.311	mg/kg dry	1	9/7/23 12:30
Iron	22500		0.880	6.21	mg/kg dry	1	9/7/23 12:30
Lead	55.7		0.130	1.55	mg/kg dry	1	9/7/23 12:30
Magnesium	7600		11.0	62.1	mg/kg dry	1	9/7/23 12:30
Manganese	433		0.0386	0.311	mg/kg dry	1	9/7/23 12:30
Nickel	21.1		0.0273	0.155	mg/kg dry	1	9/7/23 12:30
Potassium	1610		36.9	124	mg/kg dry	1	9/7/23 12:30
Silver	0.215		0.0528	0.186	mg/kg dry	1	9/7/23 12:30
Sodium	1140		5.92	62.1	mg/kg dry	1	9/7/23 12:30
Vanadium	20.3		0.0714	0.621	mg/kg dry	1	9/7/23 12:30
Zinc	73.3	B	0.0949	0.932	mg/kg dry	1	9/7/23 12:30

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	4.91		0.00279	0.100	mg/L	1	9/8/23 13:22
Lead	0.648		0.0255	0.250	mg/L	1	9/8/23 13:22

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Naphthalene	0.0690	J	0.0126	0.170	mg/kg dry	1	9/1/23 20:17
TIC_Hexadecanoic acid, butyl ester	11.6	J, B			mg/kg dry	1	9/1/23 20:17
TIC_Indene	1.22	J			mg/kg dry	1	9/1/23 20:17
TIC_Octadecanoic acid, butyl ester	6.26	J			mg/kg dry	1	9/1/23 20:17

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.0484		0.000155	0.00171	mg/kg dry	1	9/1/23 8:06
EthylBenzene	0.000555	J	0.000231	0.00171	mg/kg dry	1	9/1/23 8:06
TIC_Lab Contamination	0.00788	J			mg/kg dry	1	9/1/23 8:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.00456	J, D	0.00129	0.0100	mg/L	10	9/1/23 0:54

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.63				pH Units	1	8/28/23 12:15

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4440		0.180	3.04	mg/kg dry	1	9/7/23 12:32
Barium	58.8		0.0459	0.608	mg/kg dry	1	9/7/23 12:32
Beryllium	0.455		0.00352	0.0304	mg/kg dry	1	9/7/23 12:32
Calcium	8080		3.42	30.4	mg/kg dry	1	9/7/23 12:32
Chromium	9.48		0.0343	0.304	mg/kg dry	1	9/7/23 12:32
Cobalt	3.55		0.0311	0.243	mg/kg dry	1	9/7/23 12:32
Copper	13.9		0.0850	0.304	mg/kg dry	1	9/7/23 12:32
Iron	8110		0.861	6.08	mg/kg dry	1	9/7/23 12:32
Lead	6.63		0.127	1.52	mg/kg dry	1	9/7/23 12:32
Magnesium	3560		10.7	60.8	mg/kg dry	1	9/7/23 12:32
Manganese	221		0.0378	0.304	mg/kg dry	1	9/7/23 12:32
Nickel	9.27		0.0267	0.152	mg/kg dry	1	9/7/23 12:32
Potassium	1320		36.1	122	mg/kg dry	1	9/7/23 12:32
Sodium	386		5.79	60.8	mg/kg dry	1	9/7/23 12:32
Vanadium	11.7		0.0699	0.608	mg/kg dry	1	9/7/23 12:32
Zinc	27.6	B	0.0928	0.911	mg/kg dry	1	9/7/23 12:32

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	4.80		0.00279	0.100	mg/L	1	9/8/23 13:24

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	8.68	J			mg/kg dry	1	9/1/23 20:47
TIC_Octadecanoic acid, 2-methylpropyl ester	4.73	J, B			mg/kg dry	1	9/1/23 20:47

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.000813	J	0.000134	0.00148	mg/kg dry	1	9/1/23 8:35
Toluene	0.000879	J	0.000119	0.00148	mg/kg dry	1	9/1/23 8:35
TIC_Cyclopentane	0.0104	J			mg/kg dry	1	9/1/23 8:35
TIC_Lab Contamination	0.0108	J			mg/kg dry	1	9/1/23 8:35

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	8.71				pH Units	1	8/28/23 12:15

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00940	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1221	ND	U	0.0185	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1232	ND	U	0.0235	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1242	ND	U	0.0138	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1248	ND	U	0.0144	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1254	ND	U	0.0113	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1260	ND	U	0.00877	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1262	ND	U	0.0189	0.0701	mg/kg	1	8/31/23 18:44
Aroclor-1268	ND	U	0.00848	0.0701	mg/kg	1	8/31/23 18:44
Total PCBs	ND	U	0.00654	0.0701	mg/kg	1	8/31/23 18:44

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0208	0.212	mg/kg	1	9/7/23 13:21 UJ, RC:6L
2,4-D	ND	U	0.0352	0.212	mg/kg	1	9/7/23 13:21

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	9/7/23 10:07
2,4-D	ND	U	0.00900	0.0200	mg/L	1	9/7/23 10:07

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.29**		**0.0253**	**0.0694**	**mg/kg**	**1**	**9/6/23 14:16**

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	9/11/23 15:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5010**		**0.332**	**5.59**	**mg/kg**	**1**	**9/7/23 12:28**
Antimony	ND	U	0.304	2.79	mg/kg	1	9/7/23 12:28
Arsenic	**9.58**		**0.199**	**2.79**	**mg/kg**	**1**	**9/7/23 12:28**
Barium	**198**		**0.0845**	**1.12**	**mg/kg**	**1**	**9/7/23 12:28**
Beryllium	**0.562**		**0.00647**	**0.0559**	**mg/kg**	**1**	**9/7/23 12:28**
Cadmium	**0.989**		**0.109**	**0.559**	**mg/kg**	**1**	**9/7/23 12:28**
Calcium	**94300**	D	**62.9**	**559**	**mg/kg**	**10**	**9/7/23 14:34**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**12.2**		**0.0631**	**0.559**	**mg/kg**	**1**	**9/7/23 12:28**
Cobalt	**5.26**		**0.0571**	**0.447**	**mg/kg**	**1**	**9/7/23 12:28**
Copper	**98.9**		**0.156**	**0.559**	**mg/kg**	**1**	**9/7/23 12:28**
Iron	**12000**		**1.58**	**11.2**	**mg/kg**	**1**	**9/7/23 12:28**
Lead	**826**		**0.233**	**2.79**	**mg/kg**	**1**	**9/7/23 12:28**
Magnesium	**3320**		**19.7**	**112**	**mg/kg**	**1**	**9/7/23 12:28**
Manganese	**175**		**0.0695**	**0.559**	**mg/kg**	**1**	**9/7/23 12:28**
Nickel	**17.1**		**0.0491**	**0.279**	**mg/kg**	**1**	**9/7/23 12:28**
Potassium	**480**		**66.5**	**224**	**mg/kg**	**1**	**9/7/23 12:28**
Selenium	ND	U	0.536	2.79	mg/kg	1	9/7/23 12:28
Silver	**1.05**		**0.0950**	**0.335**	**mg/kg**	**1**	**9/7/23 12:28**
Sodium	**2360**		**10.7**	**112**	**mg/kg**	**1**	**9/7/23 12:28**
Thallium	ND	U	0.188	2.79	mg/kg	1	9/7/23 12:28
Vanadium	**21.2**		**0.129**	**1.12**	**mg/kg**	**1**	**9/7/23 12:28**
Zinc	**307**	B	**0.171**	**1.68**	**mg/kg**	**1**	**9/7/23 12:28**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	9/8/23 13:20
Barium	**0.963**		**0.00279**	**0.100**	**mg/L**	**1**	**9/8/23 13:20**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	9/8/23 13:20
Chromium	ND	U	0.00240	0.0500	mg/L	1	9/8/23 13:20
Lead	**5.56**		**0.0255**	**0.250**	**mg/L**	**1**	**9/8/23 13:20**
Selenium	ND	U	0.0760	0.250	mg/L	1	9/8/23 13:20
Silver	ND	U	0.0232	0.100	mg/L	1	9/8/23 13:20

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.00126	0.00276	mg/kg	1	9/1/23 16:31
4,4'-DDE	ND	U	0.00151	0.00276	mg/kg	1	9/1/23 16:31
4,4'-DDT	ND	U	0.00195	0.00276	mg/kg	1	9/1/23 16:31
Aldrin	ND	U	0.00131	0.00276	mg/kg	1	9/1/23 16:31
alpha-BHC [2C]	ND	U	0.000822	0.00276	mg/kg	1	9/1/23 16:31
beta-BHC	ND	U	0.00132	0.00276	mg/kg	1	9/1/23 16:31
Chlordane	ND	U	0.00123	0.00276	mg/kg	1	9/1/23 16:31
delta-BHC	ND	U	0.00128	0.00276	mg/kg	1	9/1/23 16:31
Dieldrin	ND	U	0.00144	0.00276	mg/kg	1	9/1/23 16:31
Endosulfan I	ND	U	0.00130	0.00276	mg/kg	1	9/1/23 16:31

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.00125	0.00276	mg/kg	1	9/1/23 16:31
Endosulfan sulfate	ND	U	0.00104	0.00276	mg/kg	1	9/1/23 16:31
Endosulfans, Total (alpha and beta)	ND	U	0.00125	0.00276	mg/kg	1	9/1/23 16:31
Endrin	ND	U	0.000953	0.00276	mg/kg	1	9/1/23 16:31
Endrin aldehyde [2C]	**0.00167**	J	**0.00110**	**0.00276**	**mg/kg**	**1**	**9/1/23 16:31**
Endrin ketone	ND	U	0.000973	0.00276	mg/kg	1	9/1/23 16:31
gamma-BHC (Lindane)	ND	U	0.000875	0.00276	mg/kg	1	9/1/23 16:31
Heptachlor	ND	U	0.000739	0.00276	mg/kg	1	9/1/23 16:31
Heptachlor Epoxide	ND	U	0.00139	0.00276	mg/kg	1	9/1/23 16:31
Methoxychlor	ND	U	0.000809	0.00276	mg/kg	1	9/1/23 16:31
Toxaphene	ND	U	0.133	0.140	mg/kg	1	9/1/23 16:31

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	9/6/23 21:12	
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	9/6/23 21:12	
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	9/6/23 21:12	UJ, RC:6L
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	9/6/23 21:12	
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	9/6/23 21:12	
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	9/6/23 21:12	
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	9/6/23 21:12	
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	9/6/23 21:12	
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	9/6/23 21:12	UJ, RC:6L
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	9/6/23 21:12	
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	9/6/23 21:12	
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	9/6/23 21:12	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00798	0.0707	mg/kg	1	9/5/23 16:53
2,3,4,6-Tetrachlorophenol	ND	U	0.0435	0.282	mg/kg	1	9/5/23 16:53
2,4,5-Trichlorophenol	ND	U	0.0384	0.282	mg/kg	1	9/5/23 16:53
2,4,6-Trichlorophenol	ND	U	0.0177	0.282	mg/kg	1	9/5/23 16:53
2,4-Dichlorophenol	ND	U	0.0285	0.282	mg/kg	1	9/5/23 16:53
2,4-Dimethylphenol	ND	U	0.0278	0.282	mg/kg	1	9/5/23 16:53
2,4-Dinitrophenol	ND	U	0.0408	1.42	mg/kg	1	9/5/23 16:53
2,4-Dinitrotoluene	ND	U	0.0302	0.282	mg/kg	1	9/5/23 16:53
2,6-Dinitrotoluene	ND	U	0.0675	0.282	mg/kg	1	9/5/23 16:53
2-Chloronaphthalene	ND	U	0.0325	0.282	mg/kg	1	9/5/23 16:53
2-Chlorophenol	ND	U	0.0374	0.282	mg/kg	1	9/5/23 16:53
2-Methylnaphthalene	**0.109**	J	**0.0677**	**0.425**	**mg/kg**	**1**	**9/5/23 16:53**
2-Methylphenol	ND	U	0.0558	0.282	mg/kg	1	9/5/23 16:53
2-Nitroaniline	ND	U	0.0227	0.282	mg/kg	1	9/5/23 16:53
2-Nitrophenol	ND	U	0.0314	0.282	mg/kg	1	9/5/23 16:53
3,3'-Dichlorobenzidine	ND	U	0.0297	0.282	mg/kg	1	9/5/23 16:53
3+4-Methylphenol	ND	U	0.0518	0.282	mg/kg	1	9/5/23 16:53
3-Nitroaniline	ND	U	0.0524	0.282	mg/kg	1	9/5/23 16:53
4,6-Dinitro-2-methylphenol	ND	U	0.0533	0.707	mg/kg	1	9/5/23 16:53
4-Bromophenyl-phenyl ether	ND	U	0.0403	0.282	mg/kg	1	9/5/23 16:53
4-Chloro-3-methylphenol	ND	U	0.0446	0.282	mg/kg	1	9/5/23 16:53
4-Chloroaniline	ND	U	0.00989	0.282	mg/kg	1	9/5/23 16:53
4-Chlorophenyl phenyl ether	ND	U	0.0153	0.282	mg/kg	1	9/5/23 16:53
4-Nitroaniline	ND	U	0.141	0.282	mg/kg	1	9/5/23 16:53
4-Nitrophenol	ND	U	0.0181	0.282	mg/kg	1	9/5/23 16:53
Acenaphthene	**0.209**	J	**0.0161**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Acenaphthylene	**0.136**	J	**0.00983**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Acetophenone	ND	U	0.0280	0.282	mg/kg	1	9/5/23 16:53
Anthracene	**0.491**		**0.0410**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Atrazine	ND	U	0.0265	0.282	mg/kg	1	9/5/23 16:53
Benzaldehyde	ND	U	0.0868	0.282	mg/kg	1	9/5/23 16:53
Benzo(a)anthracene	**1.06**		**0.0285**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Benzo(a)pyrene	**1.59**		**0.0493**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Benzo(b)fluoranthene	**1.43**		**0.0397**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Benzo(g,h,i)perylene	**1.18**		**0.0229**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Benzo(k)fluoranthene	**0.821**		**0.0325**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Biphenyl	ND	U	0.0248	0.282	mg/kg	1	9/5/23 16:53
bis(2-chloroethoxy)methane	ND	U	0.0391	0.282	mg/kg	1	9/5/23 16:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0310	0.282	mg/kg	1	9/5/23 16:53
bis(2-chloroisopropyl)ether	ND	U	0.102	0.282	mg/kg	1	9/5/23 16:53
bis(2-ethylhexyl)phthalate	ND	U	0.0565	0.282	mg/kg	1	9/5/23 16:53
Butylbenzylphthalate	ND	U	0.0257	0.282	mg/kg	1	9/5/23 16:53
Caprolactam	ND	U	0.0365	0.282	mg/kg	1	9/5/23 16:53
Carbazole	**0.0960**	J	**0.0544**	**0.707**	**mg/kg**	**1**	**9/5/23 16:53**
Chrysene	**1.13**		**0.0194**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Dibenzo(a,h)anthracene	**0.0999**	J	**0.0280**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Dibenzofuran	**0.148**	J	**0.0168**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Diethylphthalate	ND	U	0.0548	0.282	mg/kg	1	9/5/23 16:53
Dimethylphthalate	ND	U	0.0175	0.282	mg/kg	1	9/5/23 16:53
Di-n-butylphthalate	ND	U	0.116	0.282	mg/kg	1	9/5/23 16:53
Di-n-octylphthalate	ND	U	0.0580	0.282	mg/kg	1	9/5/23 16:53
Fluoranthene	**1.95**		**0.0265**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Fluorene	**0.237**	J	**0.0236**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Hexachlorobenzene	ND	U	0.0369	0.282	mg/kg	1	9/5/23 16:53
Hexachlorobutadiene	ND	U	0.136	0.282	mg/kg	1	9/5/23 16:53
Hexachlorocyclopentadiene	ND	U	0.118	0.707	mg/kg	1	9/5/23 16:53
Hexachloroethane	ND	U	0.0310	0.282	mg/kg	1	9/5/23 16:53
Indeno(1,2,3-cd)pyrene	**0.796**		**0.0304**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Isophorone	ND	U	0.0185	0.282	mg/kg	1	9/5/23 16:53
Naphthalene	**0.188**	J	**0.0209**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Nitrobenzene	ND	U	0.0480	0.282	mg/kg	1	9/5/23 16:53
n-Nitroso-di-n-propylamine	ND	U	0.0151	0.282	mg/kg	1	9/5/23 16:53
n-Nitrosodiphenylamine	ND	U	0.0603	0.282	mg/kg	1	9/5/23 16:53
Pentachlorophenol	ND	U	0.0389	0.707	mg/kg	1	9/5/23 16:53
Phenanthrene	**1.52**		**0.0372**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**
Phenol	ND	U	0.0229	0.282	mg/kg	1	9/5/23 16:53
Pyrene	**2.07**		**0.0208**	**0.282**	**mg/kg**	**1**	**9/5/23 16:53**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	22.8	12.14	J, B	mg/kg	1	9/5/23 16:53	
Octadecanoic acid, 2-methylpropyl ester	~~10.2~~	12.95	J, B	mg/kg	1	9/5/23 16:53	R, RC:2
TIC Total	~~33.0~~						22.8

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	9/6/23 17:47
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	9/6/23 17:47
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	9/6/23 17:47
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	9/6/23 17:47
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	9/6/23 17:47
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	9/6/23 17:47
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	9/6/23 17:47
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	9/6/23 17:47
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	9/6/23 17:47
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	9/6/23 17:47
Pyridine	ND	U	0.000494	0.0200	mg/L	1	9/6/23 17:47

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000585	0.00401	mg/kg	1	9/5/23 21:07
1,1,2,2-Tetrachloroethane	ND	U	0.000553	0.00401	mg/kg	1	9/5/23 21:07
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00171	0.00401	mg/kg	1	9/5/23 21:07
1,1,2-Trichloroethane	ND	U	0.000675	0.00401	mg/kg	1	9/5/23 21:07
1,1-Dichloroethane	ND	U	0.000585	0.00401	mg/kg	1	9/5/23 21:07
1,1-Dichloroethene	ND	U	0.000741	0.00401	mg/kg	1	9/5/23 21:07
1,2,3-Trichlorobenzene	ND	U	0.000865	0.00401	mg/kg	1	9/5/23 21:07
1,2,4-Trichlorobenzene	ND	U	0.00107	0.00401	mg/kg	1	9/5/23 21:07
1,2,4-Trimethylbenzene	ND	U	0.000553	0.00401	mg/kg	1	9/5/23 21:07
1,2-Dibromo-3-chloropropane	ND	U	0.000978	0.0100	mg/kg	1	9/5/23 21:07
1,2-Dibromoethane	ND	U	0.000505	0.00401	mg/kg	1	9/5/23 21:07
1,2-Dichlorobenzene	ND	U	0.000707	0.00401	mg/kg	1	9/5/23 21:07
1,2-Dichloroethane	ND	U	0.000565	0.00401	mg/kg	1	9/5/23 21:07
1,2-Dichloropropane	ND	U	0.000657	0.00401	mg/kg	1	9/5/23 21:07
1,3-Dichlorobenzene	ND	U	0.000294	0.00401	mg/kg	1	9/5/23 21:07
1,4-Dichlorobenzene	ND	U	0.000577	0.00401	mg/kg	1	9/5/23 21:07
2-Butanone	ND	U	0.000653	0.0200	mg/kg	1	9/5/23 21:07
2-Hexanone	ND	U	0.000375	0.00401	mg/kg	1	9/5/23 21:07
4-Methyl-2-pentanone	ND	U	0.000501	0.00401	mg/kg	1	9/5/23 21:07
Acetone	ND	U	0.00121	0.100	mg/kg	1	9/5/23 21:07
Benzene	ND	U	0.000365	0.00401	mg/kg	1	9/5/23 21:07
Bromochloromethane	ND	U	0.000739	0.00401	mg/kg	1	9/5/23 21:07
Bromodichloromethane	ND	U	0.000503	0.00401	mg/kg	1	9/5/23 21:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000703	0.00401	mg/kg	1	9/5/23 21:07	
Bromomethane	ND	U	0.00116	0.00401	mg/kg	1	9/5/23 21:07	UJ, RC:SL
Carbon disulfide	**0.0191**		**0.000575**	**0.00401**	**mg/kg**	**1**	**9/5/23 21:07**	
Carbon Tetrachloride	ND	U	0.000603	0.00401	mg/kg	1	9/5/23 21:07	
Chlorobenzene	ND	U	0.000581	0.00401	mg/kg	1	9/5/23 21:07	
Chlorodibromomethane	ND	U	0.000493	0.00401	mg/kg	1	9/5/23 21:07	
Chloroethane	ND	U	0.000683	0.00401	mg/kg	1	9/5/23 21:07	UJ, RC:SL
Chloroform	ND	U	0.000673	0.00401	mg/kg	1	9/5/23 21:07	
Chloromethane	ND	U	0.00154	0.00401	mg/kg	1	9/5/23 21:07	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.000194	0.00401	mg/kg	1	9/5/23 21:07	
cis-1,3-Dichloropropene	ND	U	0.000507	0.00401	mg/kg	1	9/5/23 21:07	
Cyclohexane	ND	U	0.000887	0.00401	mg/kg	1	9/5/23 21:07	
Dichlorodifluoromethane	ND	U	0.00135	0.00401	mg/kg	1	9/5/23 21:07	UJ, RC:SL
EthylBenzene	ND	U	0.000543	0.00401	mg/kg	1	9/5/23 21:07	
Isopropylbenzene	ND	U	0.000629	0.00401	mg/kg	1	9/5/23 21:07	
m+p-Xylenes	ND	U	0.00101	0.00801	mg/kg	1	9/5/23 21:07	
Methyl Acetate	ND	U	0.000531	0.00401	mg/kg	1	9/5/23 21:07	
Methyl tert-Butyl Ether	ND	U	0.000677	0.00401	mg/kg	1	9/5/23 21:07	
Methylcyclohexane	ND	U	0.000645	0.00401	mg/kg	1	9/5/23 21:07	
Methylene Chloride	ND	U	0.00120	0.0100	mg/kg	1	9/5/23 21:07	
o-Xylene	ND	U	0.000515	0.00401	mg/kg	1	9/5/23 21:07	
Styrene	ND	U	0.000573	0.00401	mg/kg	1	9/5/23 21:07	
tert-Butyl alcohol	ND	U	0.00841	0.0401	mg/kg	1	9/5/23 21:07	
Tetrachloroethene	ND	U	0.000397	0.00401	mg/kg	1	9/5/23 21:07	
Toluene	ND	U	0.000323	0.00401	mg/kg	1	9/5/23 21:07	
Total Xylenes	ND	U	0.000515	0.00401	mg/kg	1	9/5/23 21:07	
trans-1,2-Dichloroethene	ND	U	0.000543	0.00401	mg/kg	1	9/5/23 21:07	
trans-1,3-Dichloropropene	ND	U	0.000765	0.00401	mg/kg	1	9/5/23 21:07	
Trichloroethene	ND	U	0.000589	0.00401	mg/kg	1	9/5/23 21:07	
Trichlorofluoromethane	ND	U	0.000461	0.00401	mg/kg	1	9/5/23 21:07	
Vinyl chloride	ND	U	0.000761	0.00401	mg/kg	1	9/5/23 21:07	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1,3-dimethyl-	0.0179	18.68	J	mg/kg	1	9/5/23 21:07
Nonane	0.0111	16.68	J	mg/kg	1	9/5/23 21:07
TIC Total	**0.029**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H1612
Project:	Red Hook-Gowanus	**Date to Lab:**	8/25/2023 2:05:00PM

23H1612-01 (Soil) Sample Name: **MR-302-6.0-8.0-20230823** Collected: **8/23/2023 9:32:00AM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/31/23 22:20	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/31/23 22:20	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/31/23 22:20	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/31/23 22:20	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/31/23 22:20	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/31/23 22:20	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/31/23 22:20	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/31/23 22:20	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/31/23 22:20	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/31/23 22:20	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/31/23 22:20	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**47.1**				**%**	**1**	**8/28/23 13:35**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	9/8/23 9:03

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0337	0.283	mg/kg	1	8/31/23 14:48
Reactive Cyanide	ND	U	0.23	0.23	mg/kg	1	8/31/23 14:57

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	**27.2**	D	**2.12**	**2.12**	**mg/kg**	**10**	**8/30/23 17:00**

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**9.67**				**pH Units**	**1**	**8/28/23 12:15**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00566	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1221	ND	U	0.0111	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1232	ND	U	0.0142	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1242	ND	U	0.00830	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1248	ND	U	0.00868	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1254	ND	U	0.00681	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1260	ND	U	0.00529	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1262	ND	U	0.0114	0.0422	mg/kg	1	8/31/23 19:06
Aroclor-1268	ND	U	0.00511	0.0422	mg/kg	1	8/31/23 19:06
Total PCBs	ND	U	0.00394	0.0422	mg/kg	1	8/31/23 19:06

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0125	0.128	mg/kg	1	9/7/23 13:31 UJ, RC:6L
2,4-D	ND	U	0.0212	0.128	mg/kg	1	9/7/23 13:31

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	9/7/23 10:16
2,4-D	ND	U	0.00900	0.0200	mg/L	1	9/7/23 10:16

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.0191	0.0524	mg/kg	1	9/6/23 14:20

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	9/11/23 15:52

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**10600**		**0.184**	**3.11**	**mg/kg**	**1**	**9/7/23 12:30**
Antimony	ND	U	0.169	1.55	mg/kg	1	9/7/23 12:30
Arsenic	**4.17**		**0.111**	**1.55**	**mg/kg**	**1**	**9/7/23 12:30**
Barium	**49.1**		**0.0470**	**0.621**	**mg/kg**	**1**	**9/7/23 12:30**
Beryllium	**0.645**		**0.00360**	**0.0311**	**mg/kg**	**1**	**9/7/23 12:30**
Cadmium	**0.351**		**0.0605**	**0.311**	**mg/kg**	**1**	**9/7/23 12:30**
Calcium	**15600**		**3.49**	**31.1**	**mg/kg**	**1**	**9/7/23 12:30**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**16.5**		**0.0351**	**0.311**	**mg/kg**	**1**	**9/7/23 12:30**
Cobalt	**9.53**		**0.0317**	**0.248**	**mg/kg**	**1**	**9/7/23 12:30**
Copper	**29.0**		**0.0869**	**0.311**	**mg/kg**	**1**	**9/7/23 12:30**
Iron	**22500**		**0.880**	**6.21**	**mg/kg**	**1**	**9/7/23 12:30**
Lead	**55.7**		**0.130**	**1.55**	**mg/kg**	**1**	**9/7/23 12:30**
Magnesium	**7600**		**11.0**	**62.1**	**mg/kg**	**1**	**9/7/23 12:30**
Manganese	**433**		**0.0386**	**0.311**	**mg/kg**	**1**	**9/7/23 12:30**
Nickel	**21.1**		**0.0273**	**0.155**	**mg/kg**	**1**	**9/7/23 12:30**
Potassium	**1610**		**36.9**	**124**	**mg/kg**	**1**	**9/7/23 12:30**
Selenium	ND	U	0.298	1.55	mg/kg	1	9/7/23 12:30
Silver	**0.215**		**0.0528**	**0.186**	**mg/kg**	**1**	**9/7/23 12:30**
Sodium	**1140**		**5.92**	**62.1**	**mg/kg**	**1**	**9/7/23 12:30**
Thallium	ND	U	0.104	1.55	mg/kg	1	9/7/23 12:30
Vanadium	**20.3**		**0.0714**	**0.621**	**mg/kg**	**1**	**9/7/23 12:30**
Zinc	**73.3**	B	**0.0949**	**0.932**	**mg/kg**	**1**	**9/7/23 12:30**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	9/8/23 13:22
Barium	**4.91**		**0.00279**	**0.100**	**mg/L**	**1**	**9/8/23 13:22**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	9/8/23 13:22
Chromium	ND	U	0.00240	0.0500	mg/L	1	9/8/23 13:22
Lead	**0.648**		**0.0255**	**0.250**	**mg/L**	**1**	**9/8/23 13:22**
Selenium	ND	U	0.0760	0.250	mg/L	1	9/8/23 13:22
Silver	ND	U	0.0232	0.100	mg/L	1	9/8/23 13:22

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000761	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
4,4'-DDE	ND	U	0.000910	0.00166	mg/kg	1	9/1/23 16:53	
4,4'-DDT	ND	U	0.00117	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
Aldrin	ND	U	0.000788	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
alpha-BHC [2C]	ND	U	0.000495	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
beta-BHC	ND	U	0.000794	0.00166	mg/kg	1	9/1/23 16:53	
Chlordane	ND	U	0.000739	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
delta-BHC	ND	U	0.000773	0.00166	mg/kg	1	9/1/23 16:53	
Dieldrin	ND	U	0.000870	0.00166	mg/kg	1	9/1/23 16:53	
Endosulfan I	ND	U	0.000786	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000756	0.00166	mg/kg	1	9/1/23 16:53	
Endosulfan sulfate	ND	U	0.000626	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000756	0.00166	mg/kg	1	9/1/23 16:53	
Endrin	ND	U	0.000574	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
Endrin aldehyde	ND	U	0.000663	0.00166	mg/kg	1	9/1/23 16:53	
Endrin ketone	ND	U	0.000586	0.00166	mg/kg	1	9/1/23 16:53	
gamma-BHC (Lindane)	ND	U	0.000527	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
Heptachlor	ND	U	0.000445	0.00166	mg/kg	1	9/1/23 16:53	UJ, RC:6L
Heptachlor Epoxide	ND	U	0.000839	0.00166	mg/kg	1	9/1/23 16:53	
Methoxychlor	ND	U	0.000487	0.00166	mg/kg	1	9/1/23 16:53	
Toxaphene	ND	U	0.0801	0.0844	mg/kg	1	9/1/23 16:53	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	9/6/23 20:50
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	9/6/23 20:50
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	9/6/23 20:50
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	9/6/23 20:50
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	9/6/23 20:50
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	9/6/23 20:50
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	9/6/23 20:50
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	9/6/23 20:50
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	9/6/23 20:50
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	9/6/23 20:50
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	9/6/23 20:50
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	9/6/23 20:50
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	9/6/23 20:50
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	9/6/23 20:50
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	9/6/23 20:50
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	9/6/23 20:50
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	9/6/23 20:50
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	9/6/23 20:50
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	9/6/23 20:50
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	9/6/23 20:50

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00481	0.0426	mg/kg	1	9/1/23 20:17
2,3,4,6-Tetrachlorophenol	ND	U	0.0262	0.170	mg/kg	1	9/1/23 20:17
2,4,5-Trichlorophenol	ND	U	0.0232	0.170	mg/kg	1	9/1/23 20:17
2,4,6-Trichlorophenol	ND	U	0.0107	0.170	mg/kg	1	9/1/23 20:17
2,4-Dichlorophenol	ND	U	0.0171	0.170	mg/kg	1	9/1/23 20:17
2,4-Dimethylphenol	ND	U	0.0168	0.170	mg/kg	1	9/1/23 20:17
2,4-Dinitrophenol	ND	U	0.0246	0.853	mg/kg	1	9/1/23 20:17
2,4-Dinitrotoluene	ND	U	0.0182	0.170	mg/kg	1	9/1/23 20:17
2,6-Dinitrotoluene	ND	U	0.0407	0.170	mg/kg	1	9/1/23 20:17
2-Chloronaphthalene	ND	U	0.0196	0.170	mg/kg	1	9/1/23 20:17
2-Chlorophenol	ND	U	0.0225	0.170	mg/kg	1	9/1/23 20:17
2-Methylnaphthalene	ND	U	0.0408	0.256	mg/kg	1	9/1/23 20:17
2-Methylphenol	ND	U	0.0336	0.170	mg/kg	1	9/1/23 20:17
2-Nitroaniline	ND	U	0.0137	0.170	mg/kg	1	9/1/23 20:17
2-Nitrophenol	ND	U	0.0189	0.170	mg/kg	1	9/1/23 20:17
3,3'-Dichlorobenzidine	ND	U	0.0179	0.170	mg/kg	1	9/1/23 20:17
3+4-Methylphenol	ND	U	0.0312	0.170	mg/kg	1	9/1/23 20:17
3-Nitroaniline	ND	U	0.0316	0.170	mg/kg	1	9/1/23 20:17
4,6-Dinitro-2-methylphenol	ND	U	0.0321	0.426	mg/kg	1	9/1/23 20:17
4-Bromophenyl-phenyl ether	ND	U	0.0243	0.170	mg/kg	1	9/1/23 20:17
4-Chloro-3-methylphenol	ND	U	0.0269	0.170	mg/kg	1	9/1/23 20:17
4-Chloroaniline	ND	U	0.00596	0.170	mg/kg	1	9/1/23 20:17
4-Chlorophenyl phenyl ether	ND	U	0.00920	0.170	mg/kg	1	9/1/23 20:17
4-Nitroaniline	ND	U	0.0852	0.170	mg/kg	1	9/1/23 20:17
4-Nitrophenol	ND	U	0.0109	0.170	mg/kg	1	9/1/23 20:17
Acenaphthene	ND	U	0.00971	0.170	mg/kg	1	9/1/23 20:17
Acenaphthylene	ND	U	0.00592	0.170	mg/kg	1	9/1/23 20:17
Acetophenone	ND	U	0.0169	0.170	mg/kg	1	9/1/23 20:17
Anthracene	ND	U	0.0247	0.170	mg/kg	1	9/1/23 20:17
Atrazine	ND	U	0.0160	0.170	mg/kg	1	9/1/23 20:17
Benzaldehyde	ND	U	0.0523	0.170	mg/kg	1	9/1/23 20:17
Benzo(a)anthracene	ND	U	0.0171	0.170	mg/kg	1	9/1/23 20:17
Benzo(a)pyrene	ND	U	0.0297	0.170	mg/kg	1	9/1/23 20:17
Benzo(b)fluoranthene	ND	U	0.0239	0.170	mg/kg	1	9/1/23 20:17
Benzo(g,h,i)perylene	ND	U	0.0138	0.170	mg/kg	1	9/1/23 20:17
Benzo(k)fluoranthene	ND	U	0.0196	0.170	mg/kg	1	9/1/23 20:17
Biphenyl	ND	U	0.0150	0.170	mg/kg	1	9/1/23 20:17
bis(2-chloroethoxy)methane	ND	U	0.0235	0.170	mg/kg	1	9/1/23 20:17

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0187	0.170	mg/kg	1	9/1/23 20:17
bis(2-chloroisopropyl)ether	ND	U	0.0613	0.170	mg/kg	1	9/1/23 20:17
bis(2-ethylhexyl)phthalate	ND	U	0.0340	0.170	mg/kg	1	9/1/23 20:17
Butylbenzylphthalate	ND	U	0.0155	0.170	mg/kg	1	9/1/23 20:17
Caprolactam	ND	U	0.0220	0.170	mg/kg	1	9/1/23 20:17
Carbazole	ND	U	0.0328	0.426	mg/kg	1	9/1/23 20:17
Chrysene	ND	U	0.0117	0.170	mg/kg	1	9/1/23 20:17
Dibenzo(a,h)anthracene	ND	U	0.0169	0.170	mg/kg	1	9/1/23 20:17
Dibenzofuran	ND	U	0.0101	0.170	mg/kg	1	9/1/23 20:17
Diethylphthalate	ND	U	0.0330	0.170	mg/kg	1	9/1/23 20:17
Dimethylphthalate	ND	U	0.0106	0.170	mg/kg	1	9/1/23 20:17
Di-n-butylphthalate	ND	U	0.0696	0.170	mg/kg	1	9/1/23 20:17
Di-n-octylphthalate	ND	U	0.0349	0.170	mg/kg	1	9/1/23 20:17
Fluoranthene	ND	U	0.0160	0.170	mg/kg	1	9/1/23 20:17
Fluorene	ND	U	0.0142	0.170	mg/kg	1	9/1/23 20:17
Hexachlorobenzene	ND	U	0.0223	0.170	mg/kg	1	9/1/23 20:17
Hexachlorobutadiene	ND	U	0.0817	0.170	mg/kg	1	9/1/23 20:17
Hexachlorocyclopentadiene	ND	U	0.0710	0.426	mg/kg	1	9/1/23 20:17
Hexachloroethane	ND	U	0.0187	0.170	mg/kg	1	9/1/23 20:17
Indeno(1,2,3-cd)pyrene	ND	U	0.0183	0.170	mg/kg	1	9/1/23 20:17
Isophorone	ND	U	0.0112	0.170	mg/kg	1	9/1/23 20:17
Naphthalene	**0.0690**	J	**0.0126**	**0.170**	**mg/kg**	**1**	**9/1/23 20:17**
Nitrobenzene	ND	U	0.0289	0.170	mg/kg	1	9/1/23 20:17
n-Nitroso-di-n-propylamine	ND	U	0.00912	0.170	mg/kg	1	9/1/23 20:17
n-Nitrosodiphenylamine	ND	U	0.0363	0.170	mg/kg	1	9/1/23 20:17
Pentachlorophenol	ND	U	0.0234	0.426	mg/kg	1	9/1/23 20:17
Phenanthrene	ND	U	0.0224	0.170	mg/kg	1	9/1/23 20:17
Phenol	ND	U	0.0138	0.170	mg/kg	1	9/1/23 20:17
Pyrene	ND	U	0.0125	0.170	mg/kg	1	9/1/23 20:17

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~11.6~~	12.14	J, B	mg/kg	1	9/1/23 20:17	R, RC:2
Indene	1.22	6.53	J	mg/kg	1	9/1/23 20:17	
Octadecanoic acid, butyl ester	6.26	12.95	J	mg/kg	1	9/1/23 20:17	
TIC Total	~~19.1~~ 8.1						

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	9/6/23 18:22
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	9/6/23 18:22
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	9/6/23 18:22
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	9/6/23 18:22
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	9/6/23 18:22
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	9/6/23 18:22
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	9/6/23 18:22
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	9/6/23 18:22
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	9/6/23 18:22
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	9/6/23 18:22
Pyridine	ND	U	0.000494	0.0200	mg/L	1	9/6/23 18:22

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000249	0.00171	mg/kg	1	9/1/23 8:06
1,1,2,2-Tetrachloroethane	ND	U	0.000235	0.00171	mg/kg	1	9/1/23 8:06
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000730	0.00171	mg/kg	1	9/1/23 8:06
1,1,2-Trichloroethane	ND	U	0.000287	0.00171	mg/kg	1	9/1/23 8:06
1,1-Dichloroethane	ND	U	0.000249	0.00171	mg/kg	1	9/1/23 8:06
1,1-Dichloroethene	ND	U	0.000316	0.00171	mg/kg	1	9/1/23 8:06
1,2,3-Trichlorobenzene	ND	U	0.000368	0.00171	mg/kg	1	9/1/23 8:06
1,2,4-Trichlorobenzene	ND	U	0.000455	0.00171	mg/kg	1	9/1/23 8:06
1,2,4-Trimethylbenzene	ND	U	0.000235	0.00171	mg/kg	1	9/1/23 8:06
1,2-Dibromo-3-chloropropane	ND	U	0.000416	0.00426	mg/kg	1	9/1/23 8:06
1,2-Dibromoethane	ND	U	0.000215	0.00171	mg/kg	1	9/1/23 8:06
1,2-Dichlorobenzene	ND	U	0.000301	0.00171	mg/kg	1	9/1/23 8:06
1,2-Dichloroethane	ND	U	0.000241	0.00171	mg/kg	1	9/1/23 8:06
1,2-Dichloropropane	ND	U	0.000280	0.00171	mg/kg	1	9/1/23 8:06
1,3-Dichlorobenzene	ND	U	0.000125	0.00171	mg/kg	1	9/1/23 8:06
1,4-Dichlorobenzene	ND	U	0.000246	0.00171	mg/kg	1	9/1/23 8:06
2-Butanone	ND	U	0.000278	0.00853	mg/kg	1	9/1/23 8:06
2-Hexanone	ND	U	0.000159	0.00171	mg/kg	1	9/1/23 8:06
4-Methyl-2-pentanone	ND	U	0.000213	0.00171	mg/kg	1	9/1/23 8:06
Acetone	ND	U	0.000517	0.0426	mg/kg	1	9/1/23 8:06
Benzene	**0.0484**		**0.000155**	**0.00171**	**mg/kg**	**1**	**9/1/23 8:06**
Bromochloromethane	ND	U	0.000315	0.00171	mg/kg	1	9/1/23 8:06
Bromodichloromethane	ND	U	0.000214	0.00171	mg/kg	1	9/1/23 8:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23H1612

Project: Red Hook-Gowanus **Date to Lab:** 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000299	0.00171	mg/kg	1	9/1/23 8:06	
Bromomethane	ND	U	0.000492	0.00171	mg/kg	1	9/1/23 8:06	
Carbon disulfide	ND	U	0.000245	0.00171	mg/kg	1	9/1/23 8:06	
Carbon Tetrachloride	ND	U	0.000257	0.00171	mg/kg	1	9/1/23 8:06	
Chlorobenzene	ND	U	0.000247	0.00171	mg/kg	1	9/1/23 8:06	
Chlorodibromomethane	ND	U	0.000210	0.00171	mg/kg	1	9/1/23 8:06	
Chloroethane	ND	U	0.000291	0.00171	mg/kg	1	9/1/23 8:06	UJ, RC:SL
Chloroform	ND	U	0.000287	0.00171	mg/kg	1	9/1/23 8:06	
Chloromethane	ND	U	0.000657	0.00171	mg/kg	1	9/1/23 8:06	
cis-1,2-Dichloroethene	ND	U	0.0000825	0.00171	mg/kg	1	9/1/23 8:06	
cis-1,3-Dichloropropene	ND	U	0.000216	0.00171	mg/kg	1	9/1/23 8:06	
Cyclohexane	ND	U	0.000378	0.00171	mg/kg	1	9/1/23 8:06	
Dichlorodifluoromethane	ND	U	0.000576	0.00171	mg/kg	1	9/1/23 8:06	
EthylBenzene	**0.000555**	J	**0.000231**	**0.00171**	**mg/kg**	**1**	**9/1/23 8:06**	
Isopropylbenzene	ND	U	0.000268	0.00171	mg/kg	1	9/1/23 8:06	
m+p-Xylenes	ND	U	0.000431	0.00341	mg/kg	1	9/1/23 8:06	
Methyl Acetate	ND	U	0.000226	0.00171	mg/kg	1	9/1/23 8:06	
Methyl tert-Butyl Ether	ND	U	0.000288	0.00171	mg/kg	1	9/1/23 8:06	
Methylcyclohexane	ND	U	0.000275	0.00171	mg/kg	1	9/1/23 8:06	
Methylene Chloride	ND	U	0.000513	0.00426	mg/kg	1	9/1/23 8:06	
o-Xylene	ND	U	0.000219	0.00171	mg/kg	1	9/1/23 8:06	
Styrene	ND	U	0.000244	0.00171	mg/kg	1	9/1/23 8:06	
tert-Butyl alcohol	ND	U	0.00358	0.0171	mg/kg	1	9/1/23 8:06	
Tetrachloroethene	ND	U	0.000169	0.00171	mg/kg	1	9/1/23 8:06	
Toluene	ND	U	0.000137	0.00171	mg/kg	1	9/1/23 8:06	
Total Xylenes	ND	U	0.000219	0.00171	mg/kg	1	9/1/23 8:06	
trans-1,2-Dichloroethene	ND	U	0.000231	0.00171	mg/kg	1	9/1/23 8:06	
trans-1,3-Dichloropropene	ND	U	0.000326	0.00171	mg/kg	1	9/1/23 8:06	
Trichloroethene	ND	U	0.000251	0.00171	mg/kg	1	9/1/23 8:06	
Trichlorofluoromethane	ND	U	0.000196	0.00171	mg/kg	1	9/1/23 8:06	
Vinyl chloride	ND	U	0.000324	0.00171	mg/kg	1	9/1/23 8:06	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.00788	3.87	J	mg/kg	1	9/1/23 8:06
TIC Total	**0.008**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-02 (Soil) Sample Name: **MR-302-25.0-27.0-20230823** Collected: **8/23/2023 12:06:00PM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	9/1/23 0:54	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	9/1/23 0:54	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	9/1/23 0:54	
2-Butanone	ND	U	0.100	0.100	mg/L	10	9/1/23 0:54	
Benzene	**0.00456**	J, D	**0.00129**	**0.0100**	**mg/L**	**10**	**9/1/23 0:54**	J, RC:3L
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	9/1/23 0:54	UJ, RC:3L
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	9/1/23 0:54	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	9/1/23 0:54	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	9/1/23 0:54	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	9/1/23 0:54	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	9/1/23 0:54	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**78.2**				**%**	**1**	**8/28/23 13:35**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	9/8/23 9:03

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0183	0.154	mg/kg	1	8/31/23 14:48
Reactive Cyanide	ND	U	0.13	0.13	mg/kg	1	8/31/23 14:57

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.128	0.128	mg/kg	1	8/30/23 17:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.63**				**pH Units**	**1**	**8/28/23 12:15**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00516	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1221	ND	U	0.0102	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1232	ND	U	0.0129	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1242	ND	U	0.00757	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1248	ND	U	0.00791	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1254	ND	U	0.00621	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1260	ND	U	0.00482	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1262	ND	U	0.0104	0.0385	mg/kg	1	8/31/23 19:28
Aroclor-1268	ND	U	0.00466	0.0385	mg/kg	1	8/31/23 19:28
Total PCBs	ND	U	0.00359	0.0385	mg/kg	1	8/31/23 19:28

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0114	0.117	mg/kg	1	9/7/23 13:40	UJ, RC:6L
2,4-D	ND	U	0.0194	0.117	mg/kg	1	9/7/23 13:40	

SW 846 8151A - TCLP Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.00900	0.0200	mg/L	1	9/7/23 10:25
2,4-D	ND	U	0.00900	0.0200	mg/L	1	9/7/23 10:25

SW 846 7471B - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.0165	0.0451	mg/kg	1	9/6/23 14:22

SW 846 1311/7470A - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000296	0.00100	mg/L	1	9/11/23 15:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4440**		**0.180**	**3.04**	**mg/kg**	**1**	**9/7/23 12:32**
Antimony	ND	U	0.166	1.52	mg/kg	1	9/7/23 12:32
Arsenic	ND	U	0.108	1.52	mg/kg	1	9/7/23 12:32
Barium	**58.8**		**0.0459**	**0.608**	**mg/kg**	**1**	**9/7/23 12:32**
Beryllium	**0.455**		**0.00352**	**0.0304**	**mg/kg**	**1**	**9/7/23 12:32**
Cadmium	ND	U	0.0592	0.304	mg/kg	1	9/7/23 12:32
Calcium	**8080**		**3.42**	**30.4**	**mg/kg**	**1**	**9/7/23 12:32**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	**9.48**		**0.0343**	**0.304**	**mg/kg**	**1**	**9/7/23 12:32**
Cobalt	**3.55**		**0.0311**	**0.243**	**mg/kg**	**1**	**9/7/23 12:32**
Copper	**13.9**		**0.0850**	**0.304**	**mg/kg**	**1**	**9/7/23 12:32**
Iron	**8110**		**0.861**	**6.08**	**mg/kg**	**1**	**9/7/23 12:32**
Lead	**6.63**		**0.127**	**1.52**	**mg/kg**	**1**	**9/7/23 12:32**
Magnesium	**3560**		**10.7**	**60.8**	**mg/kg**	**1**	**9/7/23 12:32**
Manganese	**221**		**0.0378**	**0.304**	**mg/kg**	**1**	**9/7/23 12:32**
Nickel	**9.27**		**0.0267**	**0.152**	**mg/kg**	**1**	**9/7/23 12:32**
Potassium	**1320**		**36.1**	**122**	**mg/kg**	**1**	**9/7/23 12:32**
Selenium	ND	U	0.292	1.52	mg/kg	1	9/7/23 12:32
Silver	ND	U	0.0517	0.182	mg/kg	1	9/7/23 12:32
Sodium	**386**		**5.79**	**60.8**	**mg/kg**	**1**	**9/7/23 12:32**
Thallium	ND	U	0.102	1.52	mg/kg	1	9/7/23 12:32
Vanadium	**11.7**		**0.0699**	**0.608**	**mg/kg**	**1**	**9/7/23 12:32**
Zinc	**27.6**	B	**0.0928**	**0.911**	**mg/kg**	**1**	**9/7/23 12:32**

SW 846 1311/6010D - TCLP Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	ND	U	0.0400	0.250	mg/L	1	9/8/23 13:24
Barium	**4.80**		**0.00279**	**0.100**	**mg/L**	**1**	**9/8/23 13:24**
Cadmium	ND	U	0.00650	0.0500	mg/L	1	9/8/23 13:24
Chromium	ND	U	0.00240	0.0500	mg/L	1	9/8/23 13:24
Lead	ND	U	0.0255	0.250	mg/L	1	9/8/23 13:24
Selenium	ND	U	0.0760	0.250	mg/L	1	9/8/23 13:24
Silver	ND	U	0.0232	0.100	mg/L	1	9/8/23 13:24

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000694	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
4,4'-DDE	ND	U	0.000830	0.00152	mg/kg	1	9/1/23 17:15	
4,4'-DDT	ND	U	0.00107	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
Aldrin	ND	U	0.000719	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
alpha-BHC	ND	U	0.000452	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
beta-BHC	ND	U	0.000725	0.00152	mg/kg	1	9/1/23 17:15	
Chlordane	ND	U	0.000674	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
delta-BHC	ND	U	0.000705	0.00152	mg/kg	1	9/1/23 17:15	
Dieldrin	ND	U	0.000793	0.00152	mg/kg	1	9/1/23 17:15	
Endosulfan I	ND	U	0.000716	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000690	0.00152	mg/kg	1	9/1/23 17:15	
Endosulfan sulfate	ND	U	0.000571	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000690	0.00152	mg/kg	1	9/1/23 17:15	
Endrin	ND	U	0.000524	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
Endrin aldehyde	ND	U	0.000604	0.00152	mg/kg	1	9/1/23 17:15	
Endrin ketone	ND	U	0.000534	0.00152	mg/kg	1	9/1/23 17:15	
gamma-BHC (Lindane)	ND	U	0.000481	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
Heptachlor	ND	U	0.000406	0.00152	mg/kg	1	9/1/23 17:15	UJ, RC:6L
Heptachlor Epoxide	ND	U	0.000765	0.00152	mg/kg	1	9/1/23 17:15	
Methoxychlor	ND	U	0.000445	0.00152	mg/kg	1	9/1/23 17:15	
Toxaphene	ND	U	0.0731	0.0770	mg/kg	1	9/1/23 17:15	

SW 846 8081B - TCLP Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	3.78E-7	0.0000200	mg/L	1	9/6/23 20:28
4,4'-DDE	ND	U	2.34E-7	0.0000200	mg/L	1	9/6/23 20:28
4,4'-DDT	ND	U	3.19E-7	0.0000200	mg/L	1	9/6/23 20:28
Aldrin	ND	U	5.27E-7	0.0000200	mg/L	1	9/6/23 20:28
alpha-BHC	ND	U	2.55E-7	0.0000200	mg/L	1	9/6/23 20:28
beta-BHC	ND	U	3.71E-7	0.0000200	mg/L	1	9/6/23 20:28
Chlordane	ND	U	3.27E-7	0.0000500	mg/L	1	9/6/23 20:28
delta-BHC	ND	U	3.20E-7	0.0000200	mg/L	1	9/6/23 20:28
Dieldrin	ND	U	2.71E-7	0.0000200	mg/L	1	9/6/23 20:28
Endosulfan I	ND	U	3.80E-7	0.0000200	mg/L	1	9/6/23 20:28
Endosulfan II	ND	U	2.54E-7	0.0000200	mg/L	1	9/6/23 20:28
Endosulfan sulfate	ND	U	1.38E-7	0.0000200	mg/L	1	9/6/23 20:28
Endrin	ND	U	2.29E-7	0.0000200	mg/L	1	9/6/23 20:28
Endrin aldehyde	ND	U	3.18E-7	0.0000200	mg/L	1	9/6/23 20:28
Endrin ketone	ND	U	2.03E-7	0.0000200	mg/L	1	9/6/23 20:28
gamma-BHC (Lindane)	ND	U	2.41E-7	0.0000200	mg/L	1	9/6/23 20:28
Heptachlor	ND	U	5.63E-7	0.0000200	mg/L	1	9/6/23 20:28
Heptachlor Epoxide	ND	U	3.02E-7	0.0000200	mg/L	1	9/6/23 20:28
Methoxychlor	ND	U	3.43E-7	0.0000200	mg/L	1	9/6/23 20:28
Toxaphene	ND	U	0.0000237	0.000200	mg/L	1	9/6/23 20:28

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00439	0.0389	mg/kg	1	9/1/23 20:47
2,3,4,6-Tetrachlorophenol	ND	U	0.0239	0.155	mg/kg	1	9/1/23 20:47
2,4,5-Trichlorophenol	ND	U	0.0211	0.155	mg/kg	1	9/1/23 20:47
2,4,6-Trichlorophenol	ND	U	0.00972	0.155	mg/kg	1	9/1/23 20:47
2,4-Dichlorophenol	ND	U	0.0156	0.155	mg/kg	1	9/1/23 20:47
2,4-Dimethylphenol	ND	U	0.0153	0.155	mg/kg	1	9/1/23 20:47
2,4-Dinitrophenol	ND	U	0.0224	0.778	mg/kg	1	9/1/23 20:47
2,4-Dinitrotoluene	ND	U	0.0166	0.155	mg/kg	1	9/1/23 20:47
2,6-Dinitrotoluene	ND	U	0.0371	0.155	mg/kg	1	9/1/23 20:47
2-Chloronaphthalene	ND	U	0.0179	0.155	mg/kg	1	9/1/23 20:47
2-Chlorophenol	ND	U	0.0205	0.155	mg/kg	1	9/1/23 20:47
2-Methylnaphthalene	ND	U	0.0372	0.233	mg/kg	1	9/1/23 20:47
2-Methylphenol	ND	U	0.0307	0.155	mg/kg	1	9/1/23 20:47
2-Nitroaniline	ND	U	0.0125	0.155	mg/kg	1	9/1/23 20:47
2-Nitrophenol	ND	U	0.0173	0.155	mg/kg	1	9/1/23 20:47
3,3'-Dichlorobenzidine	ND	U	0.0163	0.155	mg/kg	1	9/1/23 20:47
3+4-Methylphenol	ND	U	0.0285	0.155	mg/kg	1	9/1/23 20:47
3-Nitroaniline	ND	U	0.0288	0.155	mg/kg	1	9/1/23 20:47
4,6-Dinitro-2-methylphenol	ND	U	0.0293	0.389	mg/kg	1	9/1/23 20:47
4-Bromophenyl-phenyl ether	ND	U	0.0222	0.155	mg/kg	1	9/1/23 20:47
4-Chloro-3-methylphenol	ND	U	0.0245	0.155	mg/kg	1	9/1/23 20:47
4-Chloroaniline	ND	U	0.00544	0.155	mg/kg	1	9/1/23 20:47
4-Chlorophenyl phenyl ether	ND	U	0.00839	0.155	mg/kg	1	9/1/23 20:47
4-Nitroaniline	ND	U	0.0777	0.155	mg/kg	1	9/1/23 20:47
4-Nitrophenol	ND	U	0.00994	0.155	mg/kg	1	9/1/23 20:47
Acenaphthene	ND	U	0.00886	0.155	mg/kg	1	9/1/23 20:47
Acenaphthylene	ND	U	0.00540	0.155	mg/kg	1	9/1/23 20:47
Acetophenone	ND	U	0.0154	0.155	mg/kg	1	9/1/23 20:47
Anthracene	ND	U	0.0225	0.155	mg/kg	1	9/1/23 20:47
Atrazine	ND	U	0.0146	0.155	mg/kg	1	9/1/23 20:47
Benzaldehyde	ND	U	0.0477	0.155	mg/kg	1	9/1/23 20:47
Benzo(a)anthracene	ND	U	0.0156	0.155	mg/kg	1	9/1/23 20:47
Benzo(a)pyrene	ND	U	0.0271	0.155	mg/kg	1	9/1/23 20:47
Benzo(b)fluoranthene	ND	U	0.0218	0.155	mg/kg	1	9/1/23 20:47
Benzo(g,h,i)perylene	ND	U	0.0126	0.155	mg/kg	1	9/1/23 20:47
Benzo(k)fluoranthene	ND	U	0.0179	0.155	mg/kg	1	9/1/23 20:47
Biphenyl	ND	U	0.0137	0.155	mg/kg	1	9/1/23 20:47
bis(2-chloroethoxy)methane	ND	U	0.0215	0.155	mg/kg	1	9/1/23 20:47

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0170	0.155	mg/kg	1	9/1/23 20:47
bis(2-chloroisopropyl)ether	ND	U	0.0559	0.155	mg/kg	1	9/1/23 20:47
bis(2-ethylhexyl)phthalate	ND	U	0.0310	0.155	mg/kg	1	9/1/23 20:47
Butylbenzylphthalate	ND	U	0.0141	0.155	mg/kg	1	9/1/23 20:47
Caprolactam	ND	U	0.0201	0.155	mg/kg	1	9/1/23 20:47
Carbazole	ND	U	0.0299	0.389	mg/kg	1	9/1/23 20:47
Chrysene	ND	U	0.0106	0.155	mg/kg	1	9/1/23 20:47
Dibenzo(a,h)anthracene	ND	U	0.0154	0.155	mg/kg	1	9/1/23 20:47
Dibenzofuran	ND	U	0.00925	0.155	mg/kg	1	9/1/23 20:47
Diethylphthalate	ND	U	0.0301	0.155	mg/kg	1	9/1/23 20:47
Dimethylphthalate	ND	U	0.00964	0.155	mg/kg	1	9/1/23 20:47
Di-n-butylphthalate	ND	U	0.0635	0.155	mg/kg	1	9/1/23 20:47
Di-n-octylphthalate	ND	U	0.0319	0.155	mg/kg	1	9/1/23 20:47
Fluoranthene	ND	U	0.0146	0.155	mg/kg	1	9/1/23 20:47
Fluorene	ND	U	0.0130	0.155	mg/kg	1	9/1/23 20:47
Hexachlorobenzene	ND	U	0.0203	0.155	mg/kg	1	9/1/23 20:47
Hexachlorobutadiene	ND	U	0.0746	0.155	mg/kg	1	9/1/23 20:47
Hexachlorocyclopentadiene	ND	U	0.0648	0.389	mg/kg	1	9/1/23 20:47
Hexachloroethane	ND	U	0.0170	0.155	mg/kg	1	9/1/23 20:47
Indeno(1,2,3-cd)pyrene	ND	U	0.0167	0.155	mg/kg	1	9/1/23 20:47
Isophorone	ND	U	0.0102	0.155	mg/kg	1	9/1/23 20:47
Naphthalene	ND	U	0.0115	0.155	mg/kg	1	9/1/23 20:47
Nitrobenzene	ND	U	0.0264	0.155	mg/kg	1	9/1/23 20:47
n-Nitroso-di-n-propylamine	ND	U	0.00832	0.155	mg/kg	1	9/1/23 20:47
n-Nitrosodiphenylamine	ND	U	0.0331	0.155	mg/kg	1	9/1/23 20:47
Pentachlorophenol	ND	U	0.0214	0.389	mg/kg	1	9/1/23 20:47
Phenanthrene	ND	U	0.0204	0.155	mg/kg	1	9/1/23 20:47
Phenol	ND	U	0.0126	0.155	mg/kg	1	9/1/23 20:47
Pyrene	ND	U	0.0114	0.155	mg/kg	1	9/1/23 20:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, 1,1-dimethylethyl est	8.68	12.14	J	mg/kg	1	9/1/23 20:47	
Octadecanoic acid, 2-methylpropyl ester	~~4.73~~	12.95	J, B	mg/kg	1	9/1/23 20:47	R, RC:2
TIC Total	~~13.4~~ 8.7						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8270E - TCLP Semivolatiles - TCLP BNA

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-Trichlorophenol	ND	U	0.000438	0.0200	mg/L	1	9/6/23 18:57
2,4,6-Trichlorophenol	ND	U	0.00137	0.0200	mg/L	1	9/6/23 18:57
2,4-Dinitrotoluene	ND	U	0.00108	0.0200	mg/L	1	9/6/23 18:57
2-Methylphenol	ND	U	0.00155	0.0200	mg/L	1	9/6/23 18:57
3+4-Methylphenol	ND	U	0.00122	0.0200	mg/L	1	9/6/23 18:57
Hexachlorobenzene	ND	U	0.00183	0.0200	mg/L	1	9/6/23 18:57
Hexachlorobutadiene	ND	U	0.00279	0.0200	mg/L	1	9/6/23 18:57
Hexachloroethane	ND	U	0.00111	0.0200	mg/L	1	9/6/23 18:57
Nitrobenzene	ND	U	0.00146	0.0200	mg/L	1	9/6/23 18:57
Pentachlorophenol	ND	U	0.00152	0.0200	mg/L	1	9/6/23 18:57
Pyridine	ND	U	0.000494	0.0200	mg/L	1	9/6/23 18:57

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000216	0.00148	mg/kg	1	9/1/23 8:35
1,1,2,2-Tetrachloroethane	ND	U	0.000204	0.00148	mg/kg	1	9/1/23 8:35
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000632	0.00148	mg/kg	1	9/1/23 8:35
1,1,2-Trichloroethane	ND	U	0.000249	0.00148	mg/kg	1	9/1/23 8:35
1,1-Dichloroethane	ND	U	0.000216	0.00148	mg/kg	1	9/1/23 8:35
1,1-Dichloroethene	ND	U	0.000273	0.00148	mg/kg	1	9/1/23 8:35
1,2,3-Trichlorobenzene	ND	U	0.000319	0.00148	mg/kg	1	9/1/23 8:35
1,2,4-Trichlorobenzene	ND	U	0.000394	0.00148	mg/kg	1	9/1/23 8:35
1,2,4-Trimethylbenzene	ND	U	0.000204	0.00148	mg/kg	1	9/1/23 8:35
1,2-Dibromo-3-chloropropane	ND	U	0.000360	0.00369	mg/kg	1	9/1/23 8:35
1,2-Dibromoethane	ND	U	0.000186	0.00148	mg/kg	1	9/1/23 8:35
1,2-Dichlorobenzene	ND	U	0.000261	0.00148	mg/kg	1	9/1/23 8:35
1,2-Dichloroethane	ND	U	0.000208	0.00148	mg/kg	1	9/1/23 8:35
1,2-Dichloropropane	ND	U	0.000242	0.00148	mg/kg	1	9/1/23 8:35
1,3-Dichlorobenzene	ND	U	0.000109	0.00148	mg/kg	1	9/1/23 8:35
1,4-Dichlorobenzene	ND	U	0.000213	0.00148	mg/kg	1	9/1/23 8:35
2-Butanone	ND	U	0.000241	0.00738	mg/kg	1	9/1/23 8:35
2-Hexanone	ND	U	0.000138	0.00148	mg/kg	1	9/1/23 8:35
4-Methyl-2-pentanone	ND	U	0.000185	0.00148	mg/kg	1	9/1/23 8:35
Acetone	ND	U	0.000447	0.0369	mg/kg	1	9/1/23 8:35
Benzene	**0.000813**	J	**0.000134**	**0.00148**	**mg/kg**	**1**	**9/1/23 8:35**
Bromochloromethane	ND	U	0.000272	0.00148	mg/kg	1	9/1/23 8:35
Bromodichloromethane	ND	U	0.000185	0.00148	mg/kg	1	9/1/23 8:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H1612
Date to Lab: 8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000259	0.00148	mg/kg	1	9/1/23 8:35	
Bromomethane	ND	U	0.000426	0.00148	mg/kg	1	9/1/23 8:35	
Carbon disulfide	ND	U	0.000212	0.00148	mg/kg	1	9/1/23 8:35	
Carbon Tetrachloride	ND	U	0.000222	0.00148	mg/kg	1	9/1/23 8:35	
Chlorobenzene	ND	U	0.000214	0.00148	mg/kg	1	9/1/23 8:35	
Chlorodibromomethane	ND	U	0.000182	0.00148	mg/kg	1	9/1/23 8:35	
Chloroethane	ND	U	0.000252	0.00148	mg/kg	1	9/1/23 8:35	UJ, RC:SL
Chloroform	ND	U	0.000248	0.00148	mg/kg	1	9/1/23 8:35	
Chloromethane	ND	U	0.000569	0.00148	mg/kg	1	9/1/23 8:35	
cis-1,2-Dichloroethene	ND	U	0.0000714	0.00148	mg/kg	1	9/1/23 8:35	
cis-1,3-Dichloropropene	ND	U	0.000187	0.00148	mg/kg	1	9/1/23 8:35	
Cyclohexane	ND	U	0.000327	0.00148	mg/kg	1	9/1/23 8:35	
Dichlorodifluoromethane	ND	U	0.000498	0.00148	mg/kg	1	9/1/23 8:35	
EthylBenzene	ND	U	0.000200	0.00148	mg/kg	1	9/1/23 8:35	
Isopropylbenzene	ND	U	0.000232	0.00148	mg/kg	1	9/1/23 8:35	
m+p-Xylenes	ND	U	0.000373	0.00295	mg/kg	1	9/1/23 8:35	
Methyl Acetate	ND	U	0.000196	0.00148	mg/kg	1	9/1/23 8:35	
Methyl tert-Butyl Ether	ND	U	0.000250	0.00148	mg/kg	1	9/1/23 8:35	
Methylcyclohexane	ND	U	0.000238	0.00148	mg/kg	1	9/1/23 8:35	
Methylene Chloride	ND	U	0.000444	0.00369	mg/kg	1	9/1/23 8:35	
o-Xylene	ND	U	0.000190	0.00148	mg/kg	1	9/1/23 8:35	
Styrene	ND	U	0.000211	0.00148	mg/kg	1	9/1/23 8:35	
tert-Butyl alcohol	ND	U	0.00310	0.0148	mg/kg	1	9/1/23 8:35	
Tetrachloroethene	ND	U	0.000146	0.00148	mg/kg	1	9/1/23 8:35	
Toluene	**0.000879**	J	**0.000119**	**0.00148**	**mg/kg**	**1**	**9/1/23 8:35**	
Total Xylenes	ND	U	0.000190	0.00148	mg/kg	1	9/1/23 8:35	
trans-1,2-Dichloroethene	ND	U	0.000200	0.00148	mg/kg	1	9/1/23 8:35	
trans-1,3-Dichloropropene	ND	U	0.000282	0.00148	mg/kg	1	9/1/23 8:35	
Trichloroethene	ND	U	0.000217	0.00148	mg/kg	1	9/1/23 8:35	
Trichlorofluoromethane	ND	U	0.000170	0.00148	mg/kg	1	9/1/23 8:35	
Vinyl chloride	ND	U	0.000281	0.00148	mg/kg	1	9/1/23 8:35	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.0104	3.97	J	mg/kg	1	9/1/23 8:35
Lab Contamination	0.0108	3.88	J	mg/kg	1	9/1/23 8:35
TIC Total	**0.021**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H1612
Project:	Red Hook-Gowanus	**Date to Lab:**	8/25/2023 2:05:00PM

23H1612-03 (Soil) Sample Name: **MR-302-65.0-67.0-20230823** Collected: **8/23/2023 1:30:00PM**

SW 846 8260D - TCLP Volatiles - TCLP VO

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethene	ND	U	0.00149	0.0100	mg/L	10	8/31/23 22:46	UJ, RC:3L
1,2-Dichloroethane	ND	U	0.00306	0.0100	mg/L	10	8/31/23 22:46	
1,4-Dichlorobenzene	ND	U	0.00238	0.0100	mg/L	10	8/31/23 22:46	
2-Butanone	ND	U	0.100	0.100	mg/L	10	8/31/23 22:46	
Benzene	ND	U	0.00129	0.0100	mg/L	10	8/31/23 22:46	
Carbon Tetrachloride	ND	U	0.00372	0.0100	mg/L	10	8/31/23 22:46	
Chlorobenzene	ND	U	0.00300	0.0100	mg/L	10	8/31/23 22:46	
Chloroform	ND	U	0.00365	0.0100	mg/L	10	8/31/23 22:46	
Tetrachloroethene	ND	U	0.00466	0.0100	mg/L	10	8/31/23 22:46	
Trichloroethene	ND	U	0.00146	0.0100	mg/L	10	8/31/23 22:46	
Vinyl chloride	ND	U	0.00157	0.0100	mg/L	10	8/31/23 22:46	

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**85.7**				**%**	**1**	**8/28/23 13:35**

SW 846 1010A - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Ignitability	> 60			20.0	°C	1	9/8/23 9:03

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0167	0.140	mg/kg	1	8/31/23 14:48
Reactive Cyanide	ND	U	0.12	0.12	mg/kg	1	8/31/23 14:57

SW 846 9030B - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Reactive Sulfide	ND	U	0.117	0.117	mg/kg	1	8/30/23 17:00

SW 846 9045D - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Corrosivity-pH	**8.71**				**pH Units**	**1**	**8/28/23 12:15**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Phase II Investigation Report for Site OH-007 CSO-GC-SFS-DES OH Construction of CSO Facility at Gowanus Canal Outfall OH-007

Prepared for
New York City Department of Environmental Protection
February 2025

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List of Abbreviations

ADT	Aquifer Drilling and Testing
BC	Brown and Caldwell Associates
BCP	Brownfield Cleanup Program
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and xylenes
CAMP	Community Air Monitoring Plan
COC	contaminants of concern
CSO	combined sewer overflow
DEC	New York State Department of Environmental Conservation
DEP	New York City Department of Environmental Protection
DER	Division of Environmental Remediation
DNAPL	dense non-aqueous phase liquid
DOH	New York State Department of Health
DSNY	New York City Department of Sanitation
DUSR	Data Usability Summary Reports
EDR	Environmental Data Resources
ELAP	Environmental Laboratory Approval Program
EPA	United States Environmental Protection Agency
EPM	Environmental Planning & Management
ESA	Environmental Site Assessment
FDNY	New York City Fire Department
ft	feet
FSP	Field Sampling Plan
HSBC	Hazen and Sawyer/Brown and Caldwell
HMW	high molecular weight
IDW	Investigation-Derived Waste
LMW	low molecular weight
mg/kg	milligrams/kilograms
MGP	manufactured gas plant
MOSF	major oil storage facility
MTBE	methyl tert-butyl ether
NAPL	non-aqueous phase liquid
NAVD88	North American Vertical Datum of 1988
NG	National Grid
NYS	New York State
OH	Owls Head
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PDI	predesign investigation
PDS	Pre-demolition survey
PID	Photo-ionization Detector
PPE	Personal protective equipment
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
RR-SCO	Restricted Residential Use Soil Cleanup Objective
RUC-SCO	Restricted Use Commercial Soil Cleanup Objective
SCO	Soil Cleanup Objective
SOP	standard operating procedure
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TICs	Tentatively identified compounds
USCS	Unified Soil Classification System
UST	underground storage tank
UU-SCO	Soil Cleanup Objective, Unrestricted Use
VOCs	Volatile Organic Compounds

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Section 1
Introduction

1.1 Overview

This report presents the results of the Phase II Environmental Investigation (Phase II Investigation) conducted at four contiguous parcels of land acquired by the New York City Department of Environmental Protection (DEP) to facilitate the construction of a 4-million-gallon combined sewer overflow (CSO) retention facility for CSO outfall Owls Head OH-007.

The location of the four parcels of land, herein referred to as the Site, as well as the parcel owned by the New York City Department of Sanitation (DSNY), are shown on Figure 1. The construction activities related to the CSO project will encompass all five properties within an approximately 4-acre triangular shaped property bounded by the Gowanus Canal to the north, 2nd Avenue to the southeast, and the 6th Street Turning Basin to the southwest.

The western portion of the Site is located across the canal from the former Citizens Municipal Works Manufactured Gas Plant (Citizens manufactured gas plant [MGP]) site which continues to be investigated and remediated by National Grid (NG) pursuant to a Voluntary Cleanup Agreement with the New York State Department of Environmental Conservation (DEC). In 2024, DEP implemented investigation activities on the former DSNY property and areas south of 5th Street to evaluate impacts related to the Citizens MGP site.

1.2 Phase II Investigation Purpose and Objectives

The purpose of the Phase II Investigation was to evaluate the presence or absence of hazardous substances or petroleum products in the subsurface environmental media at the Site, including soil, groundwater and soil vapor related to areas of potential environmental concerns identified in the Phase I Environmental Site Assessment (ESA) conducted by Hazen and Sawyer/Brown and Caldwell, a Joint Venture (HSBC) in 2022. Details on the areas of potential environmental concern are summarized in Section 2.0 below. The scope of the Phase II activities included sampling and analysis of soil and groundwater to investigate the lateral and vertical extent of contamination at each of the areas of potential environmental concern (shown on Figure 2).

The objectives of this Phase II Investigation Report are to:

- Document soil contamination conditions relevant to the remedial design aspects for soil excavation, handling, treatment, and disposal options for soil removed during facility construction.
- Document groundwater contamination conditions relevant to the remedial design and dewatering, treatment and disposal of groundwater encountered during excavation of soil as part of facility construction.

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Section 2
Site Background

The Phase I ESA of the Site (HSBC, 2022) identified several historical and present-day industrial uses that potentially released hazardous substances or petroleum products into soils and groundwater beneath the Site. The locations of potential environmental concerns were identified by reviewing sources provided by Environmental Data Resources, Inc. (EDR), including historical Sanborn fire insurance maps, historical aerial photography, historical city directories, and numerous regulatory databases maintained by various federal and state government agencies. Other sources reviewed during the ESA included regulatory files obtained from DEC, and findings from a pre-design investigation (PDI) conducted by HSBC on the DSNY property (HSBC, 2018). The identified locations of environmental concerns and their associated contaminants of concern (COCs) are listed below. Figure 2 shows the approximate locations of environmental concerns.

2.1 Creosoting Works

An 1886 Sanborn fire insurance map indicates the Eppinger & Russell Creosoting Works was located on the western-most parcel of the Site. The Sanborn map shows four horizontal wood treating cylinders (retort cylinders) and an oil tank that were likely used in the creosoting operations. Creosoting operations involved pressure-treating wood with creosote, a liquid made from coal tar obtained from MGPs. It is not uncommon to find creosoting operations located in the vicinity of MGPs, such as the former Citizens Gas Light Company that was present on the opposite side of the Gowanus Canal. Coal tar, a waste product from MGPs, is usually a dense non- aqueous phase liquid (DNAPL) containing numerous hazardous substances including benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalene and various polycyclic aromatic hydrocarbon (PAH) compounds. In the process of manufacturing creosote, some of the more volatile fractions of the coal tar were boiled off to further increase the density of the liquid. Coal tar and other residuals of the former creosoting operation may be present in soils and groundwater as DNAPL and /or dissolved and sorbed phases. COCs associated with creosote include:

- BTEX
- Naphthalene
- PAHs

2.2 Paint Pigment Manufacturing

The 1886 Sanborn map indicates the J.W. Masury Dry Color Works was located in a structure situated in the central portion of the Site. The Masury company manufactured paint, and it follows that the dry color works produced pigments used in their products. Late 19th Century pigments were manufactured from heavy metals including arsenic, cadmium, chromium, cobalt, lead and mercury, as well from synthetic organic chemicals derived from coal tar and petrochemicals. Early publications list several synthetic dye businesses in the Gowanus area. COCs associated with paint pigments include:

- Arsenic
- Cadmium
- Chromium

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- Cobalt
- Lead
- Mercury
- Synthetic organic pigments (possibly reported as tentatively identified compounds (TICs) in SW-846 analytical methods)

2.3 Vehicle and Scrap Metal Salvage

Historical city directories list several scrap metal and vehicle salvage operations at addresses associated with the western portions of the Site. The exact location has not been determined. A 1980 Sanborn fire insurance map labels the currently open area (i.e., Block 990 Lot 21) as "Scrap Metal Storage." Historical aerial photographs dated 1961, 1971 and 1974 appear to show piles of scrap and possible vehicles in this area. The 1974 photograph may show the building on Block 990 Lot 21 in the process of being demolished, with debris, scrap or other material piled in its place. Vehicle salvage operations are typically associated with the release of petroleum products and various hazardous substances including lead from batteries and wiring, elemental mercury from mercury switches, asbestos from brakes, antifreeze, and various petroleum-based lubricants and fluids. Some metal salvaging sites are known to have been contaminated by polychlorinated biphenyls (PCBs) derived from improper draining of transformers when salvaging the copper in their cores. COCs associated with vehicle salvage and scrap yards include:

- Petroleum constituents (BTEX, naphthalene, PAHs)
- PCBs
- Asbestos
- Antifreeze
- Elemental mercury
- Lead

2.4 Asbestos Storage

A 1994 city directory provided by EDR lists Phoenix Asbestos Disposal at 110 Fifth Street (Lot 21). The New York State (NYS) Solid Waste Facilities database lists Spartan Dismantling at 110 Fifth Street from 1995-2004. A 1950 Sanborn map identifies asbestos storage on Block 990 Lot 21. Block 990 Lots 1 and 16 were occupied by David E Kennedy, Inc., an apparent predecessor company of Kentile Floors, which manufactured asbestos-containing floor tiles. Asbestos storage would not have been regulated in the 1950s, and United States Environmental Protection Agency (EPA) did not ban asbestos for use in fireproofing and insulation until the mid-1970s. Asbestos is a hazardous substance and, depending on its form, may have been released during unregulated storage or manufacturing operations and potentially incorporated as particulate matter in shallow on-site soils.

2.5 Leaking UST and Free Phase Petroleum Product

The owner of the portion of the Site consisting of Block 990 Lots 1 and 16 entered the two parcels in the DEC's Brownfield Cleanup Program (BCP) in 2015. The BCP application describes a subsurface investigation conducted by the applicant to investigate potential impacts associated with an underground storage tank (UST) on one of the parcels. The investigation included a geophysical survey to locate the UST, and soil borings to evaluate soil quality in the vicinity of the tank. The geophysical survey identified an anomaly consistent with a UST, which was located adjacent to a fill port with a "fuel oil" cap and a vent pipe on the sidewalk in front of the building along 2nd Avenue. Free phase

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petroleum product, a light non-aqueous phase liquid or LNAPL, was observed in two soil borings. The BCP application also states that five petroleum spills were reported on the Site between 1994 and 2015. One spill, reporting gross soil contamination and free-phase petroleum-like material in soils, is currently open. COCs associated with leaking UST and petroleum include:

- BTEX
- Naphthalene
- PAHs

2.6 Present-Day Industrial Usages

The Site and buildings were visited during ESA and pre-demolition survey (PDS) activities. Based on observations during these visits, current uses include bus and vehicle storage, document shredding, wood working, steel fabrication, fire and mold remediation services, industrial and municipal utility contracting, and wholesale baked goods warehousing and distribution. Inspection of the buildings and interviews with tenants and owners were conducted to assess the potential for current operations and waste handling practices to impact Site soils and groundwater.

2.7 Manufactured Gas Plant

The former Citizens MGP is located directly across the Gowanus Canal from the Site. It operated for approximately 100 years from the 1860s through the early 1960s. The 2017 PDI conducted on the DSNY property documented the presence of MGP DNAPL at several boring locations across the property. This DNAPL likely migrated within deeper strata (below the Gowanus Canal) from the Citizens MGP to locations on the DSNY property. In addition, MGP DNAPL migrated into one of the newly installed monitoring wells and accumulated in the 2-foot sump of the monitoring well two weeks after installation. The mobility of the DNAPL indicates a potential for impacts beyond the DSNY property, including areas to the south (i.e., the Site). COCs associated with MGP DNAPLs include:

- BTEX
- Naphthalene
- PAHs

2.8 Marine Fuel Terminal

Historical aerial photographs and Sanborn fire insurance maps indicate a large marine fuel terminal operated on the south shore of the 6th Street Turning basin from at least 1961 to 1991. The 1969 Sanborn map indicates the combined capacity of the terminal's above ground and underground storage tanks was in excess of 845,000 gallons. The current regulatory programs for permitting, spill control, and spill reporting that govern a major oil storage facility (MOSF) did not exist in the 1960s. Therefore, it is not uncommon for older marine terminals to have large volumes of residual and mobile product remaining in the zone of water table fluctuation. Although product spills from storage tanks and barge unloading operations might have been partially isolated from the Site by the intervening turning basin, substantial releases to the basin could have permeated the Site's bulkheads and impacted the soils beneath the existing buildings and parking area. Product may also have migrated on the water table directly to the Site near 2nd Avenue. COCs associated with fuel oils and older gasolines include:

- BTEX
- Methyl tert-butyl ether (MTBE)
- Lead

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- Naphthalene
- PAHs

2.9 Upgradient Database Listings

The EDR search identified 531 listings within the ASTM minimum search distances from the Site (0.25 to 1 mile). In the Phase I ESA, a total of 23 upgradient listings were judged to be close enough to potentially impact Site soil and groundwater. One listing had a spill of No. 2 Fuel oil in 2004 with no record of a cleanup. A second site had a spill of waste oil in 2004 when the New York City Fire Department (FDNY) responded to a fire. Waste oil may contain solvents, PCBs and heavy metals in addition to ordinary petroleum constituents. No details of a purported cleanup were provided. COCs associated with these spills include:

- BTEX
- Naphthalene
- PAHs
- Solvents
- PCBs
- Heavy metals

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Section 3

Phase II Investigation Scope of Work

The Phase II investigation scope of work was implemented to evaluate the presence or absence of hazardous substances or petroleum products in the subsurface environmental media of the Site, including soil, groundwater and soil vapor.

The scope of work for conducting the Phase II investigation field activities is described in the following workplan:

- "Phase II Environmental Investigation Workplan CSO-GC-SFS-DES OH Construction of CSO Facility at Gowanus Canal Outfall OH-007" (Phase II Workplan) prepared by the HSBC (March 2023). The Phase II Workplan included a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP).

Phase II activities were also conducted in accordance with the following document:

- "Health and Safety Plan for Gowanus Canal Tank Siting and Superfund Support, CSO-GC-SFS-DEC, Brooklyn, New York" prepared by the HSBC (March 2023).

3.1 Scope of Work – Implemented

Table 1 provides a summary of the soil borings drilled, monitoring wells installed, and soil vapor points sampled during the Phase II field activities and includes specifics on depth of drilling and sampling, well screen intervals, and other details for each location. Figure 3 depicts the locations of the soil borings, monitoring wells, and soil vapor points installed during the Phase II activities.

The scope of field activities conducted during the Phase II Investigation included the following:

- Drilled and collected soil samples from 37 of the 64 planned soil borings and four monitoring well locations as shown on Figure 3.
- Drilled and installed four monitoring well clusters (OH-MW-04S/I/D, OH-MW-05S/I/D, OH-MW-06S/I/D) and OH-MW-07S/I/D). Each cluster consisted of three wells; one shallow, one intermediate, and one deep well.
- Installed and sampled two soil vapor points (OH-SV-06 and OH-SV-07) in two of the onsite buildings.
- Conducted groundwater sampling, water level measurements, and NAPL thickness gauging at all newly installed wells.

The methods and procedures for the field investigation activities are described below.

3.2 Utility Clearance

Prior to each phase of intrusive activities, soil boring, soil vapor sampling and monitoring well locations were cleared for subsurface utilities using hand tools. Each investigation location was hand cleared down to 6 ft. below ground surface (bgs) or the water table encountered at that location. Hand clearing activities were conducted by the drilling contractor, Aquifer Drilling and Testing (ADT), A Cascade Company. Also, Dig Safely New York was contacted by ADT and provided clearance (one-call mark out) for subsurface utilities.

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3.3 Soil Investigation

Drilling services during the field activities were provided by ADT. The field team recorded observations, prepared logs, and collected soil samples for laboratory analyses during the drilling and sampling of all borings. Samples were collected from the borings in accordance with the details outlined in the OH-007 Phase II Work Plan. A total of 43 soil borings, including four monitoring well locations and two step-out borings (OH-SB-12A and OH-SB-16A) were drilled and sampled at the Site. A direct-push drill rig, specifically a Geoprobe ® 6600 was used for these activities. The drill rig was equipped with a Macrocore ® sampling tool to collect 5-foot-long sampling cores. The Macrocore ® sampling tool contains a removable acetate liner into which the soil core is collected during downward advancement of the tool. A new clean liner was used for each interval. At each location, soil cores were collected continuously from ground surface to the total depth of each boring (see Table 1). The sampling equipment was decontaminated after use and between sample locations.

Soils extracted from these borings were visually examined, characterized and logged, and screened in the field for organic vapors using a photoionization detector (PID). The soils were described for physical properties such as color, sorting, layering, etc. The grain size distribution of soils was visually characterized in the field and logged in accordance with the Burmister Soil Classification System (1958). The Burmister classification was then converted to the Unified Soil Classification System (USCS) for preparation of the final boring logs (see Appendix A).

Soil sampling was biased to the interval with the greatest observed impacts within each stratigraphic unit or 1-foot interval directly above the base of a stratigraphic unit, if no impacts were observed. At a minimum, a sample was collected in the upper 1-foot interval in the fill at each location. A second sample was collected from the 1-foot interval within the zone of water table fluctuation (smear zone). For deeper borings, additional samples were collected based on observations and field screening in the underlying glacial sands. Each soil sample collected was analyzed for the following parameters:

- Volatile organic compounds (VOCs) by EPA Method 8260B including MTBE
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270C including tentatively identified compounds (TICs) and alkylated PAHs by GC/MS SIM
- PCBs by EPA Method 8082A
- Pesticides by EPA Method 8081
- Herbicides by EPA Method 8151A
- TAL metals by EPA Method 6010D
- Total cyanide by EPA Method 9014
- Asbestos by ASTM Method D7521

Soil samples were collected, handled and analyzed in accordance with the Phase II Workplan. Soil samples were provided to Aqua Pro-Tech Laboratories (DOH #11634) during the Phase II activities. Aqua Pro-Tech laboratories is certified to conduct the analyses listed above, under the New York State Department of Health (DOH) Environmental Laboratory Approval Program (ELAP). Validation of the laboratory data was conducted in accordance with the QAPP and are provided in Appendix B.

Details on the total depths drilled, sample intervals and analysis at each soil boring are provided in Table 1. Boring logs are provided in Appendix A. Soil investigation locations are shown on Figure 3.

3.4 Groundwater Investigation

The Phase II groundwater investigation included the installation of four new monitoring well clusters. Each well cluster included three wells; a shallow well screened within the fill material, straddling the

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water table; an intermediate depth well screened in the glacial deposits immediately below the meadow mat/alluvial deposits; and a deep well screened deeper within the glacial deposits.

The wells were installed to provide information on groundwater levels and groundwater quality in the areas of potential environmental concern, identified in the Phase I ESA.

Further details on the groundwater investigation are provided in the sections below. The following subsections describe the installation and development of monitoring wells, water level measurements, NAPL gauging, and groundwater sampling and analysis.

3.4.1 Monitoring Well Installation

Monitoring wells were installed by hollow stem drilling techniques using the Geoprobe ® 6600 rig. The well construction details for the monitoring well clusters were selected based on the observations made during the drilling and sampling of the associated soil borings (MW-04D for the OH-MW-04S/I/D well cluster, MW-05D for the OH-MW-05S/I/D cluster, MW-06 for the OH-MW-06S/I/D cluster) and MW-07 for the OH-MW-07S/I/D cluster. Monitoring wells designated with an "S" were installed to straddle the water table at each well cluster location. Monitoring wells designated with an "I" were of intermediate depth and were designed and installed to monitor the upper zone of the Glacial Outwash Deposits (directly below the meadow mat), and those wells designated with a "D" were designed to monitor the deeper portion of the Glacial Outwash Deposits. Each monitoring well was constructed with two-inch inside diameter schedule 40 polyvinyl chloride (PVC) risers and screens in accordance with procedures and specification in the FSP and Standard Operating Procedure (SOP) BCNNJ-SOP_MWD2-0916 in Appendix A of the FSP. A two-foot sump was added to the bottom of the well screen at OH-MW-05I, OH-MW-05D, OH-MW-06I, OH-MW-06D, OH-MW-07I and OH-MW-07D in anticipation of accumulating and collecting dense NAPL, if present.

Well construction logs are provided in Appendix A. Details of the monitoring well construction are provided in Table 1. The monitoring well cluster locations are shown on Figure 3.

3.4.2 Monitoring Well Development

Each of the newly installed monitoring wells was developed following installation and after a minimum period of 24 hours had passed to allow the cement/bentonite grout to set. Each of the newly installed wells was developed in accordance with the procedures outlined in the FSP and SOP - BCNNJ-SOP_MWD2-0916 in Appendix A of the FSP. The development water and sediment removed from the wells was containerized in New York State Department of Transportation (DOT) approved 55-gallon drums and managed as Investigation-Derived Waste (IDW) (see Section 3.8).

3.4.3 Water Level Measurements and NAPL Gauging

On August 7, 2023, water level measurements and NAPL gauging were conducted on the newly installed monitoring wells (Figure 3). Groundwater levels were measured to the nearest 0.01 ft using an oil-water interface probe. NAPL thickness, if any, was measured using either an oil-water interface probe or a threaded rod. The depth to the bottom of the well was also measured. Measured total depths were compared to previously recorded total depths, where available, to determine if silt had accumulated at the bottom of the well. Water levels were measured from a surveyed elevation reference mark on the well casing and recorded in the field book. The NAPL measurements were made prior to the placement of any equipment in the well for sampling. When detected with the interface probe, the presence of NAPL was confirmed by withdrawing a sample with a clear, bottom-fill Teflon® or polyethylene bailer, and/or lowering a clean threaded steel rod to the liquid level in the well (NAPL will often adhere to grooves in threaded section of rod). The threaded rod was then cleaned and lowered to the bottom of each well to determine if any NAPL had accumulated at the base. Water

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level measurements, results and notes from NAPL gauging, and calculated groundwater elevations for each well are provided in Table 2.

3.4.4 Groundwater Sampling and Analysis

Groundwater samples were collected from the newly installed wells except OH-MW-06I and OH-MW-07I which had NAPL accumulation in the well sump (Figure 3). Groundwater samples were collected using low-flow purging and sampling procedures in accordance with EPA, Region II, Groundwater Sampling Procedure; Low Stress (Low Flow) Purging and Sampling (EPA SOP-GW-001, 2010). Groundwater samples collected from each well were analyzed for the following parameters:

- VOCs by EPA Method 8260D including MTBE and TICs
- SVOCs by EPA Method 8270E including TICs
- PCBs by EPA Method 8082A
- Pesticides by EPA Method 8081B
- Herbicides by EPA Method 8151
- TAL metals by EPA Method 6010D
- Total Cyanide by EPA Method 9014

3.5 Soil Vapor Investigation

The soil vapor investigation included the installation and sampling of two soil vapor points, OH-SV-6 and OH-SV-7 on the Site. Soil vapor points were installed in accordance with the procedures described in Appendix A of the FSP and the DOH guidance for evaluating vapor intrusion. Due to the shallow water table at the Site, the soil vapor probes were placed in the pre-cleared borehole instead of backfilling and installing the points via direct push methods.

A leak test was conducted at each soil vapor location to confirm there was no short-circuiting of ambient air into the sample line and apparatus. Once the leak test confirmed an effective seal, a sample was collected with a summa canister at each soil vapor location. Each soil vapor sample was collected over a 2-hour period and analyzed for VOCs by EPA Method TO-15.

3.6 Community Air Monitoring

During implementation of the Phase II intrusive activities, a Community Air Monitoring Plan (CAMP) was implemented which included a combination of real-time (continuous) perimeter monitoring and work zone monitoring of VOCs, cyanide and particulates (i.e., dust). The CAMP was implemented in accordance with the guidelines presented by the New York State Department of Health (DOH) in Appendix 1A of the DEC Division of Environmental Remediation's Technical Guidance for Site Investigation and Remediation (DER-10). CAMP monitoring was conducted during periods of intrusive site work.

The specific requirements and protocols for CAMP monitoring at the Site were detailed in the CAMP included in Appendix C of the OH-007 Phase II Work Plan. The CAMP was implemented by YU & Associates during the Phase II activities.

3.7 Investigation Derived Waste Management

Waste generated during the field investigation activities (i.e., IDW) included soil cuttings, groundwater from purging during sampling, well development water, equipment decontamination water, disposable sampling equipment, and personal protective equipment (PPE). IDW was

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managed, characterized and disposed of at permitted off-site facilities in accordance with the specifications of EPA Guide to Management of investigation-Derived Wastes (OSWER Publication 9345.3-03FS, January 1992). IDW was segregated and containerized in DOT-approved 55-gallon steel drums with secure lids, properly labelled to identify their contents and temporarily staged at the Site. Samples from both solid and liquid waste were collected and submitted for waste characterization analysis. Waste manifests were signed by an authorized DEP representative prior to transporting to off-site disposal facility.

3.8 Deviations in the Scope of Work

The following deviations in the scope of work occurred during the implementation of the field activities for the Phase II investigation:

- Soil boring location OH-SB-16 encountered an obstruction and was offset and renamed OH-SB-16-A to the southeast to complete the required depth.
- Soil boring OH-SB-26 was not drilled and sampled due to its close proximity to the MW-07D sampling location.
- Soil borings OH-SB-32, OH-SB-35, OH-SB-36, OH-SB-37, OH-SB-38, OH-SB-43, OH-SB-44, OH-SB-47, OH-SB-48, OH-SB-49, OH-SB-54, OH-SB-55, OH-SB-57, OH-SB-59, OH-SB-63, OH-SB-64, OH- and SB-65 were not completed due to access issues with the tenants.
- Soil borings OH-SB-33, OH-34, OH-SB-39 through OH-SB-42, OH-SB-45, OH-SB-46, OH-SB-50 through OH-SB-53, OH-SB-56, OH-SB-58 and OH-SB-60 were not completed to the target depths since these borings were not cleared of potential subsurface utilities. Hand clearing down to 6 ft. bgs was not completed at these locations due to subsurface obstructions, which included multiple concrete slabs.
- Borings OH-SB-67 and OH-SB-68 were not drilled and sampled since these locations were along 5th Street and there wasn't enough space to safely installed the boring and the should of the roadway was completely occupied by out of service vehicles.
- Soil vapor sampling points OH-SV-08 and OH-SV-09 were not installed and sampled due to access issues with tenants and/or onsite tenant activities during the Phase II Investigation.

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Section 4
Phase II Investigation Findings

This section of the Phase II Investigation Report presents information on the identified COCs in Site soils, groundwater, and soil vapor, and the presence of MGP residuals as it pertains to excavation; soil handling, treatment and disposal; dewatering; and groundwater treatment.

4.1 Physical and Geologic Setting

The following subsurface characterization is based on information generated during the Phase II Investigation activities as well as relevant information from the previous investigations to present a more complete picture of the subsurface conditions likely to be encountered during construction of the Gowanus CSO Facility.

4.1.1 Site-Specific Stratigraphy

The area within the Site has been leveled with urban fill and is generally flat. The stratigraphic units encountered during the Phase II investigation activities included: fill, meadow mat/alluvial deposit, glacial outwash deposits (see cross sections on Figures 4 and 5). Below these units are the Jameco Gravel, decomposed rock (saprolite) and Fordham Gneiss which have been encountered at deeper boring installed as part of the geotechnical investigation and previous PDI activities. Since the objective of the Phase II Investigation was to evaluate shallow soils for potential impacts and releases, the site-specific discussions also include data from the geotechnical investigation (to support CSO facility design) and PDI activities conducted in and around the area of OH-007 to get a complete picture of the underlying stratigraphy. These stratigraphic units are furthered described below.

Fill. The fill is composed of various materials including sand, silt, gravel, fragments of coal, wood, brick and debris, and covers the entire area encompassing the Site and DSNY property. This unit overlies the meadow mat/alluvial deposits throughout the Site. The fill varies in thickness across the Site, typically ranging between 5 ft and 16 ft and generally thickens moving from east to west.

Meadow Mat/Alluvial Deposits. Beneath the fill is a layer of meadow mat/alluvial deposits which are likely floodplain sediments associated with the former Gowanus Creek. These deposits are variable in composition and consist of a fine-grained alluvial sand (silty sand) and an organic marsh deposit (meadow mat) containing layered organics/peat, silt, clay and fine sand. The marsh/alluvial deposits were observed in all of the Phase II borings drilled on OH-007. However, not all borings were advanced past the meadow mat/alluvial deposits into the underlying glacial sands. The thickness of the meadow mat/alluvial deposits ranges from 15 ft to 27 ft.

Glacial Outwash Deposits. Underlying the meadow mat/alluvial deposits and the fill are the glacial outwash deposits which were deposited during the Pleistocene Epoch. The glacial outwash deposits extend to the top of what may be the Jameco Gravel, which can be as deep as 168 ft bgs as observed at previous borings OH-SB-01 installed during the 2017 PDI program. The glacial outwash is typically composed of a loose, fine to coarse grained sand with varying amounts of silt and gravel, although isolated, interbedded finer-grained lenses have been observed. These finer-grained deposits were encountered in the geotechnical borings that extended to greater depths (beyond the scope of the Phase II borings).

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The Phase II Investigation activities did not extend beyond the glacial sand deposits. However, based upon previous activities conducted on the adjacent DSNY property, the following stratigraphic units are below the Glacial deposits.

Gravel/Cobble/Boulder Zone. A coarse-grained gravel/cobble/boulder zone consisting of a poorly sorted, loose, medium to coarse sand and gravel with cobbles and boulders was encountered beneath the glacial outwash and directly above the decomposed bedrock (saprolite). This boulder zone may represent the Jameco Gravel, or it may represent a more local, high energy depositional environment in proximity to the leading edge or terminal moraine of the Pleistocene glaciers. In either case, this coarse boulder zone is a significant feature when contemplating any construction that might extend to bedrock.

This coarse-grained outwash deposit was encountered at depths ranging between 162 ft bgs (geotechnical boring MR-05) and 168 ft bgs at PDI boring OH-SB-01. The thickness of this gravel/cobble/boulder zone ranges between approximately 10.5 ft and 23.5 ft.

Decomposed Bedrock (Saprolite). Saprolite is bedrock that has weathered so significantly that it assumes soil-like properties. The saprolite was observed at two of the five borings that were drilled to the top of bedrock. These two borings (OH-SB-01 and MR-01) encountered the saprolite at depths ranging between 178.5 and 180 ft bgs. The saprolite has been observed to be a greenish-blue-white silty clay with varying amounts of decomposed gneiss and medium to fine grained quartz. The saprolite ranges in thickness from 29.5 to 40.6 ft and was only encountered in the northeastern portion of the OH-007 Site.

Fordham Gneiss. The Fordham Gneiss was encountered in two PDI borings (OH-SB-01 and OH-SB-07) and three geotechnical borings (MR-01, MR-03 and MR-05). Weathered bedrock was encountered at all five borings at depths ranging from 185 ft bgs to 220 ft bgs. Competent bedrock was observed at four of the five borings drilled at depths ranging from 190 ft bgs to 225 ft bgs. PDI boring OH-SB-01 was terminated in weathered bedrock at a depth of 190 ft bgs. Overall, the top of bedrock is an undulating surface and appears to be deeper (+/- 35 ft.) in the eastern portion of the Site. The Fordham Gneiss is the oldest bedrock in Brooklyn and Manhattan and is predominantly a metamorphosed, layered medium to coarse-grained rock that is composed of quartz, feldspar, hornblende, biotite and amphibolite.

4.2 Hydrostratigraphy and Groundwater Flow

Groundwater level data from the newly installed monitoring well clusters were included in the evaluation of hydrostratigraphy and groundwater flow. The following sections describe groundwater flow at the Site including: position of the water table, hydrogeologic properties of the aquifers, and the likely direction of groundwater movement based on the newly installed wells.

4.2.1 Water-Bearing Zone Identification and Groundwater Flow

The water table at the Site is shallow and occurs within fill and/or the upper part of the meadow mat/alluvial deposits. Groundwater elevations from the monitoring wells are presented in Table 2 and groundwater elevations are presented on Figure 6.

The groundwater elevations in monitoring wells screened within the shallow groundwater zone ranges from 1.03 to 3.08 ft NAVD with higher groundwater elevations observed further inland from the canal. In tidally influenced areas, the hydraulic gradient can change in response to the tides. Groundwater in such areas will travel at constantly changing rates and possibly undergo temporary changes in flow direction due to the fluctuating gradients. Because the water levels posted on Figure 6 were collected over a period of time and not at neap tide, when the difference between high and low tide levels in

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tidal waters tend to be the least, the groundwater flow is best understood by considering the average flow direction gradient. The water level data indicate that groundwater at the Site flows generally from the southeast to the west-northwest. Note that there are three monitoring well clusters on the DSNY property, but these were not accessible during the monitoring event.

Below the meadow mat/alluvial deposits and within the upper portions of the Glacial Outwash Deposits, there appears to be an intermediate groundwater flow zone. Groundwater elevations from monitoring wells screened within this zone ranges from 2.06 to 2.93 ft NAVD with the higher elevation observed further inland from the canal at MW-04I. The groundwater elevations of the wells screened in the intermediate zone indicate a general flow direction to the west-northwest. Based on the groundwater elevation data collected on August 7, 2023, this intermediate groundwater zone is lower in elevation than the water table in the OH-MW-04 and OH-MW-05 well clusters, and higher in elevation than the water table wells in the OH-MW-06 and OH-MW-07 well cluster. This difference in hydraulic head indicates both a downward and upward gradient between the shallow and intermediate groundwater zones. To confirm this, continuous water level monitoring utilizing data loggers would need to be conducted in wells screened in the intermediate and shallow groundwater zones.

Monitoring wells were also installed to evaluate groundwater conditions slightly deeper in the glacial outwash deposits to a depth of approximately 60-70 ft bgs. The groundwater elevations from these deeper wells (MW-4D, MW-5D, MW-6D and MW-7D) ranged from 2.68 to 3.46 ft NAVD with the higher groundwater elevation observed further inland at MW-4D. In general, the groundwater elevations at the wells screened deeper in the glacial outwash deposits were higher than the intermediate and shallow groundwater zone wells, possibly indicating an upward hydraulic gradient. The difference in groundwater elevations in wells screened in the intermediate zone and deeper glacial outwash deposits ranged from 0.3 to 0.95 ft, indicating that the 60 to 70 ft. depths and the upper portions of the Glacial Outwash Deposits (intermediate groundwater zone) are not hydraulically continuous and could potentially be different groundwater flow zones. This difference in groundwater elevations between wells screened in the upper and lower portion of the glacial outwash deposits was not observed in well clusters installed on the DSNY property.

Based on the groundwater elevations in the shallow water bearing zone (Figure 6) it appears that the lateral groundwater flow is from southeast to northwest across the Site. However, as mentioned above Influences such as tidal cycles affecting the water table, surface runoff and other external factors (pumping, preferential pathways from utilities, etc.) would need to be evaluated over time (continuous water level monitoring in wells and the Gowanus Canal) to provide confirmation of the groundwater flow direction, and/or changes in direction due to those external influences. An evaluation of those influences was not included as part of the objective of the Phase II Investigation and was not conducted during the field activities.

Similar to the shallow zone, groundwater flow direction in the intermediate and deep zones could not be approximated because of insufficient measuring points. However, groundwater elevation data also suggest flow to the northwest towards the canal based on the hydraulic gradients from the available wells. To confirm the groundwater flow direction in these two zones, similar hydraulic evaluations would also need to be conducted in the intermediate and deep groundwater wells.

4.3 NAPL Nature and Extent

During the Phase II activities, soil borings were drilled and sampled at 43 locations to characterize the site-specific stratigraphy and to collect samples for laboratory analysis.

Soils from each boring, in addition to being classified for soil type, were screened for indications of impact via visual and olfactory examination and measurement of organic vapor concentrations using

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a PID. Visible NAPL, if encountered, was described with regard to color, odor, viscosity, consistency, distribution in the sample, and degree of saturation. This information was used to evaluate NAPL in the subsurface laterally, and to a limited extent vertically to meet the investigation objectives. Recall, the investigation and sampling program was developed to evaluate shallow impacts related to potential areas of environmental concern. Accordingly, most of the sampling was conducted in the fill material at the Site and a limited number of borings were extended into the underlying meadow mat and glacial deposits.

Table 3 of this Phase II report provides a summary of locations and depth intervals where NAPL was observed in borings on the Site along with descriptions of the NAPL. These observations along with analytical data are included on the geologic cross-sections (Figures 4 and 5) which provide a visual depiction of the distribution of the NAPL and indicate potential migration pathways it has followed. In addition, the boring logs (Appendix A) include detailed descriptions of the visual observation. Figures 7 through 9 further illustrate the lateral and vertical distribution of NAPL/coal tar in plan view based on findings of this Phase II investigation. Figure 7 shows the NAPL observations in the fill, Figure 8 shows NAPL observations in the meadow mat/alluvial deposit and Figure 9 shows NAPL observations in the glacial outwash deposit.

4.3.1 General Findings

The following summary of NAPL observations is based on data described above and detailed in Table 3 and shown on Figures 4, 5 and 7 through 9. This information will assist in the development of soil management plans for excavation of soil for facility construction. Soil handling, treatment and disposal or reuse methods can depend upon the soil characteristics or the presence and concentration of NAPL (coal tar) and other contaminants. Figures 4 and 5 show the extent of NAPL observed at different depth intervals (cross sectional view) and Figures 7 through 9 show the vertical and lateral distribution of NAPL across the Site. The following NAPL observations/evaluation will need to be considered in managing excavated soils.

- Fill – Visual NAPL impacts were observed in the fill at locations OH-SB-16A, OH-SB-20, OH-SB-22 and OH-SB-27 (Figure 7). NAPL was observed at depths in the groundwater fluctuation zone or just below the depth of the water table encountered during drilling and the greatest depth of NAPL impact encountered in the fill was 15 to 15.3 ft bgs at boring OH-SB-22. In addition, there were a few locations where other indications of impacts including staining, sheen and weak odors were observed in the water table fluctuation zone in the fill.
- Meadow Mat/Alluvial Deposits - Visual NAPL impacts were observed in the upper 2-feet of the meadow mat/alluvial deposits at a single location, OH-SB-17 (Figure 8). Staining, sheen and weak odors were also observed in this unit at several locations (Table 3). The tidal fluctuation at the Site is within both the fill and the upper portion of the meadow mat/alluvial deposits. Therefore, it likely that the visual NAPL and other indications of impacts such as odors, sheen, staining etc. in the meadow mat is due to the movement of impacts within the tidal fluctuation zone.
- Glacial Outwash Deposits – Visual NAPL impacts were observed in five (MW-05, MW-06, MW-07, OH-SB-16A and OH-SB-24) of the six boring locations that were drilled and sampled to depths that encountered the glacial sands during the Phase II investigation (Figure 9). These borings are all in the tip of the peninsula (western portion of the Site), across from the Former Citizens MGP Site and bounded by the main channel of the Gowanus Canal on one side and the 6th Street Basin on the other. NAPL impacts were observed directly below the meadow mat/alluvial deposits to depths ranging between 38.5 and 56.1 ft. bgs. The deepest boring installed during the Phase II Investigation was terminated at a depth of 75 ft. bgs. Previous work done during the PDI, and geotechnical drilling have encountered NAPL at deeper depths. However, vertical delineation of

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NAPL was not an objective of this investigation. The NAPL impacts are not continuous over the entire interval drilled but instead appear to be present within and migrating through the coarser grained materials of the glacial outwash deposits. At depth intervals where there are finer grained materials with varying amounts of silt and clay, the NAPL is not present or was only observed in trace amounts (blebs). NAPL impacts in the glacial outwash at the Site have elevated concentrations of PAHs and BTEX compounds, which are the major components of coal tar and likely migrated beneath the Gowanus Canal from the Former Citizens MGP site.

- The greatest NAPL impacts were observed at boring MW-06D. Visual impacts at this boring extended from 33.2 ft bgs (just below the base of meadow mat/alluvial deposits) to 47.7 ft bgs but were not continuous over this interval.
- The deepest NAPL impacts were observed at boring MW-07D at a depth interval of 56.1 ft bgs.

In addition to NAPL being observed in soil, it has migrated into two of the newly installed monitoring wells. Two feet of NAPL accumulated in the sump at OH-MW-06I and one-half inch accumulated in the sump at OH-MW-07I within two weeks after these wells were installed. The mobility of NAPL could be a potential concern during future construction activities at the Site.

4.4 Soil Analytical Data

During the course of the Phase II activities, a minimum of one sample per stratum was collected from each boring and submitted for laboratory analysis. The samples were analyzed for the list of constituents included in the OH-007 Phase II Work Plan and QAPP as presented in Section 3.4. A total of 97 soil samples were collected from 43 borings (not including quality assurance/quality control [QA/QC] samples) and submitted for laboratory analyses. For the purpose of providing a conservative assessment of soil conditions, constituent concentrations detected in the soil samples were compared to 6 NYCRR Subpart 375 Soil Cleanup Objectives (SCOs) for Restricted Residential Use (RR-SCO), Commercial Use (RUC-SCO) and Unrestricted Use criteria (UU-SCO). Note that for the purpose of this report, the UU-SCO will only be discussed to a limited extent since this soil cleanup objective is not considered a remedial goal for the Site. Instead, the UU-SCO is included to evaluate the soil for unrestricted use or beneficial use under NYCRR Part 360.13. Tables 4A through 4E provide a summary of the soil quality data and a comparison to the RUC-SCOs, RUC-SCO and UU-SCOs. Soil quality data including exceedances are presented on Figures 10 through 23. In addition, total BTEX, total PAHs, naphthalene and lead concentrations are included on the geologic cross sections (Figure 4 and 5). The complete laboratory data packages from the analytical laboratories engaged in this Project, along with the Data Usability Summary Reports (DUSR) and data validation results are included in Appendix B.

4.4.1 VOCs in Soil

VOCs including BTEX were detected in the subsurface at concentrations greater than the UU-SCO and RR-SCO at several boring locations as depicted on Figures 10 through 12. Below are details of VOC detections in the subsurface and analytical results are presented in Table 4A.

Benzene was detected at concentrations above the UU-SCO in samples collected in the fill at locations OH-SB-20 (0.114 mg/kg) and OH-SB-25 (0.144 mg/kg) at depths with observed NAPL or indications of NAPL such as naphthalene odor (mothball-like odor). Acetone was detected at concentrations above the UU-SCO in samples collected in the fill at locations OH-SB-18, OH-SB-56, OH-SB-61, OH-SB-62 and OH-SB-66. Methylene chloride was detected above the UU-SCO at OH-SB-27 (0.102 mg/kg). No VOCs were detected in the fill at concentrations above the RR-SCO and RUC-SCO. Figure 10 shows the locations in the fill with BTEX concentrations exceeding the respective SCOs.

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One or more BTEX compounds was detected at concentrations above the UU-SCO in samples collected in the meadow mat/alluvial deposits at locations OH-SB-13, OH-SB-17 and OH-SB-23 at depths with observed NAPL or indications of NAPL such as naphthalene odor (mothball-like odor). In addition, these samples were collected in the tidal fluctuation zones at these locations. At location OH-SB-14 and OH-SB-17, acetone and 2-butanone (MEK) were detected at concentrations above the UU-SCO. No VOCs were detected in the meadow mat/alluvial deposits at concentrations above the RR-SCO and RUC-SCO. Figure 11 shows the locations in the meadow mat/alluvial deposits with BTEX concentrations exceeding the respective SCOs.

Several VOCs including 1,2,4 Trimethylbenzene and BTEX compounds were detected above the RR-SCO and RUC-SCO at location MW-05, MW-06, MW-07, OH-SB-16A, OH-SB-22 and OH-SB-24. At each of the six locations, the sample was collected from the glacial sand at a depth which corresponds to an interval where NAPL, specifically coal tar was observed. These borings are located in the northwestern portion of the Site, directly across from the former Citizens MGP site. These borings are also the only borings in this portion of the Site that were advanced below the meadow mat into the glacial outwash deposits. Borings that were advanced into this stratigraphic unit during previous PDI activities were also impacted by BTEX compounds related to NAPL. Based on the spatial distribution of NAPL in the glacial outwash deposits from the Phase II and PDI investigations, it is likely that other boring locations in the northwestern part of the Site would encounter NAPL and BTEX impacts if they were advanced into the glacial outwash deposits. Figure 12 shows the locations in the glacial outwash deposits with BTEX concentrations exceeding the respective SCOs.

4.4.2 SVOCs in Soil

Several SVOCs, specifically PAHs were detected at concentrations above their respective SCOs (see Table 4B for analytical results). Figure 13 depicts the locations where one or more of the detected SVOCs is greater than the RR-SCO. The PAHs detected can generally be separated into two groups based on molecular weight: low molecular weight (LMW) PAHs, which include PAHs with 2 to 3 aromatic rings in their molecular structure; and high molecular weight (HMW) PAHs, which include PAHs with more than 3 aromatic rings in their molecular structure. Furthermore, exceedances of the SCOs for these two groups of PAHs are tied to the occurrence of NAPL in the sample interval. The PAH exceedances of the RR-SCO can be subdivided into exceedances of LMW PAHs and HMW PAHs, as follows:

- LMW PAHs: Naphthalene, acenaphthene, acenaphthylene, fluorene, anthracene, and phenanthrene were detected at concentrations greater than the RR-SCO and RUC-SCO in samples collected from locations in the northwestern part of the Site and are spatially associated with the presence of NAPL (i.e. exceedance of LMW PAHs were only observed sampled intervals where NAPL was observed), LMW PAHs exceeded the RR-SCO and RUC-SCO in the fill at locations OH-SB-20, OH-SB-22 and OH-SB-27; in the meadow mat/alluvial deposits at OH-SB-17 and in the glacial outwash deposits at locations MW-05, MW-06, MW-07, OH-SB-16A and OH-SB-24. Coal tar can contain various compounds of which naphthalene is typically the most dominant. Therefore, the spatial distribution of naphthalene concentrations in the fill, meadow mat/alluvial deposits and glacial outwash deposits were plotted on Figures 14 through 16. Note that LMW were also detected at location OH-SB-16 above the RR-SCO and RUC-SCO, but all the detections are qualified as estimated due to dilution on the sample and low recoveries on the surrogate (see note in DUSR). Noteworthy, there were no visual impacts or PID readings above background from these samples and no VOCs detected. If future construction activities are being considered in the area of OH-SB-16, then confirmation sampling should be conducted.

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- HMW PAHs: Of the HMW PAHs analyzed, the following were detected at concentrations above the RR-SCO at several locations: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, fluoranthene, and pyrene. Eight of these HMW PAHs have relatively low (3.9 ppm or less) RR-SCOs and there were exceedances of the RR-SCOs in samples collected from the fill in 39 of the 43 boring locations. Typically, HMW PAH exceedances in the fill occur in samples from or near intervals where soil sample descriptions indicate materials such as cinders, brick, asphalt, coal fragments or other construction debris. HMW PAHs exceedances were also observed in the fill at intervals with NAPL impacts and these concentrations were typically an order of magnitude higher than sample intervals without NAPL impacts. Four of the five samples collected in the meadow mat had exceedances of one or more of the eight HMW PAHs. Samples collected in the meadow mat that exceeded the RR-SCOs were either collected at an interval close to the fill/meadow mat transition or with indications of impacts such as odors and sheen. The other two HMW PAHs (fluoranthene and pyrene) have a higher RR-SCO of 100 ppm and only had exceedances at samples where NAPL was observed. HMW PAHs were only observed in the glacial sands at locations where NAPL was observed in the sample interval.

In summary, LMW PAHs in soil at concentrations above the RR-SCO (i.e., naphthalene) are associated with NAPL, whereas the HMW PAHs in soil at concentrations slightly above the RR-SCO are associated with materials such as coal fragments, cinders, ash and other debris in the historic fill at the Site and at higher concentrations (order of magnitude) when detected in sample intervals with NAPL impacts.

4.4.3 PCBs in Soil

Total PCBs were detected above the UU-SCO in soil samples collected in the fill at 13 of the 43 soil boring locations (Figure 17). Most of the detections were from 1-2 ft bgs. Nine samples were above the RR-SCO of 1 mg/kg with the highest concentration of total PCBs (18.1 mg/kg) detected at location OH-SB-22 in the 2.0 to 3.0 ft sample interval. PCBs were also detected in a sample collected in the glacial outwash (14.3 mg/kg) at this location and the sample was collected from an interval where NAPL was observed. The source of this deeper impact in unknown at this time. See Table 4C for analytical results.

4.4.4 Metals in Soil

Metals including arsenic, barium, cadmium, copper, lead, mercury, nickel, selenium, silver and/or zinc were detected at concentrations above the UU-SCO and the RR-SCOs in several borings across the Site and all exceedances occurred in samples collected in the fill. Lead and mercury were by far the most frequently detected metals in the fill. The spatial distribution of these two compounds are shown on Figures 18 through 23. See Table 4D for analytical results. There were no exceedances of SCOs in samples collected in the meadow mat or glacial sands.

Free cyanide was not detected in any of the samples submitted for analysis. This compound can be associated with purifier waste from MGP operations.

The exceedances of the UU-SCOs, specifically the Protection of Groundwater may disqualify the material for unrestricted use or beneficial use as Fill Type F2 under 6 NYCRR Part 360.13.

4.4.5 Pesticides and Herbicides in Soil

There were no detections of pesticides or herbicides above the RR-SCO or RUC-SCO. One or more pesticides including 4,4'-DDD, 4-4'-DDE, 4,4'-DDT and/or Aldrin were detected above the UU-SCO at 23 boring locations. See Table 4E for analytical results.

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4.4.6 Asbestos in Surficial Soil

Due to the historic storage of asbestos and asbestos containing material identified in the EDR report, surficial soil samples (0-3 ft bgs) were analyzed for asbestos by ASTM Method D7521. A total of 78 soil samples were analyzed from 40 soil boring locations. A DEP Certified Asbestos Investigator from Environmental Planning & Management (EPM) Inc. was contracted to conduct the sampling and evaluate of the data. At each location a shallow sample was collected from the upper 3 ft and a second sample was collected down to a depth of 6 ft., except for locations where obstructions prevented the borehole from advancing to 6 ft. bgs. Asbestos materials and/or asbestos fibers were detected in soil samples at 13 soil boring locations. An evaluation of the data and is presented in the Asbestos in Soil Survey Report (EPM Inc., August 17, 2023) in Appendix C.

4.5 Groundwater Quality

This section presents the results of the groundwater analyses conducted during the Phase II Investigation activities. Groundwater samples were collected from all the newly installed monitoring wells except MW-6I and MW-7I where NAPL was observed in the sump and/or well screen interval.

Groundwater quality data from the August 2023 sampling event are provided in Tables 5A through 5E and the exceedances of VOCs, SVOCs and metals are presented on Figures 24 through 26. The analytical results were compared to the New York State Class GA Groundwater Quality Criteria (i.e., the 6 NYCRR Part 703 Standards and guidance values from the Division of Water Technical and Operational Guidance Series [TOGS] 1.1.1) to provide a conservative point of reference. Compounds detected at concentrations exceeding Class GA Groundwater Quality Criteria during the August 2023 event were as follows:

- 1,2,4-Trimethylbenzene
- Benzene
- Ethylbenzene
- Isopropylbenzene (Cumene)
- Styrene
- Toluene
- Total Xylenes
- 2,4-Dimethylphenol
- 3/4-Methylphenol
- Acenaphthene
- Biphenyl (Diphenyl)
- Naphthalene
- Chrysene
- Fluorene
- Phenanthrene
- Arsenic
- Iron
- Magnesium
- Manganese
- Sodium

Benzene, toluene, ethylbenzene, xylenes, naphthalene, fluorene, phenanthrene and/or chrysene were detected at concentrations greater than the Class GA Groundwater Quality Criteria at wells screened in the intermediate and deep hydrostratigraphic zones at locations MW-5I, MW-5D, MW-6D and MW-7D in the western portion of the Site (see Figures 24 and 25). The source of these compounds is the NAPL (coal tar) that likely has migrated from the Former Citizens MGP site directly across the Gowanus Canal from the Site. As previously stated, MW-6I and MW-7I were not sampled due to the presence of NAPL in these monitoring wells. There were also exceedances of the Class GA Groundwater Quality Criteria in shallow water table monitoring wells including: ethylbenzene and isopropylbenzene at MW-05S; benzene, total xylenes and naphthalene at MW-06S and naphthalene at MW-7S. These monitoring wells are screened within the tidal fluctuation zone in the water table and these dissolved phase impacts are likely due to residuals in the smear zone or tidal fluctuation zone at these wells.

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The MW-04 well cluster is the farthest inland from the Gowanus Canal or the 6th Street Basin. Benzene was detected at MW-04I (screened in the intermediate hydrostratigraphic zone) above the Class GA Groundwater Quality Criteria. There were other low-level detections of ethylbenzene, toluene, total xylenes and naphthalene at this location. These compounds are likely related to the dissolved phase plume associated with the NAPL (coal tar) impacts observed in the intermediate hydrostratigraphic zone in the upper glacial sands just below the meadow mat. There were no detections of VOCs or SVOCs in the shallow, water table well, MW-04S.

One or more metals including arsenic, iron, magnesium, manganese and/or sodium exceeded the Class GA Groundwater Quality Criteria at each of the monitoring well sampled in August 2023. Figure 26 shows the concentration of metals in the water table and groundwater flow zones in the glacial outwash deposits investigated during the Phase II activities.

It should be noted that groundwater quality criteria are not directly applicable to evaluating treatment requirements for meeting discharge limits that are established for groundwater managed during excavation and dewatering operations.

4.6 Soil Vapor

Soil vapor samples were collected at two (OH-SV-06 and OH-SV-07) of the four planned sampling locations at the Site. The locations where a sample was not collected were inaccessible due to tenant activities.

The samples were submitted for laboratory analysis and the results are presented in Table 6. Currently, DEC has not established criteria or background levels for evaluating concentrations of compounds in soil vapor. The list below presents the compounds found in the soil vapor samples at concentrations above the laboratory detection limits.

The compounds detected include:

- Benzene
- Toluene
- Ethylbenzene
- Xylenes
- Ethanol
- tert-Butyl alcohol (TBA)
- Tetrachloroethene (PCE)
- Tetrahydrofuran
- Trichloroethene (TCE)
- Acetone
- N-Hexane
- Isopropanol
- N-heptane
- Carbon disulfide
- Carbon tetrachloride
- Cyclohexane
- Dichlorodifluoromethane (Freon 12)
- Trichlorofluoromethane (Freon 11)
- 1,3,5 – Trimethylbenzene
- 1,3 – Butadiene
- 1,3-Dichlorobenzene
- 1,2,4 - Trimethylbenzene
- 2,2,4 - Trimethylpentane
- 2-Butanone (MEK)
- Ethyl acetate
- 4-Ethyltoluene
- 4-Methyl-2-pentanone (MIBK)
- Chloroform
- Chloromethane
- Chloroethane

It may be appropriate to conduct a vapor intrusion study if indoor air quality is a concern for planned uses of the property.

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Section 5

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Section 6
References

Buxton, H.T., and Shernoff, P.K., 1999. *"Ground-Water Resources of Kings and Queens Counties, Long island, New York"*. U.S. Geological Survey Water-Supply Paper 2498.

HSBC, Health and Safety Plan for Gowanus Tank Siting and Superfund Support, CSO-GC-SFS-DEC, March 2023.

HSBC, Phase II Environmental Investigation Work Plan CSO-GC-SFS-DES OH Construction of CSO Facility at Gowanus Canal Outfall OH-007, March 2023.

HSBC, Phase I Environmental Site Assessment, OH-007 Facility, April 2022.

HSBC, Pre-Design Investigation Report for Site OH-007 Gowanus Canal Oh-007 Outfall, CSO-GC-SFS-DES Construction of CSO Facilities for Gowanus Canal, March 2018.

NYSDEC, Division of Environmental Remediation's Technical Guidance for Site Investigation and Remediation (DER-10), May 2010.

NYSDEC, *Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations,* June 1998

NYSDEC, Rules and Regulations, Title 6 (6NYCRR), Part 375, Environmental Remediation Programs, December 2006.

NYSDEC, *Voluntary Cleanup Program Decision Document, Former Carroll Gardens Manufactured Gas Plant Site, Operable Unit No. 1 – Former MGP*, April 2007

USEPA, *Low Stress (Low Flow) Purging and Sampling Procedures for the Collection of Ground Water Samples From Monitoring Wells,* January 2010.

USEPA, *Guide to Management of investigation-Derived Wastes,* January 1992.

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Tables

TABLE 1
SOIL BORING AND MONITORING WELL LOCATION INFORMATION SUMMARY
PHASE II INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

Location ID	Completion Date	Survey Coordinates NY State Plane - NAD 83 Northing	Survey Coordinates NY State Plane - NAD 83 Easting	Ground Surface Elevation (ft., NAVD)	Top of Casing Elevation (ft., NAVD)	Screened Interval Top (ft., BGS)	Screened Interval Bottom (ft., BGS)	Screened Interval Top (ft., NAVD)	Screened Interval Bottom (ft., NAVD)	Total Depth [1] (ft., BGS)	Total Depth [1] (ft., NAVD)	Analytical Sample Intervals Fill (ft., BGS)	Analytical Sample Intervals Meadow Mat (ft., BGS)	Analytical Sample Intervals Glacial Outwash (ft., BGS)
Soil Borings														
OH-SB-12	5/31/2023	185532.723	986044.400	5.89	--	--	--	--	--	9	-3.11	1.5-2.5, 5.0-6.0	--	--
OH-SB-12A		185526.509	986092.811	5.89	--	--	--	--	--	29.3	-23.41			
OH-SB-13	5/16/2023	185501.233	986100.288	5.80	--	--	--	--	--	15	-9.20	3.0-4.0, 5.0-6.0	15-16	--
OH-SB-14	5/17/2023	185467.370	986150.753	5.41	--	--	--	--	--	15	-9.59	1.0-2.0	7.7-8.7	--
OH-SB-15	5/15/2023	185421.481	986219.736	5.61	--	--	--	--	--	15	-9.39	3.5-4.5, 6.0-7.0	--	--
OH-SB-16	5/25/2023	185529.833	986012.044	6.49	--	--	--	--	--	12	-5.51	3.0-4.0	--	--
OH-SB-16A	5/25/2023	185514.829	986030.587	6.57	--	--	--	--	--	50	-43.43	1.0-2.0, 9.5-10.5	--	46.0-47.0
OH-SB-17	5/18/2023	185498.242	986059.610	6.32	--	--	--	--	--	15	-8.68	1.5-2.5	10.8-11.8	--
OH-SB-18	5/18/2023	185460.254	986120.512	5.54	--	--	--	--	--	15	-9.46	3.5-4.5, 5.0-6.0	--	--
OH-SB-19	5/17/2023	185449.104	986157.406	5.31	--	--	--	--	--	15	-9.69	3.5-4.5, 5.5-6.5	--	--
OH-SB-20	5/15/2023	185391.821	986200.636	5.42	--	--	--	--	--	15	-9.58	1.0-2.0, 4.0-5.0	--	--
OH-SB-21	5/23/2023	185526.218	985972.145	6.83	--	--	--	--	--	3.5	3.33	0.5-1.5, 6.0-7.0	--	--
OH-SB-22	5/24/2023	185499.295	986019.388	6.88	--	--	--	--	--	50	-43.12	2.0-3.0, 6.6-7.6	--	46.0-47.0
OH-SB-23	5/18/2023	185457.224	986078.319	6.06	--	--	--	--	--	20	-13.94	1.0-2.0, 7.5-8.3	14.8-15.8	--
OH-SB-24	5/26/2023	185421.581	986113.163	5.51	--	--	--	--	--	50	-44.49	2.5-3.5, 5.5-6.5	--	34.5-35.5
OH-SB-25	5/22/2023	185378.156	986192.215	5.37	--	--	--	--	--	15	-9.63	1.0-2.0, 5.7-6.7	--	--
OH-SB-27	5/19/2023	185473.886	985971.593	6.62	--	--	--	--	--	20	-13.38	1.0-2.0, 10.0-11.0	--	--
OH-SB-28	5/19/2023	185442.119	986030.470	6.19	--	--	--	--	--	20	-13.81	0.5-1.5, 15.0-16.0	--	--
OH-SB-29	5/19/2023	185403.466	986088.475	5.54	--	--	--	--	--	15	-9.46	1.5-2.5	10.0-11.0	--
OH-SB-30	5/16/2023	185390.159	986121.635	5.46	--	--	--	--	--	15	-9.54	3.0-4.0, 6.5-7.5	--	--
OH-SB-31	5/22/2023	185359.605	986181.350	5.29	--	--	--	--	--	15	-9.71	2.5-3.5, 6.1-7.1	--	--
OH-SB-33	5/13/2023	185381.074	986281.984	6.13	--	--	--	--	--	4	2.13	1.0-2.0, 3.5-4.0	--	--
OH-SB-34	5/13/2023	185328.402	986281.449	6.93	--	--	--	--	--	3	3.93	1.0-2.03, 2.0-3.0	--	--
OH-SB-39	5/10/2023	185346.802	986347.652	7.93	--	--	--	--	--	3	4.93	1.0-2.0, 2.0-3.0	--	--
OH-SB-40	5/9/2023	185315.643	986376.636	7.75	--	--	--	--	--	3	4.75	1.0-2.0, 2.0-3.0	--	--
OH-SB-41	5/9/2023	185264.361	986317.285	7.88	--	--	--	--	--	4	3.88	1.0-2.0, 3.0-4.0	--	--
OH-SB-42	5/8/2023	185262.065	986309.464	7.91	--	--	--	--	--	4	3.91	1.0-2.0, 3.0-4.0	--	--
OH-SB-45	5/12/2023	185266.267	986473.699	8.11	--	--	--	--	--	1.5	6.61	1.0-2.0, 3.0-4.0	--	--
OH-SB-46	5/11/2023	185201.476	986436.358	8.30	--	--	--	--	--	6	2.30	1.0-2.0, 3.0-4.0	--	--
OH-SB-50	5/1/2023	185160.963	986466.673	7.83	--	--	--	--	--	2.5	5.33	1.0-2.0	--	--
OH-SB-51	5/3/2023	185121.452	986464.331	8.30	--	--	--	--	--	1.25	7.05	1.0-2.0, 3.0-4.0	--	--
OH-SB-52	5/2/2023	185085.971	986443.267	8.15	--	--	--	--	--	3.5	4.65	1.0-2.0, 3.0-4.0	--	--
OH-SB-53	5/4/2023	185067.993	986416.728	7.98	--	--	--	--	--	4	3.98	1.0-2.0, 3.0-4.0	--	--
OH-SB-56	5/4/2023	185082.358	986482.174	8.37	--	--	--	--	--	4	4.37	--	--	--
OH-SB-58	5/4/2023	185022.935	986450.693	8.33	--	--	--	--	--	4	4.33	2.0-3.0, 3.0-4.0	--	--
OH-SB-60	5/3/2023	185112.024	986494.730	7.90	--	--	--	--	--	2.5	5.40	1.0-2.0	--	--
OH-SB-61	6/13/2023	185211.474	986567.762	7.40	--	--	--	--	--	15	-7.60	1.0-2.0	9.0-10.0	--
OH-SB-62	6/12/2023	185197.164	986593.389	7.11	--	--	--	--	--	15	-7.89	1.0-2.0, 9.0-10.0	--	--
OH-SB-66	5/15/2023	185472.299	986205.695	5.89	--	--	--	--	--	15	-9.11	1.0-2.0, 6.0-7.0	--	--
Monitoring Wells														
OH-MW-04D	6/22/2023	185220.691	986526.417	7.87	7.46	60	70	-52.13	-62.13	70	-62.13	1.5-2.5, 5.5-6.5	--	41.5,42.5,67.0-68.0
OH-MW-04I	6/21/2023	185216.395	986523.729	7.92	7.12	28.5	38.5	-20.58	-30.58	38.5	-30.58	--	--	--
OH-MW-04S	6/21/2023	185211.214	986520.342	7.98	7.70	4	10	3.98	-2.02	10	-2.02	--	--	--
OH-MW-05D	6/27/2023	185376.181	986153.499	5.47	5.06	60	70	-54.53	-64.53	72	-66.53	1.0-2.0, 5.0-6.0	--	32.5-33.5, 66.0-67.0
OH-MW-05I	6/26/2023	185378.917	986148.253	5.46	5.17	24	34	-18.54	-28.54	36	-30.54	--	--	--
OH-MW-05S	6/23/2023	185381.019	986143.945	5.43	5.04	3	10	2.43	-4.57	10	-4.57	--	--	--
OH-MW-06D	6/29/2023	185518.584	986119.873	5.54	5.24	60	70	-54.46	-64.46	72	-66.46	5.0-6.0	--	41.0-42.0, 66.0-67.0
OH-MW-06I	6/28/2023	185513.558	986116.741	5.68	5.18	35	45	-29.32	-39.32	47	-41.32	--	--	--
OH-MW-06S	6/28/2023	185508.510	986113.746	5.77	5.40	3	8	2.77	-2.23	8	-2.23	--	--	--
OH-MW-07D	7/5/2023	185500.271	985969.296	7.44	6.88	60	70	-52.56	-62.56	72	-64.56	1.0-2.0, 6.6-7.6	--	35.0-36.0, 66.5-67.5
OH-MW-07I	7/3/2023	185497.218	985974.347	7.54	7.19	31	41	-23.46	-33.46	43	-35.46	--	--	--
OH-MW-07S	6/30/2023	185493.992	985978.940	7.60	7.18	6	11	1.60	-3.40	11	-3.40	--	--	--

Notes:
NAVD - North American Vertical Datum
BGS - Below Ground Surface
(--) - Data Not Available or Applicable

Hazen | Brown AND Caldwell

TABLE 2
WATER ELEVATIONS AND NAPL MONITORING DATA
PHASE II INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

Location ID	Survey Coordinates NY State Plane - NAD 83 Northing	Easting	Ground Surface Elevation (ft., NAVD)	Top of Casing Elevation (ft., NAVD)	8/7/2023 Depth to Water (ft., BTOC)	8/7/2023 Water Elevation (ft., NAVD)	Remarks
OH-MW-01D	185380.642	986597.160	10.083	9.740	NM	--	
OH-MW-01I	185378.460	986603.990	9.670	9.390	NM	--	
OH-MW-01S	185375.338	986610.196	9.325	8.972	NM	--	
OH-MW-02D	185435.815	986428.431	10.681	10.183	NM	--	
OH-MW-02I	185432.866	986434.574	10.630	10.188	NM	--	
OH-MW-02S	185430.992	986440.290	10.702	10.341	NM	--	
OH-MW-03D	185317.872	986499.203	11.019	10.771	NM	--	
OH-MW-03I	185313.948	986504.974	11.061	10.769	NM	--	
OH-MW-03S	185310.374	986511.114	11.031	10.754	NM	--	
OH-MW-04D	185220.691	986526.417	7.873	7.459	4.00	3.459	
OH-MW-04I	185216.395	986523.729	7.916	7.115	4.19	2.925	
OH-MW-04S	185211.214	986520.342	7.976	7.705	4.62	3.085	
OH-MW-05D	185376.181	986153.499	5.473	5.056	2.04	3.016	
OH-MW-05I	185378.917	986148.253	5.464	5.166	3.10	2.066	
OH-MW-05S	185381.019	986143.945	5.433	5.035	2.62	2.415	
OH-MW-06D	185518.584	986119.873	5.536	5.236	2.48	2.756	
OH-MW-06I	185513.558	986116.741	5.685	5.182	2.75	2.432	2-foot interval on the bottom of threaded rod coated with NAPL. Strong tar odor.
OH-MW-06S	185508.510	986113.746	5.765	5.401	3.20	2.201	
OH-MW-07D	185500.271	985969.296	7.440	6.883	4.20	2.683	
OH-MW-07I	185497.218	985974.347	7.539	7.190	4.81	2.380	1/2-inch interval on the bottom of threaded rod coated with NAPL. Strong tar odor.
OH-MW-07S	185493.992	985978.940	7.597	7.178	6.15	1.028	

Notes:
NAVD - North American Vertical Datum
BTOC - Below Top of Casing
NAPL - Non-Aqueous Phase Liquid
ND - Not Detected
NM - Not Measured (Well could not be accessed during monitoring event)
(--) - Data Not Available or Applicable
2-foot sumps were installed at OH-MW-05I, OH-MW-05D, OH-MW-06I, OH-MW-06D, OH-MW-07I and OH-MW-07D.

TABLE 3
NAPL OBSERVATIONS AND INDICATIONS OF IMPACTS
PHASE II INVESTIGATION - OH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

	Survey Coordinates		Ground Surface						
	NY State Plane - NAD 83		Elevation	Top of NAPL	Base of NAPL	Top of NAPL	Base of NAPL		
Location ID	Northing	Easting	(ft., NAVD)	(ft., BGS)	(ft., BGS)	(ft., NAVD)	(ft., NAVD)	Stratigraphic Unit	Observations
MW-04D	185220.69	986526.42	7.46	--	--	--	--	--	No observed impacts
MW-05D	185376.1814	986153.4987	5.06	25.0	25.9	-19.944	-20.844	Glacial Outwash Deposits	Sporadic black staining and strong fuel-like odor
			5.06	25.9	26.6	-20.844	-21.544		Strong fuel/mothball-like odor
			5.06	26.7	28.5	-21.644	-23.444		NAPL saturation, strong fuel/mothball-like odor
			5.06	30.0	31.7	-24.944	-26.644		NAPL saturation and sheen, strong fuel/mothball-like odor
			5.06	31.4	33.2	-26.344	-28.144		Strong fuel/mothball-like odor
			5.06	35.0	38.5	-29.944	-33.444		Sporadic NAPL blebs/sheen, faint fuel/mothball-like odor
			5.06	60.0	65.0	-54.944	-59.944		Stained, strong mothball-like odor
			5.06	65.0	67.5	-59.944	-62.444		Stained, strong mothball-like odor
			5.06	70.0	72.3	-64.944	-67.244		Sheen, faint mothball-like odor
MW-06D	185518.5837	986119.8731	5.24	0.0	1.5	5.236	3.736	Fill	Faint diesel-like odor
			5.24	1.5	4.5	3.736	0.736		Faint fuel-like odor
			5.24	7.2	7.3	-1.964	-2.064	Meadow Mat	Trace mothball-like odor
			5.24	12.5	12.7	-7.264	-7.464		Moderate mothball/fuel-like odor
			5.24	15.0	17.9	-9.764	-12.664		Mothball/fuel-like odor
			5.24	21.4	21.5	-16.164	-16.264		Mothball/fuel-like odor
			5.24	25.0	26.3	-19.764	-21.064		Faint mothball-like odor
			5.24	30.6	30.9	-25.364	-25.664		Moderate mothball-like odor
			5.24	33.2	33.6	-27.964	-28.364	Glacial Sand	NAPL blebs, strong fuel-like odor
			5.24	35.0	35.2	-29.764	-29.964		Sheen
			5.24	36.8	37.9	-31.564	-32.664		Faint fuel-like odor
			5.24	37.9	39.4	-32.664	-34.164		NAPL blebs, faint fuel-like odor
			5.24	40.0	44.9	-34.764	-39.664		NAPL blebs, faint fuel-like odor
			5.24	47.3	47.7	-42.064	-42.464		Trace sheen and faint to moderate fuel-like odor
			5.24	49.0	49.9	-43.764	-44.664		Moderate mothball-like odor
MW-07D	185500.2714	985969.2958	6.88	7.2	7.9	-0.317	-1.017	Fill	Fuel-like odor
			6.88	17.4	17.8	-10.517	-10.917	Meadow Mat	Faint fuel-like odor
			6.88	27.2	27.4	-20.317	-20.517	Glacial Sand	Faint fuel-like odor
			6.88	30.0	31.8	-23.117	-24.917		NAPL coating/ staining, fuel-like odor
			6.88	31.8	32.1	-24.917	-25.217		Faint fuel-like odor
			6.88	32.1	35.3	-25.217	-28.417		Slight staining, moderate fuel-like odor
			6.88	35.3	38.3	-28.417	-31.417		Sporadic NAPL coating, fuel/mothball-like odor
			6.88	41.3	42.2	-34.417	-35.317		Faint fuel/mothball-like odor
			6.88	42.2	43.5	-35.317	-36.617		Faint fuel/mothball-like odor
			6.88	45.0	47.5	-38.117	-40.617		Faint fuel/mothball-like odor
			6.88	50.0	53.4	-43.117	-46.517		Staining, strong mothball-like odor
			6.88	53.4	55.0	-46.517	-48.117		Sporadic NAPL coating and moderate mothball-like odor
			6.88	55.0	56.1	-48.117	-49.217		NAPL coating, strong mothball-like odor
			6.88	56.1	58.5	-49.217	-51.617		Faint mothball-like odor
OH-SB-12	185526.5087	986092.8113	5.89	7.8	7.8	-1.906	-1.906	Meadow Mat	Faint mothball-like odor
			5.89	11.8	11.8	-5.906	-5.906		Faint mothball-like odor
			5.89	12.5	13.0	-6.606	-7.106		Faint mothball-like odor
			5.89	15.0	16.1	-9.106	-10.206		Faint mothball-like odor
			5.89	17.1	18.5	-11.206	-12.606		Moderate mothball-like odor
			5.89	20.0	24.5	-14.106	-18.606		Faint mothball-like odor
			5.89	25.6	25.7	-19.706	-19.806		Moderate mothball-like odor
OH-SB-13	185501.23	986100.29	5.80	--	--	--	--	--	No observed impacts
OH-SB-14	185467.37	986150.75	5.41	--	--	--	--	--	No observed impacts
OH-SB-15	185421.48	986219.74	5.61	--	--	--	--	--	No observed impacts
OH-SB-16	185529.83	986012.04	6.49	--	--	--	--	--	No observed impacts
OH-SB-16A	185514.8288	986030.587	6.57	10.0	10.5	-3.426	-3.926	Fill	NAPL blebs and faint mothball-type odor
			6.57	12.0	13.8	-5.426	-7.226	Meadow Mat	Faint mothball-type odor
			6.57	15.0	16.6	-8.426	-10.026		Faint mothball-type odor
			6.57	30.0	30.4	-23.426	-23.826	Glacial Sand	NAPL coating
			6.57	31.2	31.9	-24.626	-25.326		Faint fuel-type odor
			6.57	31.9	34.4	-25.326	-27.826		Heavily coated with NAPL
			6.57	37.8	37.9	-31.226	-31.326		NAPL coating
			6.57	46.0	47.0	-39.426	-40.426		sheen, black staining
			6.57	48.7	50.0	-42.126	-43.426		Moderate fuel-type odor
OH-SB-17	185498.24	986059.61	6.32	10.7	12.2	-4.376	-5.876	Meadow Mat	Staining and mothball-like odor
OH-SB-18	185460.25	986120.51	5.54	--	--	--	--	--	No observed impacts
OH-SB-19	185449.10	986157.41	5.31	--	--	--	--	--	No observed impacts
OH-SB-20	185391.82	986200.64	5.42	4.0	6.0	1.418	-0.583	Fill	NAPL coating, moderate odor
OH-SB-21	185526.22	985972.15	6.83	--	--	--	--	--	No observed impacts
OH-SB-21A	185533.76	985964.44	6.77	--	--	--	--	--	No observed impacts
OH-SB-22	185499.2953	986019.3882	6.88	6.5	7.6	0.378	-0.722	Fill	Faint mothball-type odor and sheen
			6.88	7.6	8.9	-0.722	-2.022		Sporadic blebs of NAPL and faint odor
			6.88	15.0	15.3	-8.122	-8.422		NAPL blebs and trong mothball-type odor
			6.88	16.5	17.5	-9.622	-10.622	Meadow Mat	Faint mothball-type odor
			6.88	18.0	18.4	-11.122	-11.522		Faint mothball-type odor
			6.88	35.0	36.0	-28.122	-29.122	Glacial Sand	NAPL coating and strong fuel-type odor
			6.88	36.0	36.9	-29.122	-30.022		NAPL coating on outside of core and moderate sheen
			6.88	36.9	38.0	-30.022	-31.122		NAPL coating and moderate fuel-type odor
			6.88	38.0	38.5	-31.122	-31.622		Moderate fuel-type odor and sheen
			6.88	40.0	45.0	-33.122	-38.122		Light coating of NAPL and strong fuel-type odor
			6.88	45.0	46.9	-38.122	-40.022		Heavy coating of NAPL and strong fuel-type odor
			6.88	46.9	47.8	-40.022	-40.922		Faint fuel-type odor
			6.88	47.8	48.2	-40.922	-41.322		Heavy coating of NAPL and strong fuel-type odor
			6.88	48.2	50.0	-41.322	-43.122		Faint fuel-type odor
OH-SB-23	185457.22	986078.32	6.06	15.0	15.9	-8.938	-9.838	Meadow Mat	Moderate Mothball-type odor
OH-SB-24	185421.5808	986113.1632	5.51	25.0	29.7	-19.490	-24.190	Glacial Sand	Faint fuel-type odor
			5.51	30.0	33.5	-24.490	-27.990		Light NAPL coating, sheen and strong fuel-type odor
			5.51	33.5	34.0	-27.990	-28.490		NAPL blebs, sheen
			5.51	35.0	35.7	-29.490	-30.190		Heavy NAPL coating
			5.51	35.7	37.0	-30.190	-31.490		Slight NAPL coating, sheen
			5.51	37.0	48.0	-31.490	-42.490		Faint fuel-type odor
OH-SB-25	185378.16	986192.22	5.37	5.7	6.5	-0.332	-1.132	Fill	Faint mothball-type odor
OH-SB-27	185473.89	985971.59	6.62	10.0	10.9	-3.381	-4.281	Fill	NAPL coating and strong mothball-like odor
OH-SB-28	185442.12	986030.47	6.19	--	--	--	--	--	No observed impacts
OH-SB-29	185403.47	986088.47	5.54	--	--	--	--	--	No observed impacts
OH-SB-30	185390.16	986121.64	5.46	--	--	--	--	--	No observed impacts
OH-SB-31	185359.60	986181.35	5.29	6.1	6.5	-0.805	-1.205	Fill	Mild mothball-like odor
OH-SB-33	185381.07	986281.98	6.13	--	--	--	--	--	No observed impacts (1)
OH-SB-34	185328.40	986281.45	6.93	--	--	--	--	--	No observed impacts (1)
OH-SB-39	185346.80	986347.65	7.93	--	--	--	--	--	No observed impacts (1)
OH-SB-40	185315.64	986376.64	7.75	--	--	--	--	--	No observed impacts (1)
OH-SB-41	185264.36	986317.29	7.88	--	--	--	--	--	No observed impacts (1)
OH-SB-42	185262.07	986309.46	7.91	--	--	--	--	--	No observed impacts (1)
OH-SB-44	185286.87	986430.94	8.11	--	--	--	--	--	No observed impacts (1)
OH-SB-45	185266.27	986473.70	8.30	--	--	--	--	--	No observed impacts (1)
OH-SB-46	185201.48	986436.36	7.83	--	--	--	--	--	No observed impacts (1)
OH-SB-49	185164.72	986484.91	8.30	--	--	--	--	--	No observed impacts (1)
OH-SB-50	185160.96	986466.67	8.15	--	--	--	--	--	No observed impacts (1)
OH-SB-53	185067.99	986416.73	7.98	--	--	--	--	--	No observed impacts (1)
OH-SB-56	185082.36	986482.17	8.37	--	--	--	--	--	No observed impacts (1)
OH-SB-58	185022.93	986450.69	8.33	--	--	--	--	--	No observed impacts (1)
OH-SB-60	185112.02	986494.73	7.90	--	--	--	--	--	No observed impacts (1)
OH-SB-61	185211.47	986567.76	7.40	--	--	--	--	--	No observed impacts
OH-SB-62	185197.16	986593.39	7.11	--	--	--	--	--	No observed impacts
OH-SB-66	185472.30	986205.70	5.89	--	--	--	--	--	No observed impacts

Notes
(1) - Soil was only retrieved from the upper 4 ft. at boring due to subsurface obstruction during hand clearing.
BGS - Below Ground Surface
ft. - Feet
NAPL - Non-Aqueous Phase Liquid
NAVD - North American Vertical Datum
(--) - Not Meaured

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04	MW-04	MW-04	MW-04
				Sample ID	MW-04-1.5-2.5-20230607	DUP-20230607	MW-04-1.5-2.5-20230607MS	MW-04-1.5-2.5-20230607MSD	MW-04-5.5-6.5-20230607	MW-04-41.5-42.5-20230607
				Sample Date	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/07/2023
				Depth (ft.)	1.5-2.5	1.5-2.5	1.5-2.5	1.5-2.5	5.5-6.5	41.5-42.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000313 U	< 0.000336 U	< 0.000308 U	< 0.000329 U	< 0.000384 U	< 0.000267 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000296 U	< 0.000317 U	< 0.000291 U	< 0.000311 U	< 0.000363 U	< 0.000252 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.000919 U	< 0.000984 U	< 0.000903 U	< 0.000964 U	< 0.00112 U	< 0.000783 U
1,1,2-Trichloroethane				mg/kg	< 0.000362 U	< 0.000388 U	< 0.000356 U	< 0.000379 U	< 0.000443 U	< 0.000308 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000313 U	< 0.000336 U	< 0.000308 U	< 0.000329 U	< 0.000384 U	< 0.000267 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000397 U	< 0.000425 U	< 0.00039 U	< 0.000417 U	< 0.000486 U	< 0.000338 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000464 U	< 0.000497 UJ	< 0.000456 U	< 0.000486 U	< 0.000568 U	< 0.000395 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000572 U	< 0.000613 UJ	< 0.000562 U	< 0.0006 U	< 0.0007 U	< 0.000487 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000296 U	< 0.000317 U	< 0.000291 U	< 0.000311 U	< 0.000363 U	< 0.000252 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000524 U	< 0.000561 U	< 0.000515 U	< 0.000549 U	< 0.000641 U	< 0.000446 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.00027 U	< 0.00029 U	< 0.000266 U	< 0.000284 U	< 0.000331 U	< 0.00023 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000379 U	< 0.000406 UJ	< 0.000372 U	< 0.000397 U	< 0.000464 U	< 0.000323 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000303 U	< 0.000324 U	< 0.000298 U	< 0.000317 U	< 0.00037 U	< 0.000258 U
1,2-Dichloropropane				mg/kg	< 0.000352 U	< 0.000377 U	< 0.000346 U	< 0.000369 U	< 0.000431 U	< 0.0003 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000158 U	< 0.000169 UJ	< 0.000155 U	< 0.000166 U	< 0.000193 U	< 0.000134 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000309 U	< 0.000331 UJ	< 0.000304 U	< 0.000324 U	< 0.000378 U	< 0.000263 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.00035 U	< 0.000375 U	< 0.000344 U	< 0.000367 U	< 0.000428 U	< 0.000298 U
2-Hexanone				mg/kg	< 0.000201 U	< 0.000215 UJ	< 0.000197 U	< 0.000211 U	< 0.000246 U	< 0.000171 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000268 U	< 0.000287 U	< 0.000264 U	< 0.000281 U	< 0.000328 U	< 0.000229 U
Acetone	0.05	100	500	mg/kg	< 0.00065 U	< 0.000697 U	< 0.000639 U	< 0.000682 U	< 0.000796 U	< 0.000554 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000195 U	< 0.000209 U	< 0.000192 U	< 0.000205 U	< 0.000239 U	< 0.000166 U
Bromochloromethane				mg/kg	< 0.000396 U	< 0.000424 U	< 0.000389 U	< 0.000415 U	< 0.000485 U	< 0.000337 U
Bromodichloromethane				mg/kg	< 0.000269 U	< 0.000289 U	< 0.000265 U	< 0.000283 U	< 0.00033 U	< 0.00023 U
Bromoform				mg/kg	< 0.000377 U	< 0.000404 U	< 0.00037 U	< 0.000395 U	< 0.000461 U	< 0.000321 U
Bromomethane				mg/kg	< 0.000619 U	< 0.000664 U	< 0.000609 U	< 0.00065 U	< 0.000758 U	< 0.000528 U
Carbon disulfide				mg/kg	< 0.000308 U	< 0.00033 U	< 0.000303 U	< 0.000323 U	< 0.000377 U	< 0.000262 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000323 U	< 0.000346 U	< 0.000318 U	< 0.000339 U	< 0.000395 U	< 0.000275 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000311 U	< 0.000333 UJ	< 0.000306 U	< 0.000326 U	< 0.000381 U	< 0.000265 U
Chloroethane				mg/kg	< 0.000366 U	< 0.000392 U	< 0.00036 U	< 0.000384 U	< 0.000448 U	< 0.000312 U
Chloroform	0.37	49	350	mg/kg	< 0.000361 U	< 0.000386 U	< 0.000355 U	< 0.000378 U	< 0.000441 U	< 0.000307 U
Chloromethane				mg/kg	< 0.000826 U	< 0.000885 U	< 0.000812 U	< 0.000867 U	< 0.00101 U	< 0.000704 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000104 U	< 0.000111 U	< 0.000102 U	< 0.000109 U	< 0.000127 U	< 0.0000884 U
cis-1,3-Dichloropropene				mg/kg	< 0.000272 U	< 0.000291 UJ	< 0.000267 U	< 0.000285 U	< 0.000332 U	< 0.000231 U
Cyclohexane				mg/kg	< 0.000475 U	< 0.000509 U	< 0.000467 U	< 0.000499 U	< 0.000582 U	< 0.000405 U
Dibromochloromethane				mg/kg	< 0.000264 U	< 0.000283 UJ	< 0.00026 U	< 0.000277 U	< 0.000323 U	< 0.000225 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000724 U	< 0.000776 U	< 0.000712 U	< 0.00076 U	< 0.000887 U	< 0.000617 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000291 U	< 0.000312 UJ	< 0.000286 U	< 0.000305 U	< 0.000356 U	< 0.000248 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000337 U	< 0.000361 UJ	< 0.000331 U	< 0.000354 U	< 0.000413 U	< 0.000287 U
Methyl acetate				mg/kg	< 0.000284 U	< 0.000305 UJ	< 0.00028 U	< 0.000298 U	< 0.000348 U	< 0.000242 U
Methylcyclohexane				mg/kg	< 0.000346 U	< 0.00037 U	< 0.00034 U	< 0.000363 U	< 0.000423 U	< 0.000294 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000645 U	< 0.000691 U	< 0.000634 U	< 0.000677 U	< 0.00079 U	< 0.00055 U
Styrene				mg/kg	< 0.000307 U	< 0.000329 UJ	< 0.000302 U	< 0.000322 U	< 0.000376 U	< 0.000262 U
tert-Butyl alcohol				mg/kg	< 0.00451 U	< 0.00483 U	< 0.00443 U	< 0.00473 U	< 0.00552 U	< 0.00384 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000363 U	< 0.000389 U	< 0.000357 U	< 0.000381 U	< 0.000444 U	< 0.000309 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000213 U	< 0.000228 U	< 0.000209 U	< 0.000223 U	< 0.00026 U	< 0.000181 U
Toluene	0.7	**100**	500	mg/kg	< 0.000173 U	< 0.000185 U	< 0.00017 U	< 0.000181 U	< 0.000212 U	< 0.000147 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000291 U	< 0.000312 U	< 0.000286 U	< 0.000305 U	< 0.000356 U	< 0.000248 U
trans-1,3-Dichloropropene				mg/kg	< 0.00041 U	< 0.000439 UJ	< 0.000403 U	< 0.00043 U	< 0.000502 U	< 0.000349 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000316 U	< 0.000338 U	< 0.00031 U	< 0.000331 U	< 0.000386 U	< 0.000269 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000247 U	< 0.000264 U	< 0.000243 U	< 0.000259 U	< 0.000302 U	< 0.00021 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000408 U	< 0.000437 U	< 0.000401 U	< 0.000428 U	< 0.000499 U	< 0.000347 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000276 U	< 0.000296 UJ	< 0.000271 U	< 0.000289 U	< 0.000338 U	< 0.000235 U
Xylenes, m & p				mg/kg	< 0.000542 U	< 0.000581 UJ	< 0.000533 U	< 0.000569 U	< 0.000663 U	< 0.000462 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000276 U	< 0.000296 U	< 0.000271 U	< 0.000289 U	< 0.000338 U	< 0.000235 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-05	MW-05	MW-05	MW-05	MW-06
				Sample ID	MW-04-67.0-68.0-20230609	MW-05-1.0-2.0-20230605	MW-05-5.0-6.0-20230605	MW-05-32.5-33.5-20230606	MW-05-66.0-67.0-20230606	MW-06-5.0-6.0-20230601
				Sample Date	06/09/2023	06/05/2023	06/05/2023	06/06/2023	06/06/2023	06/01/2023
				Depth (ft.)	67-68	1-2	5-6	32.5-33.5	66-67	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000254 U	< 0.000312 U	< 0.00031 U	< 0.000263 UJ	< 0.000246 UJ	< 0.000435 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000240 U	< 0.000295 U	< 0.000293 U	< 0.000248 UJ	< 0.000233 UJ	< 0.000411 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.000745 U	< 0.000916 U	< 0.000908 U	< 0.00077 UJ	< 0.000721 UJ	< 0.00127 U
1,1,2-Trichloroethane				mg/kg	< 0.000293 U	< 0.000361 U	< 0.000357 U	< 0.000303 UJ	< 0.000284 UJ	< 0.000502 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000254 U	< 0.000312 U	< 0.00031 U	< 0.000263 UJ	< 0.000246 UJ	< 0.000435 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000322 U	< 0.000396 U	< 0.000393 U	< 0.000333 UJ	< 0.000312 UJ	< 0.000551 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000376 U	< 0.000462 U	< 0.000458 U	< 0.000389 UJ	< 0.000364 UJ	< 0.000643 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000464 U	< 0.00057 U	< 0.000565 U	< 0.00048 UJ	< 0.000449 UJ	< 0.000793 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000240 U	< 0.000295 U	< 0.000293 U	***249 J***	**58.3 J**	0.00199 J
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000425 UJ	< 0.000522 U	< 0.000518 U	< 0.000439 UJ	< 0.000411 UJ	< 0.000726 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000219 U	< 0.00027 U	< 0.000267 U	< 0.000227 UJ	< 0.000212 UJ	< 0.000375 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000307 U	< 0.000378 U	< 0.000374 U	< 0.000318 UJ	< 0.000297 UJ	< 0.000525 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000245 U	< 0.000302 U	< 0.000299 U	0.206 J	0.0956 J	< 0.00042 U
1,2-Dichloropropane				mg/kg	< 0.000285 U	< 0.000351 U	< 0.000348 U	< 0.000295 UJ	< 0.000276 UJ	< 0.000488 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000128 U	< 0.000157 U	< 0.000156 U	< 0.000132 UJ	< 0.000124 UJ	< 0.000219 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000251 U	< 0.000308 U	< 0.000306 U	< 0.000259 UJ	< 0.000243 UJ	< 0.000429 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000284 U	< 0.000349 U	< 0.000346 U	< 0.000293 UJ	< 0.000275 UJ	0.014 J
2-Hexanone				mg/kg	< 0.000163 U	< 0.0002 U	< 0.000198 U	< 0.000168 UJ	< 0.000158 UJ	< 0.000278 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000217 U	< 0.000268 U	< 0.000265 U	< 0.000225 UJ	< 0.000211 UJ	< 0.000372 U
Acetone	0.05	100	500	mg/kg	< 0.000527 U	< 0.000649 U	< 0.000643 U	< 0.000545 UJ	< 0.000511 UJ	0.112
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000158 U	0.00108 J	< 0.000193 U	**42 J**	**10.6 J**	< 0.000271 U
Bromochloromethane				mg/kg	< 0.000321 U	< 0.000395 U	< 0.000391 U	< 0.000332 UJ	< 0.000311 UJ	< 0.000549 U
Bromodichloromethane				mg/kg	< 0.000218 U	< 0.000269 U	< 0.000266 U	< 0.000226 UJ	< 0.000212 UJ	< 0.000374 U
Bromoform				mg/kg	< 0.000305 U	< 0.000376 U	< 0.000372 U	< 0.000316 UJ	< 0.000296 UJ	< 0.000522 U
Bromomethane				mg/kg	< 0.000502 UJ	< 0.000617 U	< 0.000612 U	< 0.000519 UJ	< 0.000486 UJ	< 0.000859 UJ
Carbon disulfide				mg/kg	< 0.000250 U	0.00346	< 0.000304 U	< 0.000258 UJ	0.00323 J	0.00475
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000262 U	< 0.000322 U	< 0.000319 U	< 0.000271 UJ	< 0.000254 UJ	< 0.000448 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000252 U	< 0.00031 U	< 0.000308 U	< 0.000261 UJ	< 0.000244 UJ	< 0.000432 U
Chloroethane				mg/kg	< 0.000297 U	< 0.000365 U	< 0.000362 U	< 0.000307 UJ	< 0.000287 UJ	< 0.000508 U
Chloroform	0.37	49	350	mg/kg	< 0.000292 U	< 0.00036 U	< 0.000356 U	< 0.000302 UJ	< 0.000283 UJ	< 0.0005 U
Chloromethane				mg/kg	< 0.000670 U	0.00842	< 0.000817 U	0.00355 J	< 0.000649 UJ	0.0153
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.0000841 U	< 0.000103 U	< 0.000103 U	< 0.000087 UJ	< 0.0000815 UJ	< 0.000144 U
cis-1,3-Dichloropropene				mg/kg	< 0.000220 U	< 0.000271 U	< 0.000268 U	< 0.000228 UJ	< 0.000213 UJ	< 0.000377 U
Cyclohexane				mg/kg	< 0.000385 U	< 0.000474 U	< 0.00047 U	0.0187 J	0.00773 J	< 0.000659 U
Dibromochloromethane				mg/kg	< 0.000214 U	< 0.000263 U	< 0.000261 U	< 0.000221 UJ	< 0.000207 UJ	< 0.000366 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000587 UJ	< 0.000722 U	< 0.000716 U	< 0.000607 UJ	< 0.000569 UJ	< 0.001 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000236 U	< 0.00029 U	< 0.000287 U	**273 J**	**61.8 J**	< 0.000403 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000273 U	< 0.000336 U	< 0.000333 U	0.269 J	0.279 J	0.00435
Methyl acetate				mg/kg	< 0.000231 U	< 0.000284 U	< 0.000281 U	< 0.000238 UJ	< 0.000223 UJ	< 0.000394 U
Methylcyclohexane				mg/kg	< 0.000280 U	< 0.000345 U	< 0.000342 U	0.0798 J	0.0341 J	0.00364
Methylene chloride	0.05	100	500	mg/kg	< 0.000523 U	< 0.000643 U	< 0.000638 U	< 0.000541 UJ	< 0.000506 UJ	< 0.000895 U
Styrene				mg/kg	< 0.000249 U	< 0.000306 U	< 0.000303 U	55.4 J	14.9 J	< 0.000426 U
tert-Butyl alcohol				mg/kg	< 0.00365 U	< 0.00449 U	< 0.00446 U	< 0.00378 UJ	< 0.00354 UJ	< 0.00625 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000294 U	< 0.000362 U	< 0.000359 U	< 0.000304 UJ	< 0.000285 UJ	< 0.000503 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000172 U	< 0.000212 U	< 0.00021 U	< 0.000178 UJ	< 0.000167 UJ	< 0.000295 U
Toluene	0.7	**100**	500	mg/kg	< 0.000140 U	0.00061 J	< 0.000171 U	44.7 J	9.95 J	< 0.00024 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000236 U	< 0.00029 U	< 0.000287 U	< 0.000244 UJ	< 0.000228 UJ	< 0.000403 U
trans-1,3-Dichloropropene				mg/kg	< 0.000332 U	< 0.000409 U	< 0.000405 U	< 0.000344 UJ	< 0.000322 UJ	< 0.000569 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000256 U	< 0.000315 U	< 0.000312 U	< 0.000265 UJ	< 0.000248 UJ	< 0.000438 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000200 U	< 0.000246 U	< 0.000244 U	< 0.000207 UJ	< 0.000194 UJ	< 0.000342 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000331 U	< 0.000407 U	< 0.000403 U	< 0.000342 UJ	< 0.00032 UJ	< 0.000566 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000224 U	< 0.000275 U	< 0.000273 U	**124 J**	29.8 J	< 0.000383 U
Xylenes, m & p				mg/kg	< 0.000439 U	< 0.00054 U	< 0.000536 U	258 J	61.7 J	0.00214 J
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000224 U	< 0.000275 U	< 0.000273 U	**383 J**	91.5 J	0.00214 J

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
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TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-06	MW-06	MW-07	MW-07	MW-07	MW-07
				Sample ID	MW-06-41.0-42.0-20230601	MW-06-66.0-67.0-20230601	MW-07-1.0-2.0-20230602	MW-07-6.6-7.6-20230602	MW-07-35.0-36.0-20230602	MW-07-66.5-67.5-20230605
				Sample Date	06/01/2023	06/01/2023	06/02/2023	06/02/2023	06/02/2023	06/05/2023
				Depth (ft.)	41-42	66-67	1-2	6.6-7.6	35-36	66.5-67.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000261 UJ	< 0.000257 U	< 0.000352 U	< 0.00032 U	< 0.000247 UJ	< 0.000224 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000247 UJ	< 0.000243 U	< 0.000333 U	< 0.000302 U	< 0.000233 UJ	< 0.000212 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.000765 UJ	< 0.000752 U	< 0.00103 U	< 0.000937 U	< 0.000723 UJ	< 0.000656 U
1,1,2-Trichloroethane				mg/kg	< 0.000301 UJ	< 0.000296 U	< 0.000406 U	< 0.000369 U	< 0.000285 UJ	< 0.000258 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000261 UJ	< 0.000257 U	< 0.000352 U	< 0.00032 U	< 0.000247 UJ	< 0.000224 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000331 UJ	< 0.000325 U	< 0.000446 U	< 0.000405 U	< 0.000312 UJ	< 0.000284 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000386 UR	< 0.00038 U	< 0.000521 U	< 0.000473 U	< 0.000365 UR	< 0.000331 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000476 UR	< 0.000468 U	< 0.000643 U	< 0.000583 U	< 0.00045 UR	< 0.000409 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	***687 J***	< 0.000243 U	0.00856	0.00264	***288 J***	< 0.000212 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000436 UR	< 0.000429 U	< 0.000589 U	< 0.000534 U	< 0.000412 UR	< 0.000374 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000225 UJ	< 0.000221 U	< 0.000304 U	< 0.000276 U	< 0.000213 UJ	< 0.000193 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000315 UR	< 0.00031 U	< 0.000426 U	< 0.000386 U	< 0.000298 UR	< 0.000271 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	2.97 J	< 0.000248 U	< 0.00034 U	< 0.000309 U	2.1 J	< 0.000216 U
1,2-Dichloropropane				mg/kg	< 0.000293 UJ	< 0.000288 U	< 0.000396 U	< 0.000359 U	< 0.000277 UJ	< 0.000251 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000131 UJ	< 0.000129 U	< 0.000177 U	< 0.000161 U	< 0.000124 UJ	< 0.000113 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000257 UR	< 0.000253 U	< 0.000347 U	< 0.000315 U	< 0.000243 UR	< 0.000221 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000291 UJ	< 0.000287 U	< 0.000393 U	< 0.000357 U	< 0.000275 UJ	< 0.00025 U
2-Hexanone				mg/kg	< 0.000167 UJ	< 0.000164 U	< 0.000226 U	< 0.000205 U	< 0.000158 UJ	< 0.000143 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000223 UJ	< 0.00022 U	< 0.000301 U	< 0.000274 U	< 0.000211 UJ	< 0.000192 U
Acetone	0.05	100	500	mg/kg	0.11 J	< 0.000533 U	< 0.000731 U	< 0.000663 U	< 0.000512 UJ	< 0.000464 U
Benzene	0.06	**4.8**	*44*	mg/kg	***126 J***	< 0.00016 U	< 0.000219 U	< 0.000199 U	***87 J***	< 0.000139 U
Bromochloromethane				mg/kg	< 0.00033 UJ	< 0.000324 U	< 0.000445 U	< 0.000404 U	< 0.000312 UJ	< 0.000283 U
Bromodichloromethane				mg/kg	< 0.000224 UJ	< 0.000221 U	< 0.000303 U	< 0.000275 U	< 0.000212 UJ	< 0.000192 U
Bromoform				mg/kg	< 0.000314 UJ	< 0.000309 U	< 0.000423 U	< 0.000384 U	< 0.000296 UJ	< 0.000269 U
Bromomethane				mg/kg	< 0.000515 UJ	< 0.000507 UJ	< 0.000696 U	< 0.000632 U	< 0.000487 UJ	< 0.000442 U
Carbon disulfide				mg/kg	< 0.000256 UJ	< 0.000252 U	0.00461	< 0.000314 U	< 0.000242 UJ	< 0.00022 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000269 UJ	< 0.000265 U	< 0.000363 U	< 0.00033 U	< 0.000254 UJ	< 0.000231 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000259 UJ	< 0.000255 U	< 0.00035 U	< 0.000317 U	< 0.000245 UJ	< 0.000222 U
Chloroethane				mg/kg	< 0.000305 UJ	< 0.0003 U	< 0.000411 U	< 0.000373 U	< 0.000288 UJ	< 0.000261 U
Chloroform	0.37	49	350	mg/kg	< 0.0003 UJ	< 0.000295 U	< 0.000405 U	< 0.000368 U	< 0.000284 UJ	< 0.000258 U
Chloromethane				mg/kg	0.0645 J	< 0.000677 U	0.0106	0.026	0.00359 J	< 0.00059 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.0000864 UJ	< 0.000085 U	< 0.000117 U	< 0.000106 U	< 0.0000816 UJ	< 0.0000741 U
cis-1,3-Dichloropropene				mg/kg	< 0.000226 UJ	< 0.000222 U	< 0.000305 U	< 0.000277 U	< 0.000214 UJ	< 0.000194 U
Cyclohexane				mg/kg	0.0563 J	< 0.000389 U	< 0.000534 U	< 0.000485 U	0.027 J	< 0.00034 U
Dibromochloromethane				mg/kg	< 0.00022 UJ	< 0.000216 U	< 0.000297 U	< 0.000269 U	< 0.000208 UJ	< 0.000189 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000603 UJ	< 0.000593 U	< 0.000814 U	< 0.000739 U	< 0.00057 UJ	< 0.000517 U
Ethylbenzene	1	**41**	*390*	mg/kg	***995 J***	< 0.000238 U	< 0.000327 U	< 0.000297 U	***503 J***	< 0.000208 U
Isopropylbenzene (Cumene)				mg/kg	76.1 J	< 0.000276 U	< 0.000379 U	< 0.000344 U	0.329 J	< 0.000241 U
Methyl acetate				mg/kg	< 0.000237 UJ	< 0.000233 U	< 0.00032 U	< 0.00029 U	< 0.000224 UJ	< 0.000203 U
Methylcyclohexane				mg/kg	0.226 J	< 0.000283 U	< 0.000388 U	< 0.000352 U	0.205 J	< 0.000247 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000537 UJ	< 0.000528 U	< 0.000725 U	< 0.000658 U	< 0.000507 UJ	< 0.000461 U
Styrene				mg/kg	< 0.000255 UJ	< 0.000251 U	< 0.000345 U	< 0.000313 U	62.7 J	< 0.000219 U
tert-Butyl alcohol				mg/kg	< 0.00375 UJ	< 0.00369 U	< 0.00507 U	< 0.0046 U	< 0.00355 UJ	< 0.00322 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000302 UJ	< 0.000297 U	< 0.000408 U	< 0.00037 U	< 0.000285 UJ	< 0.000259 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000177 UJ	< 0.000174 U	< 0.000239 U	< 0.000217 U	< 0.000167 UJ	< 0.000152 U
Toluene	0.7	**100**	500	mg/kg	**336 J**	< 0.000142 U	< 0.000194 U	< 0.000176 U	**295 J**	< 0.000123 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000242 UJ	< 0.000238 U	< 0.000327 U	< 0.000297 U	< 0.000229 UJ	< 0.000208 U
trans-1,3-Dichloropropene				mg/kg	< 0.000341 UJ	< 0.000336 U	< 0.000461 U	< 0.000418 U	< 0.000323 UJ	< 0.000293 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000263 UJ	< 0.000258 U	< 0.000355 U	< 0.000322 U	< 0.000248 UJ	< 0.000225 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000205 UJ	< 0.000202 U	< 0.000277 U	< 0.000252 U	< 0.000194 UJ	< 0.000176 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000339 UJ	< 0.000334 U	< 0.000458 U	< 0.000416 U	< 0.000321 UJ	< 0.000291 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	**388 J**	< 0.000226 U	< 0.00031 U	< 0.000281 U	**170 J**	< 0.000197 U
Xylenes, m & p				mg/kg	836 J	< 0.000444 U	< 0.000609 U	< 0.000553 U	369 J	< 0.000387 U
Xylenes, total	0.26	**100**	*500*	mg/kg	***1220 J***	< 0.000226 U	< 0.00031 U	< 0.000281 U	***539 J***	< 0.000197 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-12	OH-SB-12	OH-SB-12A	OH-SB-12A	OH-SB-13	OH-SB-13
				Sample ID	OH-SB-12-0.5-1.5-20230531	DUP-20230531	OH-SB-12A-1.5-2.5-20230531	OH-SB-12A-5.0-6.0-20230531	OH-SB-13-3.0-4.0-20230516	OH-SB-13-5-6-20230516
				Sample Date	05/31/2023	05/31/2023	05/31/2023	05/31/2023	05/16/2023	05/16/2023
				Depth (ft.)	0.5-1.5	0.5-1.5	1.5-2.5	5-6	3-4	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000352 U	< 0.000351 U	< 0.000287 U	< 0.000322 U	< 0.000438 U	< 0.000545 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000333 U	< 0.000331 U	< 0.000272 U	< 0.000305 U	< 0.000414 UJ	< 0.000515 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00103 U	< 0.00103 U	< 0.000842 U	< 0.000945 U	< 0.00128 U	< 0.0016 U
1,1,2-Trichloroethane				mg/kg	< 0.000406 U	< 0.000405 U	< 0.000332 U	< 0.000372 U	< 0.000506 U	< 0.000628 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000352 U	< 0.000351 U	< 0.000287 U	< 0.000322 U	< 0.000438 U	< 0.000545 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000446 U	< 0.000444 U	< 0.000364 U	< 0.000409 U	< 0.000555 U	< 0.00069 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000521 U	< 0.000519 U	< 0.000425 U	< 0.000477 UJ	< 0.000648 UJ	< 0.000806 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000643 U	< 0.00064 U	< 0.000524 U	< 0.000588 UJ	< 0.0008 UJ	< 0.000994 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000333 U	< 0.000331 U	0.0035	< 0.000305 U	< 0.000414 U	< 0.000515 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000588 U	< 0.000586 U	< 0.00048 U	< 0.000539 U	< 0.000732 UJ	< 0.00091 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000304 U	< 0.000303 U	< 0.000248 U	< 0.000278 U	< 0.000378 U	< 0.00047 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000426 U	< 0.000424 U	< 0.000347 U	< 0.00039 UJ	< 0.00053 UJ	< 0.000658 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.00034 U	< 0.000339 U	< 0.000277 U	< 0.000311 U	< 0.000423 U	< 0.000526 U
1,2-Dichloropropane				mg/kg	< 0.000396 U	< 0.000394 U	< 0.000323 U	< 0.000362 U	< 0.000492 U	< 0.000612 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000177 U	< 0.000177 U	< 0.000145 U	< 0.000162 U	< 0.000221 UJ	< 0.000274 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000347 U	< 0.000346 U	< 0.000283 U	< 0.000318 UJ	< 0.000432 UJ	< 0.000537 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000393 U	< 0.000392 U	< 0.000321 U	< 0.00036 U	< 0.000489 U	< 0.000608 U
2-Hexanone				mg/kg	< 0.000226 U	< 0.000225 U	< 0.000184 U	< 0.000206 U	< 0.000281 U	< 0.000349 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000301 U	< 0.0003 U	< 0.000246 U	< 0.000276 U	< 0.000375 U	< 0.000466 U
Acetone	0.05	100	500	mg/kg	< 0.000731 U	< 0.000728 U	< 0.000596 U	< 0.000669 U	< 0.000909 U	< 0.00113 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000219 U	< 0.000219 U	0.00184 J	< 0.000201 U	< 0.000273 U	< 0.000339 U
Bromochloromethane				mg/kg	< 0.000445 UJ	< 0.000443 UJ	< 0.000363 UJ	< 0.000407 UJ	< 0.000554 U	< 0.000688 U
Bromodichloromethane				mg/kg	< 0.000303 U	< 0.000301 U	< 0.000247 U	< 0.000277 U	< 0.000377 U	< 0.000468 U
Bromoform				mg/kg	< 0.000423 U	< 0.000422 U	< 0.000345 U	< 0.000388 U	< 0.000527 U	< 0.000655 U
Bromomethane				mg/kg	< 0.000696 U	< 0.000693 U	< 0.000568 U	< 0.000637 U	< 0.000866 U	< 0.00108 U
Carbon disulfide				mg/kg	< 0.000346 U	< 0.000345 U	< 0.000282 U	< 0.000317 U	< 0.000431 U	< 0.000535 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000363 U	< 0.000362 U	< 0.000296 U	< 0.000332 U	< 0.000452 U	< 0.000561 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.00035 U	< 0.000348 U	< 0.000285 U	< 0.00032 U	< 0.000435 UJ	< 0.000541 U
Chloroethane				mg/kg	< 0.000411 U	< 0.00041 U	< 0.000335 U	< 0.000377 U	< 0.000512 U	< 0.000636 U
Chloroform	0.37	49	350	mg/kg	< 0.000405 U	< 0.000404 U	< 0.000331 U	< 0.000371 U	< 0.000504 U	< 0.000627 U
Chloromethane				mg/kg	< 0.000929 U	< 0.000925 U	< 0.000758 U	< 0.00085 U	< 0.00116 U	< 0.00144 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000117 U	< 0.000116 U	< 0.0000951 U	< 0.000107 U	< 0.000145 U	< 0.00018 U
cis-1,3-Dichloropropene				mg/kg	< 0.000305 U	< 0.000304 U	< 0.000249 U	< 0.000279 U	< 0.00038 U	< 0.000472 U
Cyclohexane				mg/kg	< 0.000534 U	< 0.000532 U	0.00453	< 0.000489 U	< 0.000665 U	< 0.000826 U
Dibromochloromethane				mg/kg	< 0.000297 U	< 0.000295 U	< 0.000242 U	< 0.000272 U	< 0.000369 U	< 0.000459 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000814 U	< 0.000811 U	< 0.000664 U	< 0.000745 U	< 0.00101 UJ	< 0.00126 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000327 U	< 0.000325 U	0.00969	< 0.000299 U	< 0.000407 UJ	< 0.000505 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000379 U	< 0.000377 U	0.00372	< 0.000347 U	< 0.000471 UJ	< 0.000586 U
Methyl acetate				mg/kg	< 0.00032 U	< 0.000318 U	< 0.000261 U	< 0.000293 U	< 0.000398 U	< 0.000494 U
Methylcyclohexane				mg/kg	< 0.000388 U	< 0.000387 U	0.00855	< 0.000356 U	< 0.000483 UJ	< 0.0006 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000725 U	< 0.000722 U	< 0.000591 U	< 0.000664 U	< 0.000902 U	< 0.00112 U
Styrene				mg/kg	< 0.000345 U	< 0.000343 U	< 0.000281 U	< 0.000316 U	< 0.000429 UJ	< 0.000533 U
tert-Butyl alcohol				mg/kg	< 0.00506 UJ	< 0.00504 UJ	< 0.00413 UJ	< 0.00464 UJ	< 0.0063 U	< 0.00783 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000408 U	< 0.000406 U	< 0.000333 U	< 0.000373 U	< 0.000507 U	< 0.00063 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000239 U	< 0.000238 U	< 0.000195 U	< 0.000219 U	< 0.000297 UJ	< 0.000369 U
Toluene	0.7	**100**	500	mg/kg	< 0.000194 U	< 0.000193 U	0.000683 J	< 0.000178 U	< 0.000242 U	< 0.0003 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000327 U	< 0.000325 U	< 0.000267 U	< 0.000299 U	< 0.000407 U	< 0.000505 U
trans-1,3-Dichloropropene				mg/kg	< 0.000461 U	< 0.000459 U	< 0.000376 U	< 0.000422 U	< 0.000573 U	< 0.000712 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000355 U	< 0.000353 U	< 0.000289 U	< 0.000325 U	< 0.000441 U	< 0.000548 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000277 U	< 0.000276 U	< 0.000226 U	< 0.000254 U	< 0.000345 U	< 0.000429 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000458 U	< 0.000456 U	< 0.000374 U	< 0.00042 U	< 0.00057 U	< 0.000709 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.00031 U	< 0.000309 U	0.000872 J	< 0.000284 U	< 0.000386 UJ	< 0.000479 U
Xylenes, m & p				mg/kg	< 0.000609 U	< 0.000607 U	0.00382 J	< 0.000558 U	< 0.000758 UJ	< 0.000942 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.00031 U	< 0.000309 U	0.00469	< 0.000284 U	< 0.000386 U	< 0.000479 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-13	OH-SB-14	OH-SB-14	OH-SB-15	OH-SB-15	OH-SB-16
				Sample ID	OH-SB-13-15-16-20230516	OH-SB-14-1.0-2.0-20230517	OH-SB-14-7.7-8.7-20230517	OH-SB-15-3.5-4.5-20230515	OH-SB-15-6.0-7.0-20230515	OH-SB-16-3.0-4.0-20230524
				Sample Date	05/16/2023	05/17/2023	05/17/2023	05/15/2023	05/15/2023	05/24/2023
				Depth (ft.)	15-16	1-2	7.7-8.7	3.5-4.5	6-7	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000413 U	< 0.000457 U	< 0.000664 U	< 0.00035 U	< 0.000284 U	< 0.000328 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000391 U	< 0.000432 U	< 0.000628 U	< 0.000331 U	< 0.000268 U	< 0.00031 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00121 U	< 0.00134 U	< 0.00195 U	< 0.00103 U	< 0.000833 U	< 0.00096 U
1,1,2-Trichloroethane				mg/kg	< 0.000477 U	< 0.000528 U	< 0.000766 U	< 0.000404 U	< 0.000328 U	< 0.000378 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000413 U	< 0.000457 U	< 0.000664 U	< 0.00035 U	< 0.000284 U	< 0.000328 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000524 U	< 0.00058 U	< 0.000841 U	< 0.000444 U	< 0.00036 U	< 0.000415 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000611 U	< 0.000677 UJ	< 0.000982 UJ	< 0.000518 U	< 0.00042 U	< 0.000485 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000754 U	< 0.000835 U	< 0.00121 U	< 0.00064 U	< 0.000518 U	< 0.000598 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	0.162	< 0.000432 U	0.00593	< 0.000331 U	0.00646	< 0.00031 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000691 UJ	< 0.000764 UJ	< 0.00111 UJ	< 0.000586 U	< 0.000475 U	< 0.000547 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000357 U	< 0.000395 U	< 0.000573 U	< 0.000302 U	< 0.000245 U	< 0.000283 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.0005 U	< 0.000553 U	< 0.000803 U	< 0.000424 U	< 0.000343 U	< 0.000396 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000399 U	< 0.000442 U	< 0.000641 U	< 0.000338 U	< 0.000274 U	< 0.000316 U
1,2-Dichloropropane				mg/kg	< 0.000464 U	< 0.000514 U	< 0.000746 U	< 0.000394 U	< 0.000319 U	< 0.000368 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000208 U	< 0.00023 U	< 0.000334 U	< 0.000176 U	< 0.000143 U	< 0.000165 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000408 U	< 0.000451 U	< 0.000655 U	< 0.000346 U	< 0.00028 U	< 0.000323 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000461 U	< 0.000511 U	0.236 J	< 0.000391 UJ	< 0.000317 UJ	< 0.000366 U
2-Hexanone				mg/kg	< 0.000265 U	< 0.000293 U	< 0.000425 U	< 0.000224 UJ	< 0.000182 UJ	< 0.00021 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000354 U	< 0.000392 U	< 0.000569 U	< 0.0003 U	< 0.000243 U	< 0.00028 U
Acetone	0.05	100	500	mg/kg	< 0.000858 U	< 0.000949 U	0.695 J	< 0.000727 UJ	< 0.000589 UJ	< 0.00068 U
Benzene	0.06	**4.8**	*44*	mg/kg	0.448	< 0.000285 U	< 0.000414 U	< 0.000218 U	0.0231	< 0.000204 U
Bromochloromethane				mg/kg	< 0.000522 U	< 0.000578 U	< 0.000839 U	< 0.000443 U	< 0.000359 U	< 0.000414 U
Bromodichloromethane				mg/kg	< 0.000355 U	< 0.000393 U	< 0.000571 U	< 0.000301 U	< 0.000244 U	< 0.000282 U
Bromoform				mg/kg	< 0.000497 U	< 0.00055 U	< 0.000798 U	< 0.000421 U	< 0.000341 U	< 0.000394 U
Bromomethane				mg/kg	< 0.000817 U	< 0.000904 U	< 0.00131 U	< 0.000692 U	< 0.000561 U	< 0.000647 U
Carbon disulfide				mg/kg	< 0.000406 U	< 0.00045 U	< 0.000653 U	< 0.000344 U	< 0.000279 U	< 0.000322 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000426 U	< 0.000472 U	< 0.000684 U	< 0.000361 U	< 0.000293 U	< 0.000338 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.00041 U	< 0.000454 U	< 0.000659 U	< 0.000348 U	< 0.000282 U	< 0.000325 U
Chloroethane				mg/kg	< 0.000483 U	< 0.000534 U	< 0.000775 U	< 0.000409 U	< 0.000332 U	< 0.000383 U
Chloroform	0.37	49	350	mg/kg	< 0.000475 U	< 0.000526 U	< 0.000764 U	< 0.000403 U	< 0.000327 U	< 0.000377 U
Chloromethane				mg/kg	< 0.00109 U	< 0.00121 U	< 0.00175 U	< 0.000924 U	< 0.000749 U	< 0.000864 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000137 U	< 0.000151 U	< 0.00022 U	< 0.000116 U	< 0.0000941 U	< 0.000108 U
cis-1,3-Dichloropropene				mg/kg	< 0.000358 U	< 0.000396 U	< 0.000575 U	< 0.000304 U	< 0.000246 U	< 0.000284 U
Cyclohexane				mg/kg	< 0.000627 U	< 0.000694 U	< 0.00101 U	< 0.000532 U	< 0.000431 U	< 0.000497 U
Dibromochloromethane				mg/kg	< 0.000348 U	< 0.000385 U	< 0.000559 U	< 0.000295 U	< 0.000239 U	< 0.000276 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000955 UJ	< 0.00106 UJ	< 0.00153 UJ	< 0.00081 U	< 0.000657 U	< 0.000757 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	0.456	< 0.000425 U	< 0.000616 U	0.00065 J	0.0754	< 0.000304 U
Isopropylbenzene (Cumene)				mg/kg	0.0564	< 0.000492 U	< 0.000714 U	< 0.000377 U	0.0135	< 0.000352 U
Methyl acetate				mg/kg	< 0.000375 U	< 0.000415 UJ	< 0.000603 UJ	< 0.000318 U	< 0.000258 U	< 0.000297 U
Methylcyclohexane				mg/kg	0.00366	< 0.000504 U	< 0.000732 U	< 0.000386 U	0.00102 J	< 0.000361 U
Methylene chloride	0.05	100	500	mg/kg	< 0.00085 U	< 0.000941 U	< 0.00137 U	< 0.000721 U	< 0.000585 U	< 0.000674 UJ
Styrene				mg/kg	< 0.000405 U	< 0.000448 U	< 0.00065 U	< 0.000343 U	< 0.000278 U	< 0.000321 U
tert-Butyl alcohol				mg/kg	< 0.00594 U	< 0.00658 UJ	< 0.00955 UJ	< 0.00504 U	< 0.00409 U	< 0.00471 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000478 U	< 0.000529 U	< 0.000769 U	< 0.000406 U	< 0.000329 U	< 0.000379 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.00028 U	< 0.00031 U	< 0.00045 U	< 0.000238 U	< 0.000193 U	< 0.000222 U
Toluene	0.7	**100**	500	mg/kg	0.0719	< 0.000252 U	< 0.000366 U	< 0.000193 U	0.00475	< 0.000181 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000384 U	< 0.000425 U	< 0.000616 U	< 0.000325 U	< 0.000264 U	< 0.000304 U
trans-1,3-Dichloropropene				mg/kg	< 0.000541 U	< 0.000598 U	< 0.000869 U	< 0.000458 U	< 0.000372 U	< 0.000429 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000416 U	< 0.000461 U	< 0.000669 U	< 0.000353 UJ	< 0.000286 UJ	< 0.00033 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000325 U	< 0.00036 U	< 0.000523 U	< 0.000276 U	< 0.000224 U	< 0.000258 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000538 U	< 0.000595 U	< 0.000864 U	< 0.000456 U	< 0.00037 U	< 0.000426 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	0.358	< 0.000403 U	< 0.000584 U	< 0.000308 U	0.00417	< 0.000288 U
Xylenes, m & p				mg/kg	0.625	< 0.000791 U	0.00508 J	< 0.000606 U	0.00791	< 0.000567 U
Xylenes, total	0.26	**100**	*500*	mg/kg	0.983	< 0.000403 U	0.00508	< 0.000308 U	0.0121	< 0.000288 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-16A	OH-SB-16A	OH-SB-16A	OH-SB-17	OH-SB-17	OH-SB-18
				Sample ID	OH-SB-16A-1.0-2.0-20230525	OH-SB-16A-9.5-10.5-20230525	OH-SB-16A-46.0-47.0-20230525	OH-SB-17-1.5-2.5-20230518	OH-SB-17-10.8-11.8-20230518	OH-SB-18-3.5-4.5-20230517
				Sample Date	05/25/2023	05/25/2023	05/25/2023	05/18/2023	05/18/2023	05/17/2023
				Depth (ft.)	1-2	9.5-10.5	46-47	1.5-2.5	10.8-11.8	3.5-4.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000337 U	< 0.000272 U	< 0.000353 UJ	< 0.000321 U	< 0.000472 U	< 0.000762 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000318 U	< 0.000257 U	< 0.000334 UJ	< 0.000304 U	< 0.000446 U	< 0.000721 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.000987 U	< 0.000798 U	< 0.00104 UJ	< 0.000942 U	< 0.00138 U	< 0.00223 U
1,1,2-Trichloroethane				mg/kg	< 0.000389 U	< 0.000314 U	< 0.000408 UJ	< 0.000371 U	< 0.000544 U	< 0.00088 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000337 U	< 0.000272 U	< 0.000353 UJ	< 0.000321 U	< 0.000472 U	< 0.000762 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000427 U	< 0.000345 U	< 0.000447 UJ	< 0.000407 U	< 0.000598 U	< 0.000966 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000498 U	< 0.000403 U	< 0.000522 UR	< 0.000476 U	< 0.000698 U	< 0.00113 UJ
1,2,4-Trichlorobenzene				mg/kg	< 0.000615 U	< 0.000497 U	< 0.000645 UR	< 0.000587 U	< 0.000861 U	< 0.00139 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000318 U	< 0.000257 U	***293 J***	< 0.000304 U	0.558	< 0.000721 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000563 U	< 0.000455 U	< 0.00059 UR	< 0.000537 U	< 0.000788 U	< 0.00127 UJ
1,2-Dibromoethane (EDB)				mg/kg	< 0.000291 U	< 0.000235 U	< 0.000305 UJ	< 0.000277 U	< 0.000407 U	< 0.000658 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000407 U	< 0.000329 U	< 0.000427 UR	< 0.000389 U	< 0.00057 U	< 0.000922 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000325 U	< 0.000263 U	0.208 J	< 0.00031 U	< 0.000455 U	< 0.000736 U
1,2-Dichloropropane				mg/kg	< 0.000378 U	< 0.000306 U	< 0.000397 UJ	< 0.000361 U	< 0.00053 U	< 0.000856 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.00017 U	< 0.000137 U	< 0.000178 UJ	< 0.000162 U	< 0.000237 U	< 0.000384 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000332 U	< 0.000268 U	< 0.000348 UR	< 0.000317 U	< 0.000465 U	< 0.000752 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000376 U	< 0.000304 U	< 0.000394 UJ	< 0.000359 U	0.122	< 0.000851 U
2-Hexanone				mg/kg	< 0.000216 U	< 0.000174 U	< 0.000226 UJ	< 0.000206 U	< 0.000302 U	< 0.000488 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000288 U	< 0.000233 U	< 0.000302 UJ	< 0.000275 U	< 0.000404 U	< 0.000653 U
Acetone	0.05	100	500	mg/kg	< 0.000699 U	< 0.000565 U	< 0.000733 UJ	< 0.000667 U	0.356	0.364 J
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.00021 U	< 0.00017 U	***46.2 J***	< 0.0002 U	2.13	< 0.000475 U
Bromochloromethane				mg/kg	< 0.000426 U	< 0.000344 U	< 0.000446 UJ	< 0.000406 U	< 0.000596 U	< 0.000963 U
Bromodichloromethane				mg/kg	< 0.000289 U	< 0.000234 U	< 0.000304 UJ	< 0.000276 U	< 0.000405 U	< 0.000655 U
Bromoform				mg/kg	< 0.000405 U	< 0.000327 U	< 0.000424 UJ	< 0.000386 U	< 0.000567 U	< 0.000916 U
Bromomethane				mg/kg	< 0.000665 U	< 0.000538 U	< 0.000698 UJ	< 0.000635 U	< 0.000932 U	< 0.00151 U
Carbon disulfide				mg/kg	< 0.000331 U	0.00405	< 0.000347 UJ	< 0.000316 U	< 0.000463 U	< 0.000749 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000347 U	< 0.000281 U	< 0.000364 UJ	< 0.000331 U	< 0.000486 U	< 0.000786 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000334 U	< 0.00027 U	< 0.000351 UJ	< 0.000319 U	< 0.000468 U	< 0.000757 U
Chloroethane				mg/kg	< 0.000393 U	< 0.000318 U	< 0.000412 UJ	< 0.000375 U	< 0.000551 U	< 0.00089 U
Chloroform	0.37	49	350	mg/kg	< 0.000388 U	< 0.000313 U	< 0.000406 UJ	< 0.00037 U	< 0.000543 U	< 0.000877 U
Chloromethane				mg/kg	0.0132 J	< 0.000718 UJ	< 0.000931 UJ	< 0.000848 U	< 0.00124 U	< 0.00201 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000112 U	< 0.0000902 U	< 0.000117 UJ	< 0.000106 U	< 0.000156 U	< 0.000252 U
cis-1,3-Dichloropropene				mg/kg	< 0.000292 U	< 0.000236 U	< 0.000306 UJ	< 0.000279 U	< 0.000409 U	< 0.00066 U
Cyclohexane				mg/kg	< 0.000511 U	< 0.000413 U	0.0161 J	< 0.000488 U	0.0291 J	< 0.00116 U
Dibromochloromethane				mg/kg	< 0.000284 U	< 0.000229 U	< 0.000298 UJ	< 0.000271 U	< 0.000397 U	< 0.000642 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000779 UJ	< 0.000629 UJ	< 0.000816 UJ	< 0.000743 UJ	< 0.00109 UJ	< 0.00176 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000313 U	< 0.000253 U	***438 J***	< 0.000298 U	7.46	< 0.000707 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000362 U	< 0.000293 U	51.5 J	< 0.000346 U	0.22	< 0.00082 U
Methyl acetate				mg/kg	< 0.000306 U	< 0.000247 U	< 0.00032 UJ	< 0.000292 U	< 0.000428 U	< 0.000692 UJ
Methylcyclohexane				mg/kg	< 0.000371 U	< 0.0003 U	0.0892 J	< 0.000355 U	0.0686	< 0.000841 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000693 U	< 0.00056 U	< 0.000727 UJ	< 0.000662 U	< 0.000971 U	< 0.00157 U
Styrene				mg/kg	< 0.00033 U	< 0.000267 U	< 0.000346 UJ	< 0.000315 U	< 0.000462 U	< 0.000747 U
tert-Butyl alcohol				mg/kg	< 0.00484 U	< 0.00392 U	< 0.00508 UJ	< 0.00462 U	< 0.00678 U	< 0.011 UJ
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.00039 U	< 0.000315 U	< 0.000409 UJ	< 0.000372 U	< 0.000546 U	< 0.000882 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000228 U	< 0.000185 U	< 0.000239 UJ	< 0.000218 U	< 0.00032 U	< 0.000517 U
Toluene	0.7	**100**	500	mg/kg	< 0.000186 U	< 0.00015 U	5.65 J	< 0.000177 U	0.557	< 0.00042 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000313 U	< 0.000253 U	< 0.000328 UJ	< 0.000298 U	< 0.000438 U	< 0.000707 U
trans-1,3-Dichloropropene				mg/kg	< 0.000441 U	< 0.000356 U	< 0.000462 UJ	< 0.000421 U	< 0.000617 U	< 0.000997 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000339 U	< 0.000274 U	< 0.000356 UJ	< 0.000324 U	< 0.000475 U	< 0.000767 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000265 U	< 0.000214 U	< 0.000278 UJ	< 0.000253 U	< 0.000371 U	< 0.0006 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000438 U	< 0.000354 U	< 0.00046 UJ	< 0.000418 U	< 0.000614 U	< 0.000992 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000296 U	< 0.00024 U	**151 J**	< 0.000283 U	5.51	< 0.000671 U
Xylenes, m & p				mg/kg	< 0.000582 U	< 0.000471 U	139 J	< 0.000556 U	12.9	< 0.00132 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000296 U	< 0.00024 U	**289 J**	< 0.000283 U	18.4	< 0.000671 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-18	OH-SB-19	OH-SB-19	OH-SB-20	OH-SB-20	OH-SB-21
				Sample ID	OH-SB-18-5.0-6.0-20230518	OH-SB-19-3.5-4.5-20230517	OH-SB-19-5.5-6.5-20230517	OH-SB-20-1.0-2.0-20230515	OH-SB-20-4.0-5.0-20230515	OH-SB-21-0.5-1.5-20230522
				Sample Date	05/18/2023	05/17/2023	05/17/2023	05/15/2023	05/15/2023	05/22/2023
				Depth (ft.)	5-6	3.5-4.5	5.5-6.5	1-2	4-5	0.5-1.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000421 U	< 0.00053 U	< 0.000335 U	< 0.000398 U	< 0.000565 U	< 0.000359 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000398 U	< 0.000501 U	< 0.000317 U	< 0.000376 U	< 0.000534 U	< 0.00034 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00124 U	< 0.00155 U	< 0.000982 U	< 0.00117 U	< 0.00166 U	< 0.00105 U
1,1,2-Trichloroethane				mg/kg	< 0.000486 U	< 0.000612 U	< 0.000386 U	< 0.000459 U	< 0.000653 U	< 0.000415 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000421 U	< 0.00053 U	< 0.000335 U	< 0.000398 U	< 0.000565 U	< 0.000359 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000534 U	< 0.000672 U	< 0.000424 U	< 0.000504 U	< 0.000716 U	< 0.000455 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000623 UJ	< 0.000784 UJ	< 0.000495 UJ	< 0.000588 U	< 0.000836 U	< 0.000532 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000769 UJ	< 0.000968 U	< 0.000611 U	< 0.000726 U	< 0.00103 U	< 0.000656 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000398 U	< 0.000501 U	< 0.000317 U	< 0.000376 U	0.00999	< 0.00034 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000704 U	< 0.000886 UJ	< 0.00056 UJ	< 0.000664 U	< 0.000945 U	< 0.0006 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000364 U	< 0.000457 U	< 0.000289 U	< 0.000343 U	< 0.000488 U	< 0.00031 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000509 U	< 0.000641 U	< 0.000405 U	< 0.000481 U	< 0.000683 U	< 0.000434 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000407 U	< 0.000512 U	< 0.000323 U	< 0.000384 U	< 0.000546 U	< 0.000347 U
1,2-Dichloropropane				mg/kg	< 0.000473 U	< 0.000595 U	< 0.000376 U	< 0.000447 U	< 0.000635 U	< 0.000404 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000212 U	< 0.000267 U	< 0.000169 U	< 0.0002 U	< 0.000285 U	< 0.000181 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000416 U	< 0.000523 U	< 0.00033 U	< 0.000392 U	< 0.000558 U	< 0.000354 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.00047 U	< 0.000592 U	< 0.000374 U	< 0.000444 UJ	< 0.000631 UJ	< 0.000401 U
2-Hexanone				mg/kg	< 0.00027 U	< 0.000339 U	< 0.000214 U	< 0.000255 UJ	< 0.000362 UJ	< 0.00023 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000361 U	< 0.000454 U	< 0.000287 U	< 0.00034 U	< 0.000484 U	< 0.000308 U
Acetone	0.05	100	500	mg/kg	< 0.000875 U	< 0.0011 U	< 0.000695 U	< 0.000825 UJ	< 0.00117 UJ	< 0.000746 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000263 U	< 0.00033 U	< 0.000209 U	< 0.000248 U	0.114	< 0.000224 U
Bromochloromethane				mg/kg	< 0.000533 U	< 0.00067 U	< 0.000423 U	< 0.000502 U	< 0.000714 U	< 0.000454 U
Bromodichloromethane				mg/kg	< 0.000362 U	< 0.000456 U	< 0.000288 U	< 0.000342 U	< 0.000486 U	< 0.000309 U
Bromoform				mg/kg	< 0.000507 U	< 0.000637 U	< 0.000403 U	< 0.000478 U	< 0.00068 U	< 0.000432 U
Bromomethane				mg/kg	< 0.000833 U	< 0.00105 U	< 0.000662 U	< 0.000786 U	< 0.00112 U	< 0.00071 U
Carbon disulfide				mg/kg	< 0.000414 U	< 0.000521 U	< 0.000329 U	< 0.000391 U	0.0373	< 0.000353 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000434 U	< 0.000546 U	< 0.000345 U	< 0.00041 U	< 0.000583 U	< 0.00037 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000419 U	< 0.000526 U	< 0.000333 U	< 0.000395 U	< 0.000562 U	< 0.000357 U
Chloroethane				mg/kg	< 0.000492 U	< 0.000619 U	< 0.000391 U	< 0.000464 U	< 0.00066 U	< 0.00042 U
Chloroform	0.37	49	350	mg/kg	< 0.000485 U	< 0.00061 U	< 0.000385 U	< 0.000457 U	< 0.000651 U	< 0.000413 U
Chloromethane				mg/kg	< 0.00111 U	< 0.0014 U	< 0.000883 U	0.0512	< 0.00149 U	< 0.000948 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.00014 U	< 0.000176 U	< 0.000111 U	< 0.000132 U	< 0.000187 U	< 0.000119 U
cis-1,3-Dichloropropene				mg/kg	< 0.000365 U	< 0.000459 U	< 0.00029 U	< 0.000344 U	< 0.00049 U	< 0.000311 U
Cyclohexane				mg/kg	< 0.000639 U	< 0.000804 U	< 0.000508 U	< 0.000603 U	0.0192	< 0.000545 U
Dibromochloromethane				mg/kg	< 0.000355 U	< 0.000447 U	< 0.000282 U	< 0.000335 U	< 0.000476 U	< 0.000303 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000974 UJ	< 0.00123 UJ	< 0.000774 UJ	< 0.000919 U	< 0.00131 U	< 0.000831 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000391 U	< 0.000492 U	< 0.000311 U	< 0.000369 U	0.441	< 0.000333 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000453 U	< 0.00057 U	< 0.00036 U	< 0.000427 U	0.09	< 0.000386 U
Methyl acetate				mg/kg	< 0.000382 U	< 0.000481 UJ	< 0.000304 UJ	< 0.000361 U	< 0.000513 U	< 0.000326 U
Methylcyclohexane				mg/kg	< 0.000465 U	< 0.000585 U	< 0.000369 U	< 0.000438 U	0.117	< 0.000396 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000867 U	< 0.00109 U	< 0.000689 U	< 0.000818 U	< 0.00116 U	< 0.00074 U
Styrene				mg/kg	< 0.000413 U	< 0.000519 U	< 0.000328 U	< 0.000389 U	< 0.000554 U	< 0.000352 U
tert-Butyl alcohol				mg/kg	< 0.00606 U	< 0.00762 UJ	< 0.00482 UJ	< 0.00572 U	< 0.00813 U	< 0.00517 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000488 U	< 0.000614 U	< 0.000388 U	< 0.00046 U	< 0.000654 U	< 0.000416 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000286 U	< 0.000359 U	< 0.000227 U	< 0.00027 U	< 0.000383 U	< 0.000244 U
Toluene	0.7	**100**	500	mg/kg	< 0.000232 U	< 0.000292 U	< 0.000185 U	< 0.000219 U	0.0284	< 0.000198 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000391 U	< 0.000492 U	< 0.000311 U	< 0.000369 U	< 0.000525 U	< 0.000333 U
trans-1,3-Dichloropropene				mg/kg	< 0.000551 U	< 0.000693 U	< 0.000438 U	< 0.00052 U	< 0.00074 U	< 0.00047 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000424 U	< 0.000534 U	< 0.000337 U	< 0.0004 UJ	< 0.000569 UJ	< 0.000362 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000332 U	< 0.000418 U	< 0.000264 U	< 0.000313 U	< 0.000445 U	< 0.000283 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000548 U	< 0.00069 U	< 0.000436 U	< 0.000517 U	< 0.000736 U	< 0.000468 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000371 U	< 0.000467 U	< 0.000295 U	< 0.00035 U	0.0156	< 0.000316 U
Xylenes, m & p				mg/kg	< 0.000729 U	< 0.000917 U	< 0.000579 U	< 0.000688 U	0.0282	< 0.000621 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000371 U	< 0.000467 U	< 0.000295 U	< 0.00035 U	0.0439	< 0.000316 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-21	OH-SB-22	OH-SB-22	OH-SB-22	OH-SB-23	OH-SB-23
				Sample ID	OH-SB-21-6.0-7.0-20230523	OH-SB-22-2.0-3.0-20230523	OH-SB-22-6.4-7.4-20230523	OH-SB-22-46.0-47.0-20230524	OH-SB-23-1.0-2.0-20230518	DUP-20230518
				Sample Date	05/23/2023	05/23/2023	05/23/2023	05/24/2023	05/18/2023	05/18/2023
				Depth (ft.)	6-7	2-3	6.4-7.4	46-47	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000431 U	< 0.000508 U	< 0.000245 U	< 0.000265 UJ	< 0.000309 U	< 0.000295 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000407 U	< 0.00048 U	< 0.000232 U	< 0.00025 UJ	< 0.000292 U	< 0.000279 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00126 U	< 0.00149 U	< 0.000718 U	< 0.000777 UJ	< 0.000906 U	< 0.000866 U
1,1,2-Trichloroethane				mg/kg	< 0.000498 U	< 0.000586 U	< 0.000283 U	< 0.000306 UJ	< 0.000357 U	< 0.000341 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000431 U	< 0.000508 U	< 0.000245 U	< 0.000265 UJ	< 0.000309 U	< 0.000295 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000546 U	< 0.000644 U	< 0.00031 U	< 0.000336 UJ	< 0.000392 U	< 0.000374 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000638 U	< 0.000752 U	< 0.000362 U	< 0.000392 UJ	< 0.000457 U	< 0.000437 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000787 U	< 0.000928 U	< 0.000447 U	< 0.000484 UJ	< 0.000564 U	< 0.000539 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000407 U	0.00158 J	0.00536	***301 J***	< 0.000292 U	< 0.000279 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.00072 U	< 0.000849 U	< 0.000409 U	< 0.000443 UJ	< 0.000517 U	< 0.000494 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000372 U	< 0.000439 U	< 0.000211 U	< 0.000229 UJ	< 0.000267 U	< 0.000255 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000521 U	< 0.000614 U	< 0.000296 U	< 0.00032 UJ	< 0.000374 U	< 0.000357 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000416 U	< 0.000491 U	< 0.000237 U	< 0.000256 UJ	< 0.000299 U	< 0.000285 U
1,2-Dichloropropane				mg/kg	< 0.000484 U	< 0.000571 U	< 0.000275 U	< 0.000298 UJ	< 0.000347 U	< 0.000332 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000217 U	< 0.000256 U	< 0.000123 U	< 0.000133 UJ	< 0.000156 U	< 0.000149 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000425 U	< 0.000501 U	< 0.000242 U	< 0.000261 UJ	< 0.000305 U	< 0.000291 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000481 U	< 0.000567 U	< 0.000273 U	< 0.000296 UJ	< 0.000345 U	< 0.00033 U
2-Hexanone				mg/kg	< 0.000276 U	< 0.000325 U	< 0.000157 U	< 0.00017 UJ	< 0.000198 U	< 0.000189 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000369 U	< 0.000435 U	< 0.00021 U	< 0.000227 UJ	< 0.000265 U	< 0.000253 U
Acetone	0.05	100	500	mg/kg	< 0.000895 U	< 0.00105 U	< 0.000508 U	< 0.00055 UJ	< 0.000642 U	< 0.000613 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000269 U	< 0.000317 U	0.00103 J	**32 J**	< 0.000193 U	< 0.000184 U
Bromochloromethane				mg/kg	< 0.000545 U	< 0.000642 U	< 0.00031 U	< 0.000335 UJ	< 0.000391 U	< 0.000373 U
Bromodichloromethane				mg/kg	< 0.000371 U	< 0.000437 U	< 0.000211 U	< 0.000228 UJ	< 0.000266 U	< 0.000254 U
Bromoform				mg/kg	< 0.000518 U	< 0.000611 U	< 0.000294 U	< 0.000318 UJ	< 0.000372 U	< 0.000355 U
Bromomethane				mg/kg	< 0.000852 UJ	< 0.001 U	< 0.000484 U	< 0.000523 UJ	< 0.000611 U	< 0.000584 U
Carbon disulfide				mg/kg	< 0.000424 U	< 0.000499 U	0.0126	< 0.00026 UJ	< 0.000304 U	< 0.00029 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000444 U	< 0.000524 U	< 0.000252 U	< 0.000273 UJ	< 0.000319 U	< 0.000304 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000428 U	< 0.000505 U	< 0.000243 U	< 0.000263 UJ	< 0.000307 U	< 0.000293 U
Chloroethane				mg/kg	< 0.000503 UJ	< 0.000593 U	< 0.000286 U	< 0.000309 UJ	< 0.000361 U	< 0.000345 U
Chloroform	0.37	49	350	mg/kg	< 0.000496 U	< 0.000585 U	< 0.000282 U	< 0.000305 UJ	< 0.000356 U	< 0.00034 U
Chloromethane				mg/kg	< 0.00114 UJ	< 0.00134 UJ	< 0.000646 UJ	< 0.000699 UJ	< 0.000815 U	< 0.000779 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000143 U	< 0.000168 U	< 0.0000811 U	< 0.0000877 UJ	< 0.000102 U	< 0.0000978 U
cis-1,3-Dichloropropene				mg/kg	< 0.000374 U	< 0.00044 U	< 0.000212 U	< 0.00023 UJ	< 0.000268 U	< 0.000256 U
Cyclohexane				mg/kg	< 0.000654 UJ	< 0.000771 U	< 0.000372 U	< 0.000402 UJ	< 0.000469 U	< 0.000448 U
Dibromochloromethane				mg/kg	< 0.000363 U	< 0.000428 U	< 0.000206 U	< 0.000223 UJ	< 0.00026 U	< 0.000249 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000997 UJ	< 0.00117 UJ	< 0.000566 UJ	< 0.000612 UJ	< 0.000715 UJ	< 0.000683 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.0004 U	< 0.000472 U	0.0312	***436 J***	< 0.000287 U	< 0.000274 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000464 U	< 0.000546 U	0.0449	19.7 J	< 0.000332 U	< 0.000318 U
Methyl acetate				mg/kg	< 0.000391 U	< 0.000461 U	< 0.000222 U	< 0.00024 UJ	< 0.000281 U	< 0.000268 U
Methylcyclohexane				mg/kg	< 0.000475 U	< 0.00056 U	0.00615	0.0833 J	< 0.000341 U	< 0.000326 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000887 U	< 0.00105 U	< 0.000504 U	< 0.000545 UJ	< 0.000636 U	< 0.000608 U
Styrene				mg/kg	< 0.000422 U	< 0.000498 U	< 0.00024 U	< 0.000259 UJ	< 0.000303 U	< 0.000289 U
tert-Butyl alcohol				mg/kg	< 0.0062 U	< 0.00731 U	< 0.00352 U	< 0.00381 UJ	< 0.00445 U	< 0.00425 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000499 U	< 0.000588 U	< 0.000284 U	< 0.000307 UJ	< 0.000358 U	< 0.000342 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000292 U	< 0.000345 U	< 0.000166 U	< 0.00018 UJ	< 0.00021 U	< 0.0002 U
Toluene	0.7	**100**	500	mg/kg	< 0.000238 U	< 0.00028 U	0.00308	**173 J**	< 0.00017 U	< 0.000163 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.0004 U	< 0.000472 U	< 0.000227 U	< 0.000246 UJ	< 0.000287 U	< 0.000274 U
trans-1,3-Dichloropropene				mg/kg	< 0.000564 U	< 0.000665 U	< 0.00032 U	< 0.000347 UJ	< 0.000404 U	< 0.000386 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000434 U	< 0.000512 U	< 0.000247 U	< 0.000267 UJ	< 0.000311 U	< 0.000297 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.00034 U	< 0.0004 U	< 0.000193 U	< 0.000209 UJ	< 0.000243 U	< 0.000233 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000561 UJ	< 0.000661 UJ	< 0.000319 UJ	< 0.000345 UJ	< 0.000402 U	< 0.000384 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000379 U	< 0.000447 U	0.00527	**162 J**	< 0.000272 U	< 0.00026 U
Xylenes, m & p				mg/kg	< 0.000746 U	< 0.000879 U	0.0107	334 J	< 0.000535 U	< 0.000511 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000379 U	< 0.000447 U	0.016	**495 J**	< 0.000272 U	< 0.00026 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-23	OH-SB-23	OH-SB-24	OH-SB-24	OH-SB-24	OH-SB-25
				Sample ID	OH-SB-23-7.3-8.3-20230518	OH-SB-23-14.8-15.8-20230518	OH-SB-24-2.5-3.5-20230526	OH-SB-24-5.5-6.5-20230526	OH-SB-24-34.5-35.5-20230526	OH-SB-25-1.0-2.0-20230522
				Sample Date	05/18/2023	05/18/2023	05/26/2023	05/26/2023	05/26/2023	05/22/2023
				Depth (ft.)	7.5-8.3	14.8-15.8	2.5-3.5	5.5-6.5	34.5-35.5	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.00041 U	< 0.000493 U	< 0.000467 U	< 0.000297 U	< 0.000333 UJ	< 0.00035 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000387 U	< 0.000466 U	< 0.000441 U	< 0.00028 U	< 0.000315 UJ	< 0.000331 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.0012 U	< 0.00144 U	< 0.00137 U	< 0.00087 U	< 0.000978 UJ	< 0.00103 U
1,1,2-Trichloroethane				mg/kg	< 0.000473 U	< 0.000569 U	< 0.000539 U	< 0.000342 U	< 0.000385 UJ	< 0.000404 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.00041 U	< 0.000493 U	< 0.000467 U	< 0.000297 U	< 0.000333 UJ	< 0.00035 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000519 U	< 0.000624 U	< 0.000591 U	< 0.000376 U	< 0.000423 UJ	< 0.000443 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000606 U	< 0.000729 U	< 0.000691 U	< 0.000439 U	< 0.000493 UR	< 0.000518 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000748 U	< 0.0009 U	< 0.000852 U	< 0.000542 U	< 0.000609 UR	< 0.000639 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000387 U	0.263	0.00732	< 0.00028 U	***368 J***	< 0.000331 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000685 U	< 0.000824 U	< 0.00078 U	< 0.000496 U	< 0.000557 UR	< 0.000585 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000354 U	< 0.000425 U	< 0.000403 U	< 0.000256 U	< 0.000288 UJ	< 0.000302 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000495 U	< 0.000596 U	< 0.000564 U	< 0.000359 U	< 0.000403 UR	< 0.000423 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000396 U	< 0.000476 U	< 0.000451 U	< 0.000287 U	< 0.000322 UJ	< 0.000338 U
1,2-Dichloropropane				mg/kg	< 0.00046 U	< 0.000554 U	< 0.000524 U	< 0.000333 U	< 0.000375 UJ	< 0.000393 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000206 U	< 0.000248 U	< 0.000235 U	< 0.000149 U	< 0.000168 UJ	< 0.000176 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000404 U	< 0.000486 U	< 0.00046 U	< 0.000293 U	< 0.000329 UR	< 0.000345 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000457 U	< 0.00055 U	< 0.000521 U	< 0.000331 U	< 0.000372 UJ	< 0.000391 U
2-Hexanone				mg/kg	< 0.000262 U	< 0.000316 U	< 0.000299 U	< 0.00019 U	< 0.000214 UJ	< 0.000224 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000351 U	< 0.000422 U	< 0.0004 U	< 0.000254 U	< 0.000286 UJ	< 0.0003 U
Acetone	0.05	100	500	mg/kg	< 0.00085 U	< 0.00102 U	< 0.000969 U	< 0.000616 U	< 0.000692 UJ	< 0.000726 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000255 U	0.119	< 0.000291 U	< 0.000185 U	**27.2 J**	< 0.000218 U
Bromochloromethane				mg/kg	< 0.000518 U	< 0.000623 U	< 0.00059 U	< 0.000375 U	< 0.000421 UJ	< 0.000442 U
Bromodichloromethane				mg/kg	< 0.000352 U	< 0.000424 U	< 0.000401 U	< 0.000255 U	< 0.000287 UJ	< 0.000301 U
Bromoform				mg/kg	< 0.000492 U	< 0.000592 U	< 0.000561 U	< 0.000357 U	< 0.000401 UJ	< 0.000421 U
Bromomethane				mg/kg	< 0.000809 U	< 0.000974 U	< 0.000922 U	< 0.000586 U	< 0.000659 UJ	< 0.000692 U
Carbon disulfide				mg/kg	< 0.000403 U	< 0.000484 U	< 0.000459 U	< 0.000292 U	< 0.000328 UJ	< 0.000344 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000422 U	< 0.000508 U	< 0.000481 U	< 0.000306 U	< 0.000344 UJ	< 0.000361 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000407 U	< 0.000489 U	< 0.000464 U	< 0.000295 U	< 0.000331 UJ	< 0.000348 U
Chloroethane				mg/kg	< 0.000478 U	< 0.000576 U	< 0.000545 U	< 0.000347 U	< 0.000389 UJ	< 0.000409 U
Chloroform	0.37	49	350	mg/kg	< 0.000471 U	< 0.000567 U	< 0.000537 U	< 0.000341 U	< 0.000384 UJ	< 0.000403 U
Chloromethane				mg/kg	< 0.00108 U	< 0.0013 U	< 0.00123 U	< 0.000782 U	< 0.000879 UJ	< 0.000923 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000136 U	< 0.000163 U	< 0.000155 U	< 0.0000983 U	< 0.00011 UJ	< 0.000116 U
cis-1,3-Dichloropropene				mg/kg	< 0.000355 U	< 0.000427 U	< 0.000404 U	< 0.000257 U	< 0.000289 UJ	< 0.000303 U
Cyclohexane				mg/kg	< 0.000621 U	< 0.000748 U	< 0.000708 U	< 0.00045 U	< 0.000506 UJ	< 0.000531 U
Dibromochloromethane				mg/kg	< 0.000345 U	< 0.000415 U	< 0.000393 U	< 0.00025 U	< 0.000281 UJ	< 0.000295 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000947 UJ	< 0.00114 UJ	< 0.00108 U	< 0.000686 U	< 0.000771 UJ	< 0.000809 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.00038 U	0.475	< 0.000433 U	< 0.000275 U	**205 J**	< 0.000325 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000441 U	0.0956	< 0.000502 U	< 0.000319 U	9.51 J	< 0.000376 U
Methyl acetate				mg/kg	< 0.000372 U	< 0.000447 U	< 0.000424 U	< 0.000269 U	< 0.000303 UJ	< 0.000318 U
Methylcyclohexane				mg/kg	0.0379	0.011	0.0759	< 0.000327 U	0.0803 J	< 0.000386 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000843 U	< 0.00101 U	< 0.000961 U	< 0.000611 U	< 0.000686 UJ	< 0.00072 U
Styrene				mg/kg	< 0.000401 U	0.0202	< 0.000457 U	< 0.000291 U	186 J	< 0.000343 U
tert-Butyl alcohol				mg/kg	< 0.00589 U	< 0.00709 U	< 0.00671 UJ	< 0.00427 UJ	< 0.0048 UJ	< 0.00503 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000474 U	< 0.00057 U	< 0.00054 U	< 0.000343 U	< 0.000386 UJ	< 0.000405 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000278 U	< 0.000334 U	< 0.000316 U	< 0.000201 U	< 0.000226 UJ	< 0.000237 U
Toluene	0.7	**100**	500	mg/kg	< 0.000226 U	0.139	< 0.000257 U	< 0.000164 U	**103 J**	< 0.000193 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.00038 U	< 0.000457 U	< 0.000433 U	< 0.000275 U	< 0.000309 UJ	< 0.000325 U
trans-1,3-Dichloropropene				mg/kg	< 0.000536 U	< 0.000645 U	< 0.000611 U	< 0.000388 U	< 0.000436 UJ	< 0.000458 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000412 U	< 0.000496 U	< 0.00047 U	< 0.000299 U	< 0.000336 UJ	< 0.000352 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000323 U	< 0.000388 U	< 0.000368 U	< 0.000234 U	< 0.000263 UJ	< 0.000276 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000533 U	< 0.000641 U	< 0.000607 U	< 0.000386 U	< 0.000434 UJ	< 0.000455 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000361 U	0.423	< 0.000411 U	< 0.000261 U	**163 J**	< 0.000308 U
Xylenes, m & p				mg/kg	< 0.000708 U	0.839	< 0.000807 U	< 0.000513 U	324 J	< 0.000605 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000361 U	1.26	< 0.000411 U	< 0.000261 U	**487 J**	< 0.000308 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-25	OH-SB-27	OH-SB-27	OH-SB-28	OH-SB-28	OH-SB-29
				Sample ID	OH-SB-25-5.7-6.7-20230522	OH-SB-27-1.0-2.0-20230519	OH-SB-27-10.0-11.0-20230519	OH-SB-28-0.5-1.5-20230519	OH-SB-28-15.0-16.0-20230519	OH-SB-29-1.5-2.5-20230518
				Sample Date	05/22/2023	05/19/2023	05/19/2023	05/19/2023	05/19/2023	05/18/2023
				Depth (ft.)	5.7-6.7	1-2	10-11	0.5-1.5	15-16	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000502 U	< 0.000331 U	< 0.000335 U	< 0.000321 U	< 0.00029 U	< 0.000308 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000474 U	< 0.000313 U	< 0.000317 U	< 0.000304 U	< 0.000274 U	< 0.000291 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00147 U	< 0.00097 U	< 0.000983 U	< 0.000941 U	< 0.000849 U	< 0.000902 U
1,1,2-Trichloroethane				mg/kg	< 0.000579 U	< 0.000382 U	< 0.000387 U	< 0.000371 U	< 0.000334 U	< 0.000355 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000502 U	< 0.000331 U	< 0.000335 U	< 0.000321 U	< 0.00029 U	< 0.000308 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000636 U	< 0.000419 U	< 0.000425 U	< 0.000407 U	< 0.000367 U	< 0.00039 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000742 U	< 0.00049 U	< 0.000496 U	< 0.000475 U	< 0.000429 U	< 0.000455 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000916 U	< 0.000604 U	< 0.000612 U	< 0.000586 U	< 0.000529 U	< 0.000562 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000474 U	< 0.000313 U	< 0.000317 U	< 0.000304 U	< 0.000274 U	< 0.000291 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000839 U	< 0.000553 U	< 0.000561 U	< 0.000537 U	< 0.000484 U	< 0.000515 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000433 U	< 0.000286 U	< 0.000289 U	< 0.000277 U	< 0.00025 U	< 0.000266 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000607 U	< 0.0004 U	< 0.000406 U	< 0.000388 U	< 0.00035 U	< 0.000372 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000485 U	< 0.00032 U	< 0.000324 U	< 0.00031 U	< 0.00028 U	< 0.000297 U
1,2-Dichloropropane				mg/kg	< 0.000564 U	< 0.000372 U	< 0.000377 U	< 0.000361 U	< 0.000325 U	< 0.000346 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000253 U	< 0.000167 U	< 0.000169 U	< 0.000162 U	< 0.000146 U	< 0.000155 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000495 U	< 0.000326 U	< 0.000331 U	< 0.000317 U	< 0.000286 U	< 0.000304 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.00056 U	< 0.00037 U	< 0.000375 U	< 0.000359 U	< 0.000323 U	< 0.000344 U
2-Hexanone				mg/kg	< 0.000321 U	< 0.000212 U	< 0.000215 U	< 0.000206 U	< 0.000185 U	< 0.000197 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.00043 U	< 0.000283 U	< 0.000287 U	< 0.000275 U	< 0.000248 U	< 0.000264 U
Acetone	0.05	100	500	mg/kg	< 0.00104 U	< 0.000687 U	< 0.000696 U	< 0.000666 U	< 0.000601 U	< 0.000639 U
Benzene	0.06	**4.8**	*44*	mg/kg	0.144	< 0.000206 U	< 0.000209 U	< 0.0002 U	< 0.000181 U	< 0.000192 U
Bromochloromethane				mg/kg	< 0.000634 U	< 0.000418 U	< 0.000424 U	< 0.000406 U	< 0.000366 U	< 0.000389 U
Bromodichloromethane				mg/kg	< 0.000431 U	< 0.000285 U	< 0.000288 U	< 0.000276 U	< 0.000249 U	< 0.000265 U
Bromoform				mg/kg	< 0.000603 U	< 0.000398 U	< 0.000403 U	< 0.000386 U	< 0.000348 U	< 0.00037 U
Bromomethane				mg/kg	< 0.000992 U	< 0.000654 U	< 0.000663 U	< 0.000635 U	< 0.000572 U	< 0.000608 U
Carbon disulfide				mg/kg	< 0.000493 U	< 0.000325 U	0.0143	< 0.000316 U	< 0.000285 U	< 0.000303 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000517 U	< 0.000341 U	< 0.000346 U	< 0.000331 U	< 0.000299 U	< 0.000317 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000498 U	< 0.000329 U	< 0.000333 U	< 0.000319 U	< 0.000288 U	< 0.000306 U
Chloroethane				mg/kg	< 0.000586 U	< 0.000387 U	< 0.000392 U	< 0.000375 U	< 0.000338 U	< 0.00036 U
Chloroform	0.37	49	350	mg/kg	< 0.000577 U	< 0.000381 U	< 0.000386 U	< 0.00037 U	< 0.000333 U	< 0.000354 U
Chloromethane				mg/kg	< 0.00132 U	< 0.000873 U	< 0.000885 U	< 0.000847 U	< 0.000764 U	< 0.000812 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000166 U	< 0.00011 U	< 0.000111 U	< 0.000106 U	< 0.0000959 U	< 0.000102 U
cis-1,3-Dichloropropene				mg/kg	< 0.000435 U	< 0.000287 U	< 0.000291 U	< 0.000278 U	< 0.000251 U	< 0.000267 U
Cyclohexane				mg/kg	< 0.000761 U	< 0.000502 UJ	< 0.000509 UJ	< 0.000487 UJ	< 0.000439 UJ	< 0.000467 U
Dibromochloromethane				mg/kg	< 0.000423 U	< 0.000279 U	< 0.000283 U	< 0.000271 U	< 0.000244 U	< 0.000259 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.00116 UJ	< 0.000765 UJ	< 0.000775 UJ	< 0.000742 UJ	< 0.00067 UJ	< 0.000712 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	0.0231	< 0.000307 U	< 0.000311 U	< 0.000298 U	< 0.000269 U	< 0.000286 U
Isopropylbenzene (Cumene)				mg/kg	< 0.00054 U	< 0.000356 U	< 0.000361 U	< 0.000345 U	< 0.000311 U	< 0.000331 U
Methyl acetate				mg/kg	< 0.000455 U	< 0.0003 U	< 0.000304 U	< 0.000291 U	< 0.000263 U	< 0.000279 U
Methylcyclohexane				mg/kg	< 0.000553 U	< 0.000365 U	< 0.00037 U	< 0.000354 U	< 0.000319 U	< 0.000339 U
Methylene chloride	0.05	100	500	mg/kg	< 0.00103 U	< 0.000681 U	0.102	< 0.000661 U	< 0.000596 U	< 0.000634 U
Styrene				mg/kg	< 0.000491 U	< 0.000324 U	< 0.000329 U	< 0.000315 U	< 0.000284 U	< 0.000302 U
tert-Butyl alcohol				mg/kg	< 0.00722 U	< 0.00476 U	< 0.00482 U	< 0.00462 U	< 0.00417 U	< 0.00443 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000581 U	< 0.000383 U	< 0.000388 U	< 0.000372 U	< 0.000335 U	< 0.000356 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.00034 U	< 0.000224 U	< 0.000227 U	< 0.000218 U	< 0.000196 U	< 0.000209 U
Toluene	0.7	**100**	500	mg/kg	0.0381	< 0.000183 U	< 0.000185 U	< 0.000177 U	< 0.00016 U	< 0.00017 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000466 U	< 0.000307 U	< 0.000311 U	< 0.000298 U	< 0.000269 U	< 0.000286 U
trans-1,3-Dichloropropene				mg/kg	< 0.000656 U	< 0.000433 U	< 0.000439 U	< 0.00042 U	< 0.000379 U	< 0.000403 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000505 U	< 0.000333 U	< 0.000338 U	< 0.000323 U	< 0.000292 U	< 0.00031 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000395 U	< 0.000261 U	< 0.000264 U	< 0.000253 U	< 0.000228 U	< 0.000242 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000653 U	< 0.000431 U	< 0.000437 U	< 0.000418 U	< 0.000377 U	< 0.000401 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000442 U	< 0.000291 U	< 0.000295 U	< 0.000283 U	< 0.000255 U	< 0.000271 U
Xylenes, m & p				mg/kg	0.0118	< 0.000573 U	< 0.00058 U	< 0.000555 U	< 0.000501 U	< 0.000532 U
Xylenes, total	0.26	**100**	*500*	mg/kg	0.0118	< 0.000291 U	< 0.000295 U	< 0.000283 U	< 0.000255 U	< 0.000271 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-29	OH-SB-30	OH-SB-30	OH-SB-31	OH-SB-31	OH-SB-33
				Sample ID	OH-SB-29-10-0-11.0-20230519	OH-SB-30-3.0-4.0-20230516	OH-SB-30-6.5-7.5-20230516	OH-SB-31-2.5-3.5-20230522	OH-SB-31-6.1-7.1-20230522	OH-SB-33-1.0-2.0-20230513
				Sample Date	05/19/2023	05/16/2023	05/16/2023	05/22/2023	05/22/2023	05/13/2023
				Depth (ft.)	10-11	4-4	6.5-7.5	2.5-3.5	6.1-7.1	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000267 U	< 0.00057 U	< 0.000319 U	< 0.0003 U	< 0.000489 U	< 0.000651 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000253 U	< 0.000539 U	< 0.000302 U	< 0.000284 U	< 0.000462 U	< 0.000615 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.000784 U	< 0.00167 U	< 0.000936 U	< 0.00088 U	< 0.00143 U	< 0.00191 U
1,1,2-Trichloroethane				mg/kg	< 0.000309 U	< 0.000658 U	< 0.000369 U	< 0.000347 U	< 0.000564 U	< 0.000751 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000267 U	< 0.00057 U	< 0.000319 U	< 0.0003 U	< 0.000489 U	< 0.000651 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000339 U	< 0.000722 U	< 0.000405 U	< 0.000381 U	< 0.000619 U	< 0.000825 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000396 U	< 0.000843 U	< 0.000473 U	< 0.000444 U	< 0.000723 U	< 0.000963 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000488 U	< 0.00104 U	< 0.000583 U	< 0.000548 U	< 0.000892 U	< 0.00119 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000253 U	< 0.000539 U	< 0.000302 U	< 0.000284 U	< 0.000462 U	< 0.000615 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000447 U	< 0.000953 UJ	< 0.000534 UJ	< 0.000502 U	< 0.000817 U	< 0.00109 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000231 U	< 0.000492 U	< 0.000276 U	< 0.000259 U	< 0.000422 U	< 0.000562 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000323 U	< 0.000689 U	< 0.000386 U	< 0.000363 U	< 0.000591 U	< 0.000787 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000258 U	< 0.000551 U	< 0.000309 U	< 0.00029 U	< 0.000472 U	< 0.000629 U
1,2-Dichloropropane				mg/kg	< 0.0003 U	< 0.00064 U	< 0.000359 U	< 0.000337 U	< 0.000549 U	< 0.000731 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000135 U	< 0.000287 U	< 0.000161 U	< 0.000151 U	< 0.000246 U	< 0.000328 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000264 U	< 0.000562 U	< 0.000315 U	< 0.000296 U	< 0.000482 U	< 0.000642 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000299 U	< 0.000636 U	< 0.000357 U	< 0.000335 U	< 0.000546 U	< 0.000727 UJ
2-Hexanone				mg/kg	< 0.000171 U	< 0.000365 U	< 0.000205 U	< 0.000192 U	< 0.000313 U	< 0.000417 UJ
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000229 U	< 0.000488 U	< 0.000273 U	< 0.000257 U	< 0.000419 U	< 0.000557 U
Acetone	0.05	100	500	mg/kg	< 0.000555 U	< 0.00118 U	< 0.000663 U	< 0.000623 U	< 0.00101 U	< 0.00135 UJ
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000167 U	< 0.000355 U	< 0.000199 U	< 0.000187 U	< 0.000305 U	< 0.000406 U
Bromochloromethane				mg/kg	< 0.000338 U	< 0.00072 U	< 0.000404 U	< 0.000379 U	< 0.000618 U	< 0.000823 U
Bromodichloromethane				mg/kg	< 0.00023 U	< 0.00049 U	< 0.000275 U	< 0.000258 U	< 0.00042 U	< 0.00056 U
Bromoform				mg/kg	< 0.000321 U	< 0.000685 U	< 0.000384 U	< 0.000361 U	< 0.000588 U	< 0.000783 U
Bromomethane				mg/kg	< 0.000528 U	< 0.00113 U	< 0.000631 U	< 0.000593 U	< 0.000966 U	< 0.00129 U
Carbon disulfide				mg/kg	< 0.000263 U	< 0.00056 U	< 0.000314 U	< 0.000295 U	< 0.00048 U	< 0.00064 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000276 U	< 0.000588 U	< 0.000329 U	< 0.00031 U	< 0.000504 U	< 0.000671 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000266 U	< 0.000566 U	< 0.000317 U	< 0.000298 U	< 0.000486 U	< 0.000647 U
Chloroethane				mg/kg	< 0.000312 U	< 0.000666 U	< 0.000373 U	< 0.000351 U	< 0.000571 U	< 0.00076 U
Chloroform	0.37	49	350	mg/kg	< 0.000308 U	< 0.000656 U	< 0.000368 U	< 0.000346 U	< 0.000563 U	< 0.000749 U
Chloromethane				mg/kg	< 0.000705 U	< 0.0015 U	< 0.000842 U	< 0.000792 U	< 0.00129 U	< 0.00172 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.0000885 U	< 0.000189 U	< 0.000106 U	< 0.0000994 U	< 0.000162 U	< 0.000216 U
cis-1,3-Dichloropropene				mg/kg	< 0.000232 U	< 0.000494 U	< 0.000277 U	< 0.00026 U	< 0.000424 U	< 0.000564 U
Cyclohexane				mg/kg	< 0.000406 UJ	< 0.000865 U	< 0.000485 U	< 0.000456 U	< 0.000742 U	< 0.000988 U
Dibromochloromethane				mg/kg	< 0.000225 U	< 0.00048 U	< 0.000269 U	< 0.000253 U	< 0.000412 U	< 0.000549 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000618 UJ	< 0.00132 UJ	< 0.000738 UJ	< 0.000694 UJ	< 0.00113 UJ	< 0.00151 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000248 U	< 0.000529 U	< 0.000296 U	< 0.000279 U	< 0.000454 U	< 0.000604 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000288 U	< 0.000613 U	< 0.000344 U	< 0.000323 U	< 0.000526 U	< 0.0007 U
Methyl acetate				mg/kg	< 0.000243 U	< 0.000517 U	< 0.00029 U	< 0.000273 U	< 0.000444 U	< 0.000591 U
Methylcyclohexane				mg/kg	< 0.000295 U	< 0.000629 U	< 0.000352 U	< 0.000331 U	< 0.000539 U	< 0.000718 U
Methylene chloride	0.05	100	500	mg/kg	< 0.00055 U	< 0.00117 U	< 0.000657 U	< 0.000618 U	< 0.00101 U	< 0.00134 U
Styrene				mg/kg	< 0.000262 U	< 0.000558 U	< 0.000313 U	< 0.000294 U	< 0.000479 U	< 0.000638 U
tert-Butyl alcohol				mg/kg	< 0.00385 U	< 0.0082 U	< 0.00459 U	< 0.00432 U	< 0.00703 U	< 0.00937 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.00031 U	< 0.00066 U	< 0.00037 U	< 0.000348 U	< 0.000566 U	< 0.000754 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000181 U	< 0.000387 U	< 0.000217 U	< 0.000204 U	< 0.000331 U	0.0067
Toluene	0.7	**100**	500	mg/kg	< 0.000147 U	< 0.000314 U	< 0.000176 U	< 0.000166 U	< 0.00027 U	< 0.000359 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000248 U	< 0.000529 U	< 0.000296 U	< 0.000279 U	< 0.000454 U	< 0.000604 U
trans-1,3-Dichloropropene				mg/kg	< 0.00035 U	< 0.000746 U	< 0.000418 U	< 0.000393 U	< 0.00064 U	< 0.000852 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000269 U	< 0.000574 U	< 0.000322 U	< 0.000302 U	< 0.000492 U	< 0.000656 UJ
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000211 U	< 0.000449 U	< 0.000252 U	< 0.000237 U	< 0.000385 U	< 0.000513 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000348 U	< 0.000742 U	< 0.000416 U	< 0.000391 U	< 0.000636 U	< 0.000847 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000235 U	< 0.000502 U	< 0.000281 U	< 0.000264 U	< 0.00043 U	< 0.000573 U
Xylenes, m & p				mg/kg	< 0.000462 U	< 0.000986 U	< 0.000552 U	< 0.000519 U	< 0.000845 U	< 0.00113 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000235 U	< 0.000502 U	< 0.000281 U	< 0.000264 U	< 0.00043 U	< 0.000573 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-33	OH-SB-34	OH-SB-34	OH-SB-39	OH-SB-39	OH-SB-40
				Sample ID	OH-SB-33-3.5-4-202230513	OH-SB-34-1.0-2.0-20230513	OH-SB-34-2.0-3.0-20230513	OH-SB-39_1.0-2.0_20230510	OH-SB-39_2.0-3.0_20230510	OH-SB-40-1.0-2.0_20230509
				Sample Date	05/13/2023	05/13/2023	05/13/2023	05/10/2023	05/10/2023	05/09/2023
				Depth (ft.)	3.5-4	1-2	2-3	1-2	2-3	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000474 U	< 0.000533 U	< 0.000631 U	< 0.000301 U	< 0.000346 U	< 0.000396 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000448 U	< 0.000504 U	< 0.000596 U	< 0.000285 U	< 0.000327 U	< 0.000375 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00139 U	< 0.00156 U	< 0.00185 U	< 0.000883 U	< 0.00101 U	< 0.00116 U
1,1,2-Trichloroethane				mg/kg	< 0.000547 U	< 0.000615 U	< 0.000728 U	< 0.000348 U	< 0.000399 U	< 0.000457 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000474 U	< 0.000533 U	< 0.000631 U	< 0.000301 U	< 0.000346 U	< 0.000396 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.0006 U	< 0.000675 U	< 0.000799 U	< 0.000382 U	< 0.000438 U	< 0.000502 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000701 U	< 0.000788 UJ	< 0.000933 U	< 0.000446 U	< 0.000512 U	< 0.000586 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000865 U	< 0.000972 UJ	< 0.00115 U	< 0.00055 U	< 0.000632 U	< 0.000723 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000448 U	< 0.000504 U	< 0.000596 U	< 0.000285 U	< 0.000327 U	< 0.000375 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000792 U	< 0.00089 U	< 0.00105 U	< 0.000504 U	< 0.000578 U	< 0.000662 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000409 U	< 0.00046 U	< 0.000544 U	< 0.00026 U	< 0.000299 U	< 0.000342 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000573 U	< 0.000644 UJ	< 0.000762 U	< 0.000364 U	< 0.000418 U	< 0.000479 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000457 U	< 0.000515 U	< 0.000609 U	< 0.000291 U	< 0.000334 U	< 0.000383 U
1,2-Dichloropropane				mg/kg	< 0.000532 U	< 0.000598 U	< 0.000708 U	< 0.000338 U	< 0.000389 U	< 0.000445 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000238 U	< 0.000268 U	< 0.000318 U	< 0.000152 U	< 0.000174 U	< 0.000199 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000467 U	< 0.000525 UJ	< 0.000622 U	< 0.000297 U	< 0.000341 U	< 0.000391 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000529 UJ	< 0.000595 UJ	< 0.000704 UJ	< 0.000336 U	< 0.000386 U	< 0.000442 U
2-Hexanone				mg/kg	< 0.000303 UJ	< 0.000341 UJ	< 0.000404 UJ	< 0.000193 U	< 0.000222 U	< 0.000254 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000406 U	< 0.000456 U	< 0.00054 U	< 0.000258 U	< 0.000296 U	< 0.000339 U
Acetone	0.05	100	500	mg/kg	< 0.000983 UJ	< 0.00111 UJ	< 0.00131 UJ	< 0.000625 U	< 0.000718 U	< 0.000822 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000295 U	< 0.000332 U	< 0.000393 U	< 0.000188 U	< 0.000216 U	< 0.000247 U
Bromochloromethane				mg/kg	< 0.000599 U	< 0.000673 U	< 0.000797 U	< 0.000381 U	< 0.000437 U	< 0.000501 U
Bromodichloromethane				mg/kg	< 0.000407 U	< 0.000458 U	< 0.000542 U	< 0.000259 U	< 0.000297 U	< 0.000341 U
Bromoform				mg/kg	< 0.000569 U	< 0.00064 U	< 0.000758 U	< 0.000362 U	< 0.000416 U	< 0.000476 U
Bromomethane				mg/kg	< 0.000936 U	< 0.00105 U	< 0.00125 U	< 0.000595 U	< 0.000684 U	< 0.000783 U
Carbon disulfide				mg/kg	< 0.000466 U	< 0.000524 U	< 0.00062 U	< 0.000296 U	< 0.00034 U	< 0.000389 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000488 U	< 0.000549 U	< 0.00065 U	< 0.000311 U	< 0.000357 U	< 0.000408 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.00047 U	< 0.000529 U	< 0.000626 U	< 0.000299 U	< 0.000344 U	< 0.000394 U
Chloroethane				mg/kg	< 0.000553 U	< 0.000622 U	< 0.000737 U	< 0.000352 U	< 0.000404 U	< 0.000463 U
Chloroform	0.37	49	350	mg/kg	< 0.000545 U	< 0.000613 U	< 0.000726 U	< 0.000347 U	< 0.000398 U	< 0.000456 U
Chloromethane				mg/kg	0.121	< 0.0014 U	< 0.00166 U	< 0.000794 U	< 0.000913 U	< 0.00104 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000157 U	< 0.000176 U	< 0.000209 U	< 0.0000998 U	< 0.000115 U	< 0.000131 U
cis-1,3-Dichloropropene				mg/kg	< 0.00041 U	< 0.000462 UJ	< 0.000546 U	< 0.000261 U	< 0.0003 U	< 0.000343 U
Cyclohexane				mg/kg	< 0.000719 U	< 0.000808 U	< 0.000957 U	< 0.000457 U	< 0.000525 U	< 0.000601 U
Dibromochloromethane				mg/kg	< 0.000399 U	< 0.000449 U	< 0.000531 U	< 0.000254 U	< 0.000292 U	< 0.000334 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.00109 U	< 0.00123 U	< 0.00146 U	< 0.000696 U	< 0.0008 U	< 0.000916 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.00044 U	< 0.000494 U	< 0.000585 U	< 0.00028 U	< 0.000321 U	< 0.000368 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000509 U	< 0.000573 U	< 0.000678 U	< 0.000324 U	< 0.000372 U	< 0.000426 U
Methyl acetate				mg/kg	< 0.00043 U	< 0.000483 U	< 0.000572 U	< 0.000273 UJ	< 0.000314 UJ	< 0.00036 U
Methylcyclohexane				mg/kg	< 0.000522 U	< 0.000587 U	< 0.000695 U	< 0.000332 U	< 0.000382 U	< 0.000437 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000975 U	< 0.0011 U	< 0.0013 U	< 0.00062 U	< 0.000712 U	< 0.000816 U
Styrene				mg/kg	< 0.000464 U	< 0.000522 U	< 0.000618 U	< 0.000295 U	< 0.000339 U	< 0.000388 U
tert-Butyl alcohol				mg/kg	< 0.00681 U	< 0.00766 U	< 0.00907 U	< 0.00433 UJ	< 0.00498 UJ	< 0.0057 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000548 U	< 0.000617 U	< 0.00073 U	< 0.000349 U	< 0.000401 U	< 0.000459 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000321 U	< 0.000361 U	< 0.000428 U	< 0.000204 U	< 0.000235 U	< 0.000269 U
Toluene	0.7	**100**	500	mg/kg	< 0.000261 U	< 0.000294 U	< 0.000348 U	< 0.000166 U	< 0.000191 U	< 0.000218 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.00044 U	< 0.000494 U	< 0.000585 U	< 0.00028 U	< 0.000321 U	< 0.000368 U
trans-1,3-Dichloropropene				mg/kg	< 0.00062 U	< 0.000697 U	< 0.000825 U	< 0.000394 U	< 0.000453 U	< 0.000518 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000477 UJ	< 0.000536 UJ	< 0.000635 UJ	< 0.000303 U	< 0.000348 U	< 0.000399 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000373 U	< 0.00042 U	< 0.000497 U	< 0.000237 U	< 0.000273 U	< 0.000312 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000616 U	< 0.000693 U	< 0.000821 U	< 0.000392 U	< 0.00045 U	< 0.000516 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000417 U	< 0.000469 U	< 0.000555 U	< 0.000265 U	< 0.000305 U	< 0.000349 U
Xylenes, m & p				mg/kg	< 0.000819 U	< 0.000921 U	< 0.00109 U	< 0.000521 U	< 0.000598 U	< 0.000685 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000417 U	< 0.000469 U	< 0.000555 U	< 0.000265 U	< 0.000305 U	< 0.000349 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-40	OH-SB-41	OH-SB-41	OH-SB-42	OH-SB-42	OH-SB-45
				Sample ID	OH-SB-40-2.0-3.0_20230509	OH-SB-41-1.0-2.0_20230509	OH-SB-41-3.0-4.0_20230509	OH-SB-42-1.0-2.0_20230508	OH-SB-42-3.0-4.0_20230508	OH-SB-45-1.0-2.0-20230511
				Sample Date	05/09/2023	05/09/2023	05/09/2023	05/08/2023	05/08/2023	05/11/2023
				Depth (ft.)	2-3	1-2	3-4	1-2	3-4	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000404 U	< 0.000345 U	< 0.00102 U	< 0.000317 U	< 0.000276 U	< 0.00044 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000381 U	< 0.000326 U	< 0.00096 U	< 0.0003 U	< 0.000261 U	< 0.000416 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00118 U	< 0.00101 U	< 0.00298 U	< 0.00093 U	< 0.00081 U	< 0.00129 U
1,1,2-Trichloroethane				mg/kg	< 0.000466 U	< 0.000398 U	< 0.00117 U	< 0.000366 U	< 0.000319 U	< 0.000508 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000404 U	< 0.000345 U	< 0.00102 U	< 0.000317 U	< 0.000276 U	< 0.00044 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000511 U	< 0.000437 U	< 0.00129 U	< 0.000402 U	< 0.00035 U	< 0.000558 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000597 U	< 0.00051 U	< 0.0015 U	< 0.000469 U	< 0.000409 U	< 0.000651 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000737 U	< 0.000629 U	< 0.00185 U	< 0.000579 U	< 0.000505 U	< 0.000804 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000381 U	< 0.000326 U	< 0.00096 U	< 0.0003 U	< 0.000261 U	< 0.000416 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000674 U	< 0.000576 U	< 0.0017 U	< 0.00053 U	< 0.000462 U	< 0.000736 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000348 U	< 0.000298 U	< 0.000876 U	< 0.000274 U	< 0.000239 U	< 0.00038 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000488 U	< 0.000417 U	< 0.00123 U	< 0.000384 U	< 0.000334 U	< 0.000532 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.00039 U	< 0.000333 U	< 0.000981 U	< 0.000306 U	< 0.000267 U	< 0.000425 U
1,2-Dichloropropane				mg/kg	< 0.000453 U	< 0.000387 U	< 0.00114 U	< 0.000356 U	< 0.000311 U	< 0.000495 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000203 U	< 0.000174 U	< 0.000511 U	< 0.00016 U	< 0.000139 U	< 0.000222 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000398 U	< 0.00034 U	< 0.001 U	< 0.000313 U	< 0.000273 U	< 0.000434 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000451 U	< 0.000385 U	< 0.00113 U	< 0.000354 U	< 0.000309 U	< 0.000492 U
2-Hexanone				mg/kg	< 0.000258 U	< 0.000221 U	< 0.00065 U	< 0.000203 U	< 0.000177 U	< 0.000282 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000346 U	< 0.000295 U	< 0.000869 U	< 0.000272 U	< 0.000237 U	< 0.000377 U
Acetone	0.05	100	500	mg/kg	< 0.000838 U	< 0.000716 U	< 0.00211 U	< 0.000659 U	< 0.000574 U	< 0.000914 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000252 U	< 0.000215 U	< 0.000633 U	< 0.000198 U	< 0.000172 U	< 0.000274 U
Bromochloromethane				mg/kg	< 0.00051 U	< 0.000436 U	< 0.00128 U	< 0.000401 U	< 0.000349 U	< 0.000556 U
Bromodichloromethane				mg/kg	< 0.000347 U	< 0.000296 U	< 0.000873 U	< 0.000273 U	< 0.000238 U	< 0.000379 U
Bromoform				mg/kg	< 0.000485 U	< 0.000414 U	< 0.00122 U	< 0.000381 U	< 0.000332 U	< 0.000529 U
Bromomethane				mg/kg	< 0.000797 U	< 0.000681 U	< 0.00201 U	< 0.000627 U	< 0.000546 U	< 0.00087 U
Carbon disulfide				mg/kg	< 0.000397 U	< 0.000339 U	< 0.000998 U	< 0.000312 U	< 0.000272 U	< 0.000433 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000416 U	< 0.000355 U	< 0.00105 U	< 0.000327 U	< 0.000285 U	< 0.000454 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000401 U	< 0.000342 U	< 0.00101 U	< 0.000315 U	< 0.000275 U	< 0.000437 U
Chloroethane				mg/kg	< 0.000471 U	< 0.000403 U	< 0.00119 U	< 0.000371 U	< 0.000323 U	< 0.000514 U
Chloroform	0.37	49	350	mg/kg	< 0.000464 U	< 0.000397 U	< 0.00117 U	< 0.000365 U	< 0.000318 U	< 0.000507 U
Chloromethane				mg/kg	< 0.00106 U	< 0.000909 U	< 0.00268 U	< 0.000837 U	< 0.000729 U	< 0.00116 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000134 U	< 0.000114 U	< 0.000336 U	< 0.000105 U	< 0.0000916 U	< 0.000146 U
cis-1,3-Dichloropropene				mg/kg	< 0.00035 U	< 0.000299 U	< 0.00088 U	< 0.000275 U	< 0.00024 U	< 0.000382 U
Cyclohexane				mg/kg	< 0.000612 U	< 0.000523 U	< 0.00154 U	< 0.000481 U	< 0.000419 U	< 0.000668 U
Dibromochloromethane				mg/kg	< 0.00034 U	< 0.00029 U	< 0.000856 U	< 0.000267 U	< 0.000233 U	< 0.000371 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000933 U	< 0.000797 U	< 0.00235 U	< 0.000734 U	< 0.000639 U	< 0.00102 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000375 U	< 0.00032 U	< 0.000942 U	< 0.000295 U	< 0.000257 U	< 0.000409 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000434 U	< 0.000371 U	< 0.00109 U	< 0.000341 U	< 0.000297 U	< 0.000474 U
Methyl acetate				mg/kg	< 0.000366 U	< 0.000313 U	< 0.000922 U	< 0.000288 U	< 0.000251 U	< 0.0004 U
Methylcyclohexane				mg/kg	< 0.000445 U	< 0.00038 U	< 0.00112 U	< 0.00035 U	< 0.000305 U	< 0.000486 U
Methylene chloride	0.05	100	500	mg/kg	< 0.000831 U	< 0.00071 U	< 0.00209 U	< 0.000653 U	< 0.000569 U	< 0.000906 U
Styrene				mg/kg	< 0.000395 U	< 0.000338 U	< 0.000995 U	< 0.000311 U	< 0.000271 U	< 0.000431 U
tert-Butyl alcohol				mg/kg	< 0.0058 U	< 0.00496 U	< 0.0146 U	< 0.00456 U	< 0.00398 U	< 0.00633 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000467 U	< 0.000399 U	< 0.00118 U	< 0.000367 U	< 0.00032 U	< 0.00051 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	0.117	< 0.000234 U	< 0.000689 U	< 0.000215 U	< 0.000187 U	< 0.000299 U
Toluene	0.7	**100**	500	mg/kg	< 0.000223 U	< 0.00019 U	< 0.00056 U	< 0.000175 U	< 0.000152 U	< 0.000243 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000375 U	< 0.00032 U	< 0.000942 U	< 0.000295 U	< 0.000257 U	< 0.000409 U
trans-1,3-Dichloropropene				mg/kg	< 0.000528 U	< 0.000451 U	< 0.00133 U	< 0.000415 U	< 0.000362 U	< 0.000576 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000406 U	< 0.000347 U	< 0.00102 U	< 0.00032 U	< 0.000278 U	< 0.000443 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000318 U	< 0.000272 U	< 0.0008 U	< 0.00025 U	< 0.000218 U	< 0.000347 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000525 U	< 0.000449 U	< 0.00132 U	< 0.000413 U	< 0.00036 U	< 0.000573 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000355 U	< 0.000303 U	< 0.000894 U	< 0.000279 U	< 0.000243 U	< 0.000388 U
Xylenes, m & p				mg/kg	< 0.000698 U	< 0.000596 U	< 0.00176 U	< 0.000549 U	< 0.000478 U	< 0.000762 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000355 U	< 0.000303 U	< 0.000894 U	< 0.000279 U	< 0.000243 U	< 0.000388 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-45	OH-SB-46	OH-SB-46	OH-SB-50	OH-SB-51	OH-SB-52
				Sample ID	OH-SB-45-4.0-5.0-20230511	OH-SB_46_1.0-2.0_20230512	OH-SB_46_3.0-4.0_20230512	OH-SB-50-1.0-2.0-05012023	OH-SB-51_1.0-2.0_20230503	OH-SB-52-1.0-2.0-20230502
				Sample Date	05/11/2023	05/12/2023	05/12/2023	05/01/2023	05/03/2023	05/02/2023
				Depth (ft.)	4-5	1-2	3-4	1-2	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000555 U	< 0.000473 U	< 0.000445 U	< 0.000275 U	< 0.000501 U	< 0.000579 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000525 U	< 0.000447 U	< 0.000421 U	< 0.00026 U	< 0.000473 U	< 0.000547 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00163 U	< 0.00139 U	< 0.00130 U	< 0.000805 U	< 0.00147 U	< 0.0017 U
1,1,2-Trichloroethane				mg/kg	< 0.000641 U	< 0.000546 U	< 0.000514 U	< 0.000317 U	< 0.000578 U	< 0.000668 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000555 U	< 0.000473 U	< 0.000445 U	< 0.000275 U	< 0.000501 U	< 0.000579 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000703 U	< 0.000600 U	< 0.000564 U	< 0.000348 U	< 0.000635 U	< 0.000734 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000821 U	< 0.000700 U	< 0.000659 U	< 0.000406 U	< 0.000741 U	< 0.000857 U
1,2,4-Trichlorobenzene				mg/kg	< 0.00101 U	< 0.000864 U	< 0.000812 U	< 0.000501 U	< 0.000914 U	< 0.00106 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000525 U	0.00161 J	0.0411	< 0.00026 U	< 0.000473 U	< 0.000547 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000928 U	< 0.000791 U	< 0.000744 U	< 0.000459 UJ	< 0.000837 U	< 0.000968 UJ
1,2-Dibromoethane (EDB)				mg/kg	< 0.000479 U	< 0.000408 U	< 0.000384 U	< 0.000237 U	< 0.000432 U	< 0.0005 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000671 U	< 0.000572 U	< 0.000538 U	< 0.000332 U	< 0.000606 U	< 0.0007 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000536 U	< 0.000457 U	< 0.000430 U	< 0.000265 U	< 0.000484 U	< 0.000559 U
1,2-Dichloropropane				mg/kg	< 0.000624 U	< 0.000532 U	< 0.000500 U	< 0.000308 U	< 0.000563 U	< 0.000651 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000279 U	< 0.000238 U	< 0.000224 U	< 0.000138 U	< 0.000252 U	< 0.000292 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000548 U	< 0.000467 U	< 0.000439 U	< 0.000271 U	< 0.000494 U	< 0.000571 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.00062 U	< 0.000528 U	< 0.000497 U	< 0.000307 U	< 0.000559 U	< 0.000647 UJ
2-Hexanone				mg/kg	< 0.000356 U	< 0.000303 U	< 0.000285 U	< 0.000176 U	< 0.000321 U	< 0.000371 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000475 U	< 0.000405 U	< 0.000381 U	< 0.000235 U	< 0.000429 U	< 0.000496 U
Acetone	0.05	100	500	mg/kg	< 0.00115 U	< 0.000982 U	< 0.000924 U	< 0.00057 U	< 0.00104 U	< 0.0012 UJ
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000346 U	< 0.000295 U	0.00305	< 0.000171 U	< 0.000312 U	< 0.000361 U
Bromochloromethane				mg/kg	< 0.000702 U	< 0.000598 U	< 0.000562 U	< 0.000347 U	< 0.000633 U	< 0.000732 U
Bromodichloromethane				mg/kg	< 0.000477 U	< 0.000407 U	< 0.000383 U	< 0.000236 U	< 0.000431 U	< 0.000498 U
Bromoform				mg/kg	< 0.000667 U	< 0.000569 U	< 0.000535 U	< 0.00033 U	< 0.000602 U	< 0.000696 U
Bromomethane				mg/kg	< 0.0011 U	< 0.000935 UJ	< 0.000880 UJ	< 0.000543 U	< 0.00099 U	< 0.00114 U
Carbon disulfide				mg/kg	< 0.000546 U	< 0.000465 U	< 0.000437 U	< 0.00027 U	< 0.000492 U	0.0076
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000572 U	< 0.000488 U	< 0.000459 U	< 0.000283 U	< 0.000516 U	< 0.000597 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000551 U	< 0.000470 U	< 0.000442 U	< 0.000273 U	< 0.000497 U	< 0.000575 U
Chloroethane				mg/kg	< 0.000648 U	< 0.000553 U	< 0.000520 U	< 0.000321 U	< 0.000585 U	< 0.000676 U
Chloroform	0.37	49	350	mg/kg	< 0.000639 U	< 0.000545 U	< 0.000512 U	< 0.000316 U	< 0.000576 U	< 0.000667 U
Chloromethane				mg/kg	< 0.00146 U	< 0.00125 U	< 0.00117 U	0.124	< 0.00132 U	< 0.00153 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000184 U	< 0.000157 U	< 0.000147 U	< 0.0000909 U	< 0.000166 U	< 0.000192 U
cis-1,3-Dichloropropene				mg/kg	< 0.000481 U	< 0.000410 U	< 0.000386 U	< 0.000238 U	< 0.000434 U	< 0.000502 U
Cyclohexane				mg/kg	< 0.000842 U	< 0.000718 U	< 0.000675 U	< 0.000417 U	< 0.00076 U	< 0.000879 U
Dibromochloromethane				mg/kg	< 0.000468 U	< 0.000399 U	< 0.000375 U	< 0.000231 U	< 0.000422 U	< 0.000488 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.00128 U	< 0.00109 U	< 0.00103 U	< 0.000635 U	< 0.00116 UJ	< 0.00134 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000515 U	< 0.000439 U	0.00267 J	< 0.000255 U	< 0.000465 U	< 0.000538 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000597 U	< 0.000509 U	0.0326	< 0.000295 U	< 0.000539 U	< 0.000623 U
Methyl acetate				mg/kg	< 0.000504 U	< 0.000430 U	< 0.000404 U	< 0.000249 U	< 0.000455 U	< 0.000526 U
Methylcyclohexane				mg/kg	< 0.000612 U	< 0.000522 U	0.00426	< 0.000303 U	< 0.000552 U	< 0.000639 U
Methylene chloride	0.05	100	500	mg/kg	< 0.00114 U	< 0.000974 U	< 0.000916 U	< 0.000565 U	< 0.00103 U	< 0.00119 U
Styrene				mg/kg	< 0.000544 U	< 0.000464 U	< 0.000436 U	< 0.000269 U	< 0.000491 U	< 0.000567 U
tert-Butyl alcohol				mg/kg	< 0.00798 U	< 0.00681 UJ	< 0.00640 UJ	< 0.00395 U	< 0.0072 U	< 0.00833 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000643 U	< 0.000548 U	< 0.000515 U	< 0.000318 U	< 0.00058 U	< 0.00067 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000376 U	< 0.000321 U	< 0.000302 U	< 0.000186 U	< 0.00034 U	< 0.000393 U
Toluene	0.7	**100**	500	mg/kg	< 0.000306 U	< 0.000261 U	0.00142 J	< 0.000151 U	< 0.000276 U	< 0.000319 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000515 U	< 0.000439 U	< 0.000413 U	< 0.000255 U	< 0.000465 U	< 0.000538 U
trans-1,3-Dichloropropene				mg/kg	< 0.000726 U	< 0.000619 U	< 0.000582 U	< 0.000359 U	< 0.000655 U	< 0.000758 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000559 U	< 0.000477 U	< 0.000448 U	< 0.000276 U	< 0.000504 U	< 0.000583 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000437 U	< 0.000373 U	< 0.000351 U	< 0.000216 U	< 0.000395 U	< 0.000456 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000722 U	< 0.000616 U	< 0.000579 U	< 0.000357 U	< 0.000652 U	< 0.000754 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000489 U	< 0.000417 U	0.00875	< 0.000242 U	< 0.000441 U	< 0.00051 U
Xylenes, m & p				mg/kg	< 0.00096 U	< 0.000819 U	0.00942	< 0.000475 U	< 0.000866 U	< 0.001 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000489 U	< 0.000417 U	0.0182	< 0.000242 U	< 0.000441 U	< 0.00051 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
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UJ = The result is not detected. The detection limit is estimated.
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TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-53	OH-SB-53	OH-SB-56	OH-SB-56	OH-SB-58	OH-SB-58
				Sample ID	OH-SB-53_1.0-2.0-20230504	OH-SB-53_3.0-4.0-20230504	OH-SB-56-1.0-2.0-20230504	OH-SB-56-3.0-4.0-20230504	OH-SB-58_2.0-3.0-20230504	OH-SB-58_3.0-4.0-20230504
				Sample Date	05/04/2023	05/04/2023	05/04/2023	05/04/2023	05/04/2023	05/04/2023
				Depth (ft.)	1-2	3-4	1-2	3-4	2-3	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000317 U	< 0.000308 U	< 0.000376 U	< 0.000317 U	< 0.000304 U	< 0.000645 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.0003 U	< 0.000291 U	< 0.000356 U	< 0.0003 U	< 0.000288 U	< 0.00061 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.000931 U	< 0.000903 U	< 0.0011 U	< 0.000929 U	< 0.000892 U	< 0.00189 U
1,1,2-Trichloroethane				mg/kg	< 0.000366 U	< 0.000355 U	< 0.000434 U	< 0.000366 U	< 0.000351 U	< 0.000745 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000317 U	< 0.000308 U	< 0.000376 U	< 0.000317 U	< 0.000304 U	< 0.000645 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.000402 U	< 0.00039 U	< 0.000477 U	< 0.000402 U	< 0.000386 U	< 0.000818 U
1,2,3-Trichlorobenzene				mg/kg	< 0.00047 U	< 0.000456 U	< 0.000557 U	< 0.000469 U	< 0.00045 U	< 0.000955 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000579 U	< 0.000562 U	< 0.000687 U	< 0.000579 U	< 0.000556 U	< 0.00118 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.0003 U	< 0.000291 U	< 0.000356 U	< 0.0003 U	0.0089	< 0.00061 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000531 U	< 0.000515 U	< 0.000629 U	< 0.00053 U	< 0.000509 U	< 0.00108 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000274 U	< 0.000266 U	< 0.000325 U	< 0.000274 U	< 0.000263 U	< 0.000557 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000384 U	< 0.000372 U	< 0.000455 U	< 0.000383 U	< 0.000368 U	< 0.00078 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000307 U	< 0.000297 U	< 0.000363 U	< 0.000306 U	< 0.000294 U	< 0.000623 U
1,2-Dichloropropane				mg/kg	< 0.000357 U	< 0.000346 U	< 0.000423 U	< 0.000356 U	< 0.000342 U	< 0.000725 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.00016 U	< 0.000155 U	< 0.000189 U	< 0.00016 U	< 0.000153 U	< 0.000325 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000313 U	< 0.000304 U	< 0.000371 U	< 0.000313 U	< 0.0003 U	< 0.000637 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000354 U	< 0.000344 U	< 0.00042 U	0.0122	< 0.00034 U	< 0.000721 U
2-Hexanone				mg/kg	< 0.000203 U	< 0.000197 U	< 0.000241 U	< 0.000203 U	< 0.000195 U	< 0.000413 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000272 U	< 0.000264 U	< 0.000322 U	< 0.000271 U	< 0.000261 U	< 0.000553 U
Acetone	0.05	100	500	mg/kg	< 0.000659 UJ	< 0.000639 UJ	< 0.000781 U	0.0819	< 0.000632 U	< 0.00134 U
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000198 U	< 0.000192 U	< 0.000235 U	< 0.000198 U	0.00332	< 0.000402 U
Bromochloromethane				mg/kg	< 0.000401 U	< 0.000389 U	< 0.000476 U	< 0.000401 U	< 0.000385 U	< 0.000816 U
Bromodichloromethane				mg/kg	< 0.000273 U	< 0.000265 U	< 0.000323 U	< 0.000272 U	< 0.000262 U	< 0.000555 U
Bromoform				mg/kg	< 0.000382 U	< 0.00037 U	< 0.000452 U	< 0.000381 U	< 0.000366 U	< 0.000776 U
Bromomethane				mg/kg	< 0.000627 U	< 0.000609 U	< 0.000744 U	< 0.000626 U	< 0.000602 U	< 0.00128 U
Carbon disulfide				mg/kg	< 0.000312 U	< 0.000303 U	< 0.00037 U	< 0.000312 U	0.00185 J	< 0.000634 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000327 U	< 0.000317 U	< 0.000388 U	< 0.000327 U	< 0.000314 U	< 0.000665 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000315 U	< 0.000306 U	< 0.000374 U	< 0.000315 U	< 0.000302 U	< 0.000641 U
Chloroethane				mg/kg	< 0.000371 U	< 0.00036 U	< 0.000439 U	< 0.00037 U	< 0.000356 U	< 0.000754 U
Chloroform	0.37	49	350	mg/kg	< 0.000365 U	< 0.000354 U	< 0.000433 U	< 0.000365 U	< 0.00035 U	< 0.000743 U
Chloromethane				mg/kg	< 0.000837 U	0.0758	< 0.000992 U	< 0.000836 U	< 0.000803 U	< 0.0017 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000105 U	< 0.000102 U	< 0.000125 U	< 0.000105 U	< 0.000101 U	< 0.000214 U
cis-1,3-Dichloropropene				mg/kg	< 0.000275 U	< 0.000267 U	< 0.000326 U	< 0.000275 U	< 0.000264 U	< 0.000559 U
Cyclohexane				mg/kg	< 0.000482 U	< 0.000467 U	< 0.000571 U	< 0.000481 U	0.00752	< 0.000979 U
Dibromochloromethane				mg/kg	< 0.000267 U	< 0.000259 U	< 0.000317 U	< 0.000267 U	< 0.000256 U	< 0.000544 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000734 UJ	< 0.000712 UJ	< 0.00087 UJ	< 0.000733 UJ	< 0.000704 UJ	< 0.00149 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000295 U	< 0.000286 U	< 0.000349 U	< 0.000294 U	0.0271	< 0.000599 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000341 U	< 0.000331 U	< 0.000405 U	< 0.000341 U	0.0109	0.0446
Methyl acetate				mg/kg	< 0.000288 U	< 0.000279 U	< 0.000342 U	< 0.000288 U	< 0.000276 U	< 0.000586 U
Methylcyclohexane				mg/kg	< 0.00035 U	< 0.00034 U	< 0.000415 U	< 0.00035 U	0.0293	0.0292
Methylene chloride	0.05	100	500	mg/kg	< 0.000653 U	< 0.000634 U	< 0.000775 U	< 0.000652 U	< 0.000627 U	< 0.00133 U
Styrene				mg/kg	< 0.000311 U	< 0.000302 U	< 0.000369 U	< 0.00031 U	< 0.000298 U	< 0.000632 U
tert-Butyl alcohol				mg/kg	< 0.00457 U	< 0.00443 U	< 0.00541 U	< 0.00456 U	< 0.00438 U	< 0.00928 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000367 U	< 0.000356 U	< 0.000436 U	< 0.000367 U	< 0.000352 U	< 0.000747 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000215 U	< 0.000209 U	< 0.000255 UJ	< 0.000215 UJ	< 0.000206 U	< 0.000438 U
Toluene	0.7	**100**	500	mg/kg	< 0.000175 U	< 0.00017 U	< 0.000207 U	< 0.000175 U	0.00197 J	< 0.000356 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000295 U	< 0.000286 U	< 0.000349 U	< 0.000294 U	< 0.000283 U	< 0.000599 U
trans-1,3-Dichloropropene				mg/kg	< 0.000415 U	< 0.000403 U	< 0.000492 U	< 0.000415 U	< 0.000398 U	< 0.000844 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.00032 U	< 0.00031 U	< 0.000379 U	< 0.000319 U	< 0.000307 U	< 0.00065 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.00025 U	< 0.000243 U	< 0.000296 U	< 0.00025 U	< 0.00024 U	< 0.000508 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000413 U	< 0.000401 U	< 0.00049 U	< 0.000412 U	< 0.000396 U	< 0.00084 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.000279 U	< 0.000271 U	< 0.000331 U	< 0.000279 U	0.0046	< 0.000568 U
Xylenes, m & p				mg/kg	< 0.000549 U	< 0.000533 U	< 0.000651 U	< 0.000548 U	0.00619	< 0.00112 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.000279 U	< 0.000271 U	< 0.000331 U	< 0.000279 U	0.0108	< 0.000568 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
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J = The result is qualified as an estimated concentration or amount.
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TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-60	OH-SB-61	OH-SB-61	OH-SB-62	OH-SB-62	OH-SB-66
				Sample ID	OH-SB-60-1.0-2.0_20230503	OH-SB-61-1.0-2.0-20230613	OH-SB-61-9.0-10.0-20230613	OH-SB-62-1.0-2.0-20230612	OH-SB-62-9.0-10.0-20230612	OH-SB-66-1.0-2.0-20230515
				Sample Date	05/03/2023	06/13/2023	06/13/2023	06/12/2023	06/12/2023	05/15/2023
				Depth (ft.)	1-2	1-2	9-10	1-2	9-10	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000749 U	< 0.000356 U	< 0.000469 U	< 0.000337 UJ	< 0.000343 U	< 0.000375 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000708 U	< 0.000336 U	< 0.000443 U	< 0.000318 UJ	< 0.000324 U	< 0.000354 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.0022 U	< 0.00104 U	< 0.00137 U	< 0.000988 UJ	< 0.00101 U	< 0.0011 U
1,1,2-Trichloroethane				mg/kg	< 0.000865 U	< 0.000411 U	< 0.000541 U	< 0.000389 UJ	< 0.000396 U	< 0.000433 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000749 U	< 0.000356 U	< 0.000469 U	< 0.000337 UJ	< 0.000343 U	< 0.000375 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.00095 U	< 0.000451 U	< 0.000594 U	< 0.000427 UJ	< 0.000435 U	< 0.000475 U
1,2,3-Trichlorobenzene				mg/kg	< 0.00111 U	< 0.000527 U	< 0.000693 U	< 0.000498 UJ	< 0.000508 U	< 0.000555 U
1,2,4-Trichlorobenzene				mg/kg	< 0.00137 U	< 0.00065 U	< 0.000855 U	< 0.000615 UJ	< 0.000627 U	< 0.000685 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000708 U	< 0.000336 U	0.00191 J	< 0.000318 UJ	0.00172 J	< 0.000354 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.00125 U	< 0.000595 UJ	< 0.000783 UJ	< 0.000563 UJ	< 0.000574 UJ	< 0.000627 U
1,2-Dibromoethane (EDB)				mg/kg	< 0.000647 U	< 0.000307 U	< 0.000404 U	< 0.000291 UJ	< 0.000296 U	< 0.000324 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000906 U	< 0.00043 U	< 0.000567 U	< 0.000407 UJ	< 0.000415 U	< 0.000453 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000724 U	< 0.000344 U	< 0.000453 U	< 0.000325 UJ	< 0.000332 U	< 0.000362 U
1,2-Dichloropropane				mg/kg	< 0.000842 U	< 0.0004 U	< 0.000526 U	< 0.000378 UJ	< 0.000386 U	< 0.000421 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000377 U	< 0.000179 U	< 0.000236 U	< 0.00017 UJ	< 0.000173 U	< 0.000189 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000739 U	< 0.000351 U	< 0.000462 U	< 0.000332 UJ	< 0.000339 U	< 0.00037 U
2-Butanone (MEK)	0.12	100	500	mg/kg	< 0.000837 U	< 0.000397 U	0.0907	< 0.000376 UJ	0.0322	< 0.000419 UJ
2-Hexanone				mg/kg	< 0.00048 U	< 0.000228 U	< 0.0003 U	< 0.000216 UJ	< 0.00022 U	< 0.00024 UJ
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000642 U	< 0.000305 U	< 0.000401 U	< 0.000288 UJ	< 0.000294 U	< 0.000321 U
Acetone	0.05	100	500	mg/kg	< 0.00156 U	< 0.000739 U	0.218	< 0.000699 UJ	0.119	< 0.000778 UJ
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000467 U	< 0.000222 U	< 0.000292 U	< 0.00021 UJ	0.00649	< 0.000234 U
Bromochloromethane				mg/kg	< 0.000947 U	< 0.00045 U	< 0.000592 U	< 0.000426 UJ	< 0.000434 U	< 0.000474 U
Bromodichloromethane				mg/kg	< 0.000644 U	< 0.000306 U	< 0.000403 U	< 0.00029 UJ	< 0.000295 U	< 0.000322 U
Bromoform				mg/kg	< 0.000901 U	< 0.000428 U	< 0.000563 U	< 0.000405 UJ	< 0.000413 U	< 0.000451 U
Bromomethane				mg/kg	< 0.00148 U	< 0.000703 UJ	< 0.000926 UJ	< 0.000666 UJ	< 0.000678 UJ	< 0.000741 U
Carbon disulfide				mg/kg	< 0.000737 U	< 0.00035 U	0.00155 J	0.00455 J	0.0107	< 0.000369 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000772 U	< 0.000367 U	< 0.000483 U	< 0.000347 UJ	< 0.000354 U	< 0.000387 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000744 U	< 0.000353 U	< 0.000465 U	< 0.000335 UJ	< 0.000341 U	< 0.000372 U
Chloroethane				mg/kg	< 0.000875 U	< 0.000416 U	< 0.000547 U	< 0.000393 UJ	< 0.000401 U	< 0.000438 U
Chloroform	0.37	49	350	mg/kg	< 0.000862 U	< 0.00041 U	< 0.000539 U	< 0.000388 UJ	< 0.000395 U	< 0.000432 U
Chloromethane				mg/kg	< 0.00198 U	< 0.000938 U	< 0.00124 U	< 0.000888 UJ	< 0.000905 U	< 0.000989 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.000248 U	< 0.000118 U	< 0.000155 U	< 0.000112 UJ	< 0.000114 U	< 0.000124 U
cis-1,3-Dichloropropene				mg/kg	< 0.000649 U	< 0.000308 U	< 0.000406 U	< 0.000292 UJ	< 0.000297 U	< 0.000325 U
Cyclohexane				mg/kg	< 0.00114 U	< 0.00054 U	< 0.000711 U	< 0.000511 UJ	< 0.000521 U	< 0.000569 U
Dibromochloromethane				mg/kg	< 0.000631 UJ	< 0.0003 U	< 0.000395 U	< 0.000284 UJ	< 0.000289 U	< 0.000316 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.00173 U	< 0.000823 UJ	< 0.00108 UJ	< 0.000779 UJ	< 0.000794 UJ	< 0.000867 U
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000695 U	< 0.00033 U	< 0.000435 U	< 0.000313 UJ	0.00155 J	< 0.000348 U
Isopropylbenzene (Cumene)				mg/kg	< 0.000806 U	< 0.000383 U	< 0.000504 U	< 0.000362 UJ	0.0592	< 0.000403 U
Methyl acetate				mg/kg	< 0.00068 U	< 0.000323 U	< 0.000425 U	< 0.000306 UJ	< 0.000312 U	< 0.00034 U
Methylcyclohexane				mg/kg	< 0.000826 U	< 0.000392 U	< 0.000517 U	< 0.000372 UJ	0.0242	< 0.000414 U
Methylene chloride	0.05	100	500	mg/kg	< 0.00154 U	< 0.000732 U	< 0.000965 U	< 0.000693 UJ	< 0.000707 U	< 0.000772 U
Styrene				mg/kg	< 0.000734 U	< 0.000349 U	< 0.000459 U	< 0.00033 UJ	< 0.000336 U	< 0.000367 U
tert-Butyl alcohol				mg/kg	< 0.0108 U	< 0.00512 U	< 0.00674 U	< 0.00485 UJ	< 0.00494 U	< 0.00539 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.000867 U	< 0.000412 U	< 0.000542 U	< 0.00039 UJ	< 0.000397 U	< 0.000434 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000508 U	< 0.000241 U	< 0.000318 U	< 0.000228 UJ	< 0.000233 U	< 0.000254 U
Toluene	0.7	**100**	500	mg/kg	< 0.000413 U	< 0.000196 U	< 0.000258 U	< 0.000186 UJ	0.00289	< 0.000207 U
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000695 U	< 0.00033 U	< 0.000435 U	< 0.000313 UJ	< 0.000319 U	< 0.000348 U
trans-1,3-Dichloropropene				mg/kg	< 0.00098 U	< 0.000466 U	< 0.000613 U	< 0.000441 UJ	< 0.000449 U	< 0.000491 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000755 U	< 0.000358 U	< 0.000472 U	< 0.000339 UJ	< 0.000346 U	< 0.000378 UJ
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.00059 U	< 0.00028 U	< 0.000369 U	< 0.000265 UJ	< 0.00027 U	< 0.000295 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000975 U	< 0.000463 U	< 0.00061 U	< 0.000438 UJ	< 0.000447 U	< 0.000488 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.00066 U	< 0.000313 U	< 0.000412 U	< 0.000297 UJ	0.00514	< 0.00033 U
Xylenes, m & p				mg/kg	< 0.0013 U	< 0.000615 U	< 0.00081 U	< 0.000583 UJ	0.00514	< 0.000649 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.00066 U	< 0.000313 U	< 0.000412 U	< 0.000297 UJ	0.0103	< 0.00033 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4A
SOIL QUALITY DATA - VOCs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-66
				Sample ID	OH-SB-66-6.0-7.0-20230515
				Sample Date	05/15/2023
				Depth (ft.)	6-7
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units	
1,1,1-Trichloroethane	0.68	100	500	mg/kg	< 0.000363 U
1,1,2,2-Tetrachloroethane				mg/kg	< 0.000343 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)				mg/kg	< 0.00106 U
1,1,2-Trichloroethane				mg/kg	< 0.000419 U
1,1-Dichloroethane	0.27	26	240	mg/kg	< 0.000363 U
1,1-Dichloroethene	0.33	100	500	mg/kg	< 0.00046 U
1,2,3-Trichlorobenzene				mg/kg	< 0.000537 U
1,2,4-Trichlorobenzene				mg/kg	< 0.000663 U
1,2,4-Trimethylbenzene	3.6	**52**	*190*	mg/kg	< 0.000343 U
1,2-Dibromo-3-chloropropane (DBCP)				mg/kg	< 0.000607 UJ
1,2-Dibromoethane (EDB)				mg/kg	< 0.000313 U
1,2-Dichlorobenzene	1.1	100	500	mg/kg	< 0.000439 U
1,2-Dichloroethane	0.02	3.1	30	mg/kg	< 0.000351 U
1,2-Dichloropropane				mg/kg	< 0.000408 U
1,3-Dichlorobenzene	2.4	49	280	mg/kg	< 0.000183 U
1,4-Dichlorobenzene	1.8	13	130	mg/kg	< 0.000358 U
2-Butanone (MEK)	0.12	100	500	mg/kg	0.0606 J
2-Hexanone				mg/kg	< 0.000232 U
4-Methyl-2-pentanone (MIBK)				mg/kg	< 0.000311 U
Acetone	0.05	100	500	mg/kg	0.31 J
Benzene	0.06	**4.8**	*44*	mg/kg	< 0.000226 U
Bromochloromethane				mg/kg	< 0.000459 U
Bromodichloromethane				mg/kg	< 0.000312 U
Bromoform				mg/kg	< 0.000436 U
Bromomethane				mg/kg	< 0.000717 UJ
Carbon disulfide				mg/kg	< 0.000357 U
Carbon tetrachloride	0.76	2.4	22	mg/kg	< 0.000374 U
Chlorobenzene	1.1	100	500	mg/kg	< 0.000361 U
Chloroethane				mg/kg	< 0.000424 U
Chloroform	0.37	49	350	mg/kg	< 0.000418 U
Chloromethane				mg/kg	< 0.000957 U
cis-1,2-Dichloroethene	0.25	100	500	mg/kg	< 0.00012 U
cis-1,3-Dichloropropene				mg/kg	< 0.000315 U
Cyclohexane				mg/kg	< 0.000551 U
Dibromochloromethane				mg/kg	< 0.000306 U
Dichlorodifluoromethane (Freon 12)				mg/kg	< 0.000839 UJ
Ethylbenzene	1	**41**	*390*	mg/kg	< 0.000337 U
Isopropylbenzene (Cumene)				mg/kg	< 0.00039 U
Methyl acetate				mg/kg	< 0.000329 U
Methylcyclohexane				mg/kg	0.00565
Methylene chloride	0.05	100	500	mg/kg	< 0.000747 U
Styrene				mg/kg	< 0.000356 U
tert-Butyl alcohol				mg/kg	< 0.00522 U
tert-Butyl methyl ether (MTBE)	0.93	100	500	mg/kg	< 0.00042 U
Tetrachloroethene (PCE)	1.3	19	150	mg/kg	< 0.000246 U
Toluene	0.7	**100**	500	mg/kg	0.00113 J
trans-1,2-Dichloroethene	0.19	100	500	mg/kg	< 0.000337 U
trans-1,3-Dichloropropene				mg/kg	< 0.000475 U
Trichloroethene (TCE)	0.47	21	200	mg/kg	< 0.000366 U
Trichlorofluoromethane (Freon 11)				mg/kg	< 0.000286 U
Vinyl chloride	0.02	0.9	13	mg/kg	< 0.000472 U
Xylene, o (1,2-Dimethylbenzene)	0.26	**100**	500	mg/kg	< 0.00032 U
Xylenes, m & p				mg/kg	< 0.000628 U
Xylenes, total	0.26	**100**	*500*	mg/kg	< 0.00032 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
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TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04
				Sample ID	MW-04-1.5-2.5-20230607	DUP-20230607	MW-04-1.5-2.5-20230607MS
				Sample Date	06/07/2023	06/07/2023	06/07/2023
				Depth (ft.)	1.5-2.5	1.5-2.5	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00436 U	< 0.00424 U	< 0.00428 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0238 U	< 0.0231 U	< 0.0234 U
2,4,5-Trichlorophenol				mg/kg	< 0.021 U	< 0.0204 U	< 0.0206 U
2,4,6-Trichlorophenol				mg/kg	< 0.00966 U	< 0.00939 U	< 0.00949 U
2,4-Dichlorophenol				mg/kg	< 0.0155 U	< 0.0151 U	< 0.0153 U
2,4-Dimethylphenol				mg/kg	< 0.0152 U	< 0.0148 U	< 0.0149 U
2,4-Dinitrophenol				mg/kg	< 0.0223 U	< 0.0216 U	< 0.0219 U
2,4-Dinitrotoluene				mg/kg	< 0.0165 U	< 0.016 U	< 0.0162 U
2,6-Dinitrotoluene				mg/kg	< 0.0369 U	< 0.0358 U	< 0.0362 U
2-Chloronaphthalene				mg/kg	< 0.0177 U	< 0.0172 U	< 0.0174 U
2-Chlorophenol				mg/kg	< 0.0204 U	< 0.0198 U	< 0.0201 U
2-Methylnaphthalene				mg/kg	0.123 J	0.164 J	< 0.0364 U
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0305 U	< 0.0296 U	< 0.03 U
2-Nitroaniline				mg/kg	< 0.0124 U	< 0.0121 U	< 0.0122 U
2-Nitrophenol				mg/kg	< 0.0172 U	< 0.0167 U	< 0.0169 UJ
3,3'-Dichlorobenzidine				mg/kg	< 0.0162 U	< 0.0158 U	< 0.016 U
3/4-Methylphenol				mg/kg	< 0.0283 U	0.198	< 0.0278 U
3-Nitroaniline				mg/kg	< 0.0286 U	< 0.0278 U	< 0.0281 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0291 U	< 0.0283 U	< 0.0286 U
4-Bromophenyl phenyl ether				mg/kg	< 0.022 U	< 0.0214 U	< 0.0217 U
4-Chloro-3-methylphenol				mg/kg	< 0.0243 U	< 0.0237 U	< 0.0239 U
4-Chloroaniline				mg/kg	< 0.0054 U	< 0.00525 U	< 0.00531 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00833 U	< 0.0081 U	< 0.00819 U
4-Nitroaniline				mg/kg	< 0.0772 U	< 0.0751 U	< 0.0759 U
4-Nitrophenol				mg/kg	< 0.00988 U	< 0.0096 U	< 0.00971 U
Acenaphthene	20	**100**	*500*	mg/kg	0.108 J	0.143 J	< 0.00865 U
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00537 U	0.125 J	< 0.00528 U
Acetophenone				mg/kg	< 0.0153 U	0.0338 J	< 0.015 U
Anthracene	100	**100**	*500*	mg/kg	0.322	0.344	0.263
Atrazine				mg/kg	< 0.0145 U	< 0.0141 U	< 0.0142 U
Benzaldehyde				mg/kg	< 0.0474 UR	0.123 J	< 0.0466 UR
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.664	0.894	0.799
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.736	0.91	0.612
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.908	**1.23**	0.775
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.554	0.612	0.487
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.39	0.346	0.353
Benzyl butyl phthalate				mg/kg	< 0.014 U	< 0.0136 U	< 0.0138 U
Biphenyl (Diphenyl)				mg/kg	< 0.0136 U	0.0497 J	< 0.0133 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0213 UJ	< 0.0207 U	< 0.021 UJ
bis(2-Chloroethyl)ether				mg/kg	< 0.0169 U	< 0.0165 U	< 0.0166 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0555 U	< 0.054 U	< 0.0546 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0308 U	0.0482 J	< 0.0303 U
Caprolactam				mg/kg	< 0.0199 U	< 0.0194 U	< 0.0196 U
Carbazole				mg/kg	< 0.0297 U	0.0999 J	< 0.0292 U
Chrysene	1	**3.9**	*56*	mg/kg	0.779	0.971	0.753
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.0153 U	0.0568 J	< 0.015 U
Dibenzofuran	7	**59**	*350*	mg/kg	0.122 J	0.113 J	< 0.00904 U
Diethyl phthalate				mg/kg	< 0.0299 U	< 0.0291 U	< 0.0294 U
Dimethyl phthalate				mg/kg	< 0.00957 U	< 0.00931 U	< 0.00941 U
dI-n-Butyl phthalate				mg/kg	< 0.0631 U	< 0.0613 U	< 0.062 U
dI-n-Octyl phthalate				mg/kg	< 0.0316 U	< 0.0308 U	< 0.0311 U
Fluoranthene	100	**100**	*500*	mg/kg	1.92	1.96	1.66
Fluorene	30	**100**	*500*	mg/kg	0.139 J	0.157	< 0.0126 U
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0202 U	< 0.0196 U	< 0.0198 U
Hexachlorobutadiene				mg/kg	< 0.0741 U	< 0.072 U	< 0.0728 U
Hexachlorocyclopentadiene				mg/kg	< 0.0643 UR	< 0.0625 UJ	< 0.0632 UR
Hexachloroethane				mg/kg	< 0.0169 U	< 0.0165 U	< 0.0166 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	0.463	**0.507**	0.344
Isophorone				mg/kg	< 0.0101 UJ	< 0.00983 U	< 0.00994 UJ
Naphthalene	12	**100**	*500*	mg/kg	0.181	0.23	< 0.0112 U
Nitrobenzene				mg/kg	< 0.0262 U	< 0.0255 U	< 0.0258 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00826 U	< 0.00804 U	< 0.00812 U
N-Nitrosodiphenylamine				mg/kg	< 0.0329 U	< 0.032 U	< 0.0324 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0212 UJ	< 0.0206 U	< 0.0209 UJ
Phenanthrene	100	**100**	*500*	mg/kg	1.04	1.25	0.986
Phenol	0.33	100	500	mg/kg	< 0.0125 U	< 0.0122 U	< 0.0123 U
Pyrene	100	**100**	*500*	mg/kg	1.49	1.49	1.44

Notes:
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Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04
				Sample ID	MW-04-1.5-2.5-20230607MSD	MW-04-5.5-6.5-20230607	MW-04-41.5-42.5-20230607
				Sample Date	06/07/2023	06/07/2023	06/07/2023
				Depth (ft.)	1.5-2.5	5.5-6.5	41.5-42.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00432 U	< 0.00494 U	< 0.00454 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0235 U	< 0.0269 U	< 0.0247 U
2,4,5-Trichlorophenol				mg/kg	< 0.0208 U	< 0.0238 U	< 0.0218 U
2,4,6-Trichlorophenol				mg/kg	< 0.00957 U	< 0.0109 U	< 0.0101 U
2,4-Dichlorophenol				mg/kg	< 0.0154 U	< 0.0176 U	< 0.0162 U
2,4-Dimethylphenol				mg/kg	< 0.015 U	< 0.0172 U	< 0.0158 U
2,4-Dinitrophenol				mg/kg	< 0.022 U	< 0.0252 U	< 0.0232 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0163 U	< 0.0187 U	< 0.0171 U
2,6-Dinitrotoluene				mg/kg	< 0.0365 U	< 0.0418 U	< 0.0384 U
2-Chloronaphthalene				mg/kg	< 0.0176 U	< 0.0201 U	< 0.0185 U
2-Chlorophenol				mg/kg	< 0.0202 U	< 0.0231 U	< 0.0212 U
2-Methylnaphthalene				mg/kg	0.164 J	0.166 J	0.0681 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0302 U	< 0.0346 U	< 0.0317 U
2-Nitroaniline				mg/kg	< 0.0123 U	< 0.0141 U	< 0.0129 U
2-Nitrophenol				mg/kg	< 0.017 U	< 0.0194 UJ	< 0.0179 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0161 U	< 0.0184 U	< 0.0169 U
3/4-Methylphenol				mg/kg	0.247	0.334	< 0.0295 U
3-Nitroaniline				mg/kg	< 0.0284 U	< 0.0324 U	< 0.0298 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0288 U	< 0.033 U	< 0.0303 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0218 U	< 0.025 U	< 0.0229 U
4-Chloro-3-methylphenol				mg/kg	< 0.0241 U	< 0.0276 U	< 0.0253 U
4-Chloroaniline				mg/kg	< 0.00535 U	< 0.00612 U	< 0.00562 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00826 U	< 0.00945 U	< 0.00868 U
4-Nitroaniline				mg/kg	< 0.0765 U	< 0.0875 U	< 0.0804 U
4-Nitrophenol				mg/kg	< 0.00978 U	< 0.0112 U	< 0.0103 UJ
Acenaphthene	20	**100**	*500*	mg/kg	0.0736 J	0.086 J	< 0.00916 U
Acenaphthylene	100	**100**	*500*	mg/kg	0.0815 J	0.243	< 0.00559 U
Acetophenone				mg/kg	0.0295 J	0.0394 J	< 0.0159 U
Anthracene	100	**100**	*500*	mg/kg	0.271	0.28	< 0.0233 U
Atrazine				mg/kg	< 0.0144 U	< 0.0164 U	< 0.0151 U
Benzaldehyde				mg/kg	0.148 J	0.113 J	< 0.0494 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.767	**1.29**	< 0.0162 U
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.794	***1.86***	< 0.028 U
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.06**	**2.21**	< 0.0226 U
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.612	1.66	< 0.013 U
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.371	0.769	< 0.0185 U
Benzyl butyl phthalate				mg/kg	< 0.0139 U	< 0.0159 U	< 0.0146 U
Biphenyl (Diphenyl)				mg/kg	0.0491 J	0.0678 J	< 0.0141 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0211 U	< 0.0242 U	< 0.0222 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0168 U	< 0.0192 U	< 0.0176 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.055 U	< 0.0629 U	< 0.0578 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	0.0428 J	< 0.0349 U	< 0.0321 U
Caprolactam				mg/kg	< 0.0198 U	< 0.0226 U	< 0.0208 U
Carbazole				mg/kg	0.0737 J	0.107 J	< 0.0309 U
Chrysene	1	**3.9**	*56*	mg/kg	0.833	1.33	< 0.011 U
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.0309 J	0.119 J	< 0.0159 U
Dibenzofuran	7	**59**	*350*	mg/kg	0.104 J	0.174 J	< 0.00957 U
Diethyl phthalate				mg/kg	< 0.0296 U	< 0.0339 U	< 0.0311 U
Dimethyl phthalate				mg/kg	< 0.00949 U	< 0.0109 U	< 0.00997 U
dI-n-Butyl phthalate				mg/kg	< 0.0625 U	< 0.0715 U	< 0.0657 U
dI-n-Octyl phthalate				mg/kg	< 0.0314 U	< 0.0359 U	< 0.033 U
Fluoranthene	100	**100**	*500*	mg/kg	1.65	2.12	< 0.0151 U
Fluorene	30	**100**	*500*	mg/kg	0.108 J	0.111 J	< 0.0134 U
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.02 U	< 0.0229 U	< 0.021 U
Hexachlorobutadiene				mg/kg	< 0.0734 U	< 0.0839 U	< 0.0771 U
Hexachlorocyclopentadiene				mg/kg	< 0.0637 UJ	< 0.0729 UJ	< 0.067 UJ
Hexachloroethane				mg/kg	< 0.0168 U	< 0.0192 U	< 0.0176 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	0.438	**1.27**	< 0.0173 U
Isophorone				mg/kg	< 0.01 U	< 0.0115 U	< 0.0105 U
Naphthalene	12	**100**	*500*	mg/kg	0.229	0.53	0.0995 J
Nitrobenzene				mg/kg	< 0.026 U	< 0.0297 U	< 0.0273 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00819 U	< 0.00937 U	< 0.00861 U
N-Nitrosodiphenylamine				mg/kg	< 0.0326 U	< 0.0373 U	< 0.0343 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.021 U	< 0.024 U	< 0.0221 U
Phenanthrene	100	**100**	*500*	mg/kg	1.02	1.02	0.0327 J
Phenol	0.33	100	500	mg/kg	< 0.0124 U	< 0.0142 U	< 0.013 U
Pyrene	100	**100**	*500*	mg/kg	1.26	1.77	< 0.0118 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-05	MW-05
				Sample ID	MW-04-67.0-68.0-20230609	MW-05-1.0-2.0-20230605	MW-05-5.0-6.0-20230605
				Sample Date	06/09/2023	06/05/2023	06/05/2023
				Depth (ft.)	67-68	1-2	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00432 U	< 0.00418 U	< 0.0239 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0235 U	< 0.0228 U	< 0.13 U
2,4,5-Trichlorophenol				mg/kg	< 0.0208 U	< 0.0201 U	< 0.115 U
2,4,6-Trichlorophenol				mg/kg	< 0.00957 U	< 0.00927 U	< 0.053 U
2,4-Dichlorophenol				mg/kg	< 0.0154 U	< 0.0149 U	< 0.0853 U
2,4-Dimethylphenol				mg/kg	< 0.0150 U	< 0.0146 UJ	< 0.0834 U
2,4-Dinitrophenol				mg/kg	< 0.0220 U	< 0.0214 U	< 0.122 U
2,4-Dinitrotoluene				mg/kg	< 0.0163 U	< 0.0158 U	< 0.0904 U
2,6-Dinitrotoluene				mg/kg	< 0.0365 U	< 0.0354 U	< 0.202 U
2-Chloronaphthalene				mg/kg	< 0.0176 U	< 0.017 U	< 0.0974 U
2-Chlorophenol				mg/kg	< 0.0202 U	< 0.0196 U	< 0.112 U
2-Methylnaphthalene				mg/kg	< 0.0366 U	< 0.0355 U	0.609 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0302 U	< 0.0293 U	< 0.167 U
2-Nitroaniline				mg/kg	< 0.0123 U	< 0.0119 U	< 0.0681 U
2-Nitrophenol				mg/kg	< 0.0170 U	< 0.0165 U	< 0.0942 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0161 U	< 0.0156 U	< 0.0891 U
3/4-Methylphenol				mg/kg	< 0.0280 U	< 0.0272 U	0.174 J
3-Nitroaniline				mg/kg	< 0.0284 U	< 0.0275 U	< 0.157 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0288 U	< 0.0279 U	< 0.16 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0218 U	< 0.0211 U	< 0.121 U
4-Chloro-3-methylphenol				mg/kg	< 0.0241 U	< 0.0234 UJ	< 0.134 U
4-Chloroaniline				mg/kg	< 0.00535 U	< 0.00519 UJ	< 0.0297 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00826 U	< 0.008 U	< 0.0458 U
4-Nitroaniline				mg/kg	< 0.0765 U	< 0.0741 UJ	< 0.424 U
4-Nitrophenol				mg/kg	< 0.00978 U	< 0.00948 UJ	< 0.0542 U
Acenaphthene	20	**100**	*500*	mg/kg	< 0.00872 U	< 0.00845 U	1.38
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00532 U	< 0.00515 U	1.5
Acetophenone				mg/kg	< 0.0152 U	< 0.0147 U	< 0.084 U
Anthracene	100	**100**	*500*	mg/kg	< 0.0222 U	0.177	1.09
Atrazine				mg/kg	< 0.0144 U	< 0.0139 U	< 0.0796 U
Benzaldehyde				mg/kg	< 0.0470 UJ	< 0.0455 UJ	< 0.26 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	< 0.0154 U	0.346	**3.15**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	< 0.0266 U	0.504	***3.97***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	< 0.0215 U	0.297	**4.89**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	< 0.0124 U	0.742	4.75 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	< 0.0176 U	0.482	1.29
Benzyl butyl phthalate				mg/kg	< 0.0139 U	< 0.0135 U	< 0.077 U
Biphenyl (Diphenyl)				mg/kg	< 0.0134 U	< 0.013 U	0.209 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0211 UJ	< 0.0205 UJ	< 0.117 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0168 U	< 0.0162 U	< 0.0929 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0550 U	< 0.0533 U	< 0.305 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0305 U	4.51	< 0.169 U
Caprolactam				mg/kg	< 0.0198 U	< 0.0191 UJ	< 0.109 U
Carbazole				mg/kg	< 0.0294 U	< 0.0285 U	0.279 J
Chrysene	1	**3.9**	*56*	mg/kg	< 0.0105 U	0.562	3.53
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.0152 U	< 0.0147 U	0.244 J
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.00911 U	< 0.00883 U	0.344 J
Diethyl phthalate				mg/kg	< 0.0296 U	< 0.0287 U	< 0.164 U
Dimethyl phthalate				mg/kg	< 0.00949 U	< 0.00919 U	< 0.0526 U
dl-n-Butyl phthalate				mg/kg	< 0.0625 U	< 0.0605 U	< 0.346 U
dl-n-Octyl phthalate				mg/kg	< 0.0314 U	< 0.0304 U	< 0.174 U
Fluoranthene	100	**100**	*500*	mg/kg	< 0.0144 U	0.834	6.92
Fluorene	30	**100**	*500*	mg/kg	< 0.0127 U	< 0.0124 U	0.596 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0200 U	< 0.0194 U	< 0.111 U
Hexachlorobutadiene				mg/kg	< 0.0734 U	< 0.0711 U	< 0.407 U
Hexachlorocyclopentadiene				mg/kg	< 0.0637 UJ	< 0.0618 UJ	< 0.353 UJ
Hexachloroethane				mg/kg	< 0.0168 U	< 0.0162 U	< 0.0929 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	< 0.0164 U	0.486	**2.8 J**
Isophorone				mg/kg	< 0.0100 UJ	< 0.0097 UJ	< 0.0555 U
Naphthalene	12	**100**	*500*	mg/kg	< 0.0113 U	< 0.011 U	1.7
Nitrobenzene				mg/kg	< 0.0260 U	< 0.0252 UJ	< 0.144 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00819 U	< 0.00794 U	< 0.0454 U
N-Nitrosodiphenylamine				mg/kg	< 0.0326 U	< 0.0316 U	< 0.181 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0210 UJ	< 0.0204 U	< 0.116 U
Phenanthrene	100	**100**	*500*	mg/kg	< 0.0201 U	0.549	4.07
Phenol	0.33	100	500	mg/kg	< 0.0124 U	< 0.012 U	< 0.0687 U
Pyrene	100	**100**	*500*	mg/kg	< 0.0112 U	0.91	6.1

Notes:
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Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
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analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-05	MW-05	MW-06
				Sample ID	MW-05-32.5-33.5-20230606	MW-05-66.0-67.0-20230606	MW-06-5.0-6.0-20230601
				Sample Date	06/06/2023	06/06/2023	06/01/2023
				Depth (ft.)	32.5-33.5	66-67	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.206 U	< 0.00437 U	< 0.0047 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 1.13 U	< 0.0238 U	< 0.0256 U
2,4,5-Trichlorophenol				mg/kg	< 0.994 U	< 0.021 U	< 0.0226 U
2,4,6-Trichlorophenol				mg/kg	< 0.457 U	< 0.00969 U	< 0.0104 U
2,4-Dichlorophenol				mg/kg	< 0.736 U	< 0.0156 U	< 0.0168 U
2,4-Dimethylphenol				mg/kg	< 0.719 U	< 0.0152 U	< 0.0164 U
2,4-Dinitrophenol				mg/kg	< 1.05 U	< 0.0223 UJ	< 0.024 U
2,4-Dinitrotoluene				mg/kg	< 0.78 U	< 0.0165 U	< 0.0178 U
2,6-Dinitrotoluene				mg/kg	< 1.75 U	< 0.037 U	< 0.0398 U
2-Chloronaphthalene				mg/kg	< 0.84 U	< 0.0178 U	< 0.0191 U
2-Chlorophenol				mg/kg	< 0.966 U	< 0.0205 U	< 0.022 U
2-Methylnaphthalene				mg/kg	973	54.7	0.202 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 1.44 U	< 0.0306 U	< 0.0329 U
2-Nitroaniline				mg/kg	< 0.587 U	< 0.0124 U	< 0.0134 U
2-Nitrophenol				mg/kg	< 0.812 U	< 0.0172 U	< 0.0185 U
3,3'-Dichlorobenzidine				mg/kg	< 0.769 U	< 0.0163 U	< 0.0175 U
3/4-Methylphenol				mg/kg	< 1.34 U	< 0.0284 U	< 0.0305 U
3-Nitroaniline				mg/kg	< 1.36 U	< 0.0287 U	< 0.0309 U
4,6-Dinitro-2-methylphenol				mg/kg	< 1.38 U	< 0.0292 U	< 0.0314 U
4-Bromophenyl phenyl ether				mg/kg	< 1.04 U	< 0.0221 U	< 0.0238 U
4-Chloro-3-methylphenol				mg/kg	< 1.15 U	< 0.0244 U	< 0.0263 U
4-Chloroaniline				mg/kg	< 0.256 U	< 0.00542 U	< 0.00583 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.395 U	< 0.00836 U	< 0.00899 U
4-Nitroaniline				mg/kg	< 3.66 U	< 0.0775 U	< 0.0833 U
4-Nitrophenol				mg/kg	< 0.468 U	< 0.00991 U	< 0.0107 U
Acenaphthene	20	**100**	*500*	mg/kg	**114 J**	12.6	1.05
Acenaphthylene	100	**100**	*500*	mg/kg	**386**	18.9	0.701
Acetophenone				mg/kg	< 0.725 U	< 0.0154 U	< 0.0165 U
Anthracene	100	**100**	*500*	mg/kg	**222**	15.1	2.04
Atrazine				mg/kg	< 0.686 U	< 0.0145 UJ	< 0.0156 U
Benzaldehyde				mg/kg	< 2.25 U	< 0.0476 UJ	< 0.0511 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***117***	***6.88***	**1.73**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***94.4***	***5.23***	***3.26***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***62.3***	**3.52**	**2.84**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	36.9 J	1.94	3.91 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	**30.2**	1.49	0.728
Benzyl butyl phthalate				mg/kg	< 0.664 U	< 0.0141 U	< 0.0151 U
Biphenyl (Diphenyl)				mg/kg	104	6.05	0.0725 J
bis(2-Chloroethoxy)methane				mg/kg	< 1.01 U	< 0.0214 U	< 0.023 U
bis(2-Chloroethyl)ether				mg/kg	< 0.801 U	< 0.017 UJ	< 0.0183 U
bis(2-Chloroisopropyl)ether				mg/kg	< 2.63 U	< 0.0557 U	< 0.0599 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 1.46 U	< 0.0309 U	0.721
Caprolactam				mg/kg	< 0.944 U	< 0.02 U	< 0.0215 U
Carbazole				mg/kg	9.09 J	0.663	0.159 J
Chrysene	1	**3.9**	*56*	mg/kg	***116***	**7.36**	1.8
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***4.88 J***	0.12 J	0.165 J
Dibenzofuran	7	**59**	*350*	mg/kg	52.1	3.41	0.189
Diethyl phthalate				mg/kg	< 1.42 U	< 0.03 U	< 0.0323 U
Dimethyl phthalate				mg/kg	< 0.453 U	< 0.00961 U	< 0.0103 U
dI-n-Butyl phthalate				mg/kg	< 2.99 U	< 0.0633 U	< 0.068 U
dI-n-Octyl phthalate				mg/kg	< 1.5 U	< 0.0317 U	< 0.0341 U
Fluoranthene	100	**100**	*500*	mg/kg	**234**	16	5.33
Fluorene	30	**100**	*500*	mg/kg	**298**	19.1	0.286
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.955 U	< 0.0202 U	< 0.0218 U
Hexachlorobutadiene				mg/kg	< 3.51 U	< 0.0743 U	< 0.0799 U
Hexachlorocyclopentadiene				mg/kg	< 3.05 U	< 0.0645 UJ	< 0.0694 U
Hexachloroethane				mg/kg	< 0.801 U	< 0.017 U	< 0.0183 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***30.5 J***	**1.55**	**2.12 J**
Isophorone				mg/kg	< 0.479 U	< 0.0101 U	< 0.0109 U
Naphthalene	12	**100**	*500*	mg/kg	***3600***	68.6	0.742
Nitrobenzene				mg/kg	< 1.24 U	< 0.0263 U	< 0.0283 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.391 U	< 0.00829 U	< 0.00891 U
N-Nitrosodiphenylamine				mg/kg	< 1.56 U	< 0.033 U	< 0.0355 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 1 U	< 0.0213 UJ	< 0.0229 UJ
Phenanthrene	100	**100**	*500*	mg/kg	***717***	49.8	1.43
Phenol	0.33	100	500	mg/kg	< 0.593 U	< 0.0126 UJ	< 0.0135 U
Pyrene	100	**100**	*500*	mg/kg	**286**	19.6	5.66

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-06	MW-06	MW-07
				Sample ID	MW-06-41.0-42.0-20230601	MW-06-66.0-67.0-20230601	MW-07-1.0-2.0-20230602
				Sample Date	06/01/2023	06/01/2023	06/02/2023
				Depth (ft.)	41-42	66-67	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.041 U	< 0.00449 U	< 0.00435 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.223 U	< 0.0245 U	< 0.0237 U
2,4,5-Trichlorophenol				mg/kg	< 0.197 U	< 0.0216 U	< 0.021 U
2,4,6-Trichlorophenol				mg/kg	< 0.0908 U	< 0.00996 U	< 0.00964 U
2,4-Dichlorophenol				mg/kg	< 0.146 U	< 0.016 U	< 0.0155 U
2,4-Dimethylphenol				mg/kg	< 0.143 U	< 0.0157 U	< 0.0152 U
2,4-Dinitrophenol				mg/kg	< 0.209 U	< 0.023 U	< 0.0222 U
2,4-Dinitrotoluene				mg/kg	< 0.155 U	< 0.017 U	< 0.0164 U
2,6-Dinitrotoluene				mg/kg	< 0.347 U	< 0.038 U	< 0.0368 U
2-Chloronaphthalene				mg/kg	< 0.167 U	< 0.0183 U	< 0.0177 U
2-Chlorophenol				mg/kg	< 0.192 U	< 0.021 U	< 0.0204 U
2-Methylnaphthalene				mg/kg	3690	2.46	0.809
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.287 U	< 0.0314 U	< 0.0304 U
2-Nitroaniline				mg/kg	< 0.117 U	< 0.0128 U	< 0.0124 U
2-Nitrophenol				mg/kg	< 0.161 U	< 0.0177 U	< 0.0171 U
3,3'-Dichlorobenzidine				mg/kg	< 0.153 U	< 0.0167 U	< 0.0162 U
3/4-Methylphenol				mg/kg	< 0.266 U	< 0.0292 U	< 0.0282 U
3-Nitroaniline				mg/kg	< 0.269 U	< 0.0295 U	< 0.0286 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.274 U	< 0.03 U	< 0.0291 U
4-Bromophenyl phenyl ether				mg/kg	< 0.207 U	< 0.0227 U	< 0.022 U
4-Chloro-3-methylphenol				mg/kg	< 0.229 U	< 0.0251 U	< 0.0243 U
4-Chloroaniline				mg/kg	< 0.0508 U	< 0.00557 U	< 0.00539 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0784 U	< 0.00859 U	< 0.00832 U
4-Nitroaniline				mg/kg	< 0.726 U	< 0.0796 U	< 0.0771 U
4-Nitrophenol				mg/kg	< 0.0929 U	< 0.0102 U	< 0.00986 U
Acenaphthene	20	**100**	*500*	mg/kg	***702***	0.605	0.219
Acenaphthylene	100	**100**	*500*	mg/kg	***1390***	1.94	0.166
Acetophenone				mg/kg	< 0.144 U	< 0.0158 U	< 0.0153 U
Anthracene	100	**100**	*500*	mg/kg	***836***	1.47	0.513
Atrazine				mg/kg	< 0.136 U	< 0.0149 U	< 0.0145 U
Benzaldehyde				mg/kg	< 0.446 UJ	< 0.0489 UJ	< 0.0474 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***436***	0.952	**1.26**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***342***	0.77	***1.39***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***258***	0.497	**1.67**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	**121 J**	0.303 J	1.02 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	***90.4***	0.223	0.685
Benzyl butyl phthalate				mg/kg	< 0.132 U	< 0.0145 U	0.879
Biphenyl (Diphenyl)				mg/kg	379	0.316	0.114 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.201 U	< 0.022 U	< 0.0213 U
bis(2-Chloroethyl)ether				mg/kg	< 0.159 U	< 0.0175 U	< 0.0169 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.522 U	< 0.0573 U	< 0.0555 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.29 U	0.301	0.888
Caprolactam				mg/kg	< 0.187 U	< 0.0206 U	< 0.0199 U
Carbazole				mg/kg	25.6	0.0583 J	0.132 J
Chrysene	1	**3.9**	*56*	mg/kg	***427***	0.988	1.26
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***13.9 J***	0.0444 J	0.27 J
Dibenzofuran	7	**59**	*350*	mg/kg	**86.3**	0.143 J	0.165
Diethyl phthalate				mg/kg	< 0.281 U	< 0.0308 U	< 0.0299 U
Dimethyl phthalate				mg/kg	< 0.09 U	< 0.00987 U	< 0.00956 U
dI-n-Butyl phthalate				mg/kg	< 0.593 U	< 0.065 U	< 0.063 U
dI-n-Octyl phthalate				mg/kg	< 0.298 U	< 0.0326 U	< 0.0316 U
Fluoranthene	100	**100**	*500*	mg/kg	***868***	1.76	2.64
Fluorene	30	**100**	*500*	mg/kg	***1150***	1.74	0.255
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.19 U	< 0.0208 U	< 0.0201 U
Hexachlorobutadiene				mg/kg	< 0.696 U	< 0.0764 U	< 0.074 U
Hexachlorocyclopentadiene				mg/kg	< 0.605 U	< 0.0663 U	< 0.0643 U
Hexachloroethane				mg/kg	< 0.159 U	< 0.0175 U	< 0.0169 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***101 J***	0.238 J	**0.845 J**
Isophorone				mg/kg	< 0.095 U	< 0.0104 U	< 0.0101 U
Naphthalene	12	**100**	*500*	mg/kg	***13300***	2.16	0.23
Nitrobenzene				mg/kg	< 0.246 U	< 0.027 U	< 0.0262 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0777 U	< 0.00852 U	< 0.00825 U
N-Nitrosodiphenylamine				mg/kg	< 0.31 U	< 0.0339 U	< 0.0329 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.199 UJ	< 0.0219 UJ	< 0.0212 UJ
Phenanthrene	100	**100**	*500*	mg/kg	***2490***	5.33	1.31
Phenol	0.33	100	500	mg/kg	< 0.118 U	< 0.0129 U	< 0.0125 U
Pyrene	100	**100**	*500*	mg/kg	***1090***	2.4	2.08

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-07	MW-07	MW-07
				Sample ID	MW-07-6.6-7.6-20230602	MW-07-35.0-36.0-20230602	MW-07-66.5-67.5-20230605
				Sample Date	06/02/2023	06/02/2023	06/05/2023
				Depth (ft.)	6.6-7.6	35-36	66.5-67.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00445 U	< 0.021 U	< 0.00421 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0242 U	< 0.114 U	< 0.0229 U
2,4,5-Trichlorophenol				mg/kg	< 0.0214 U	< 0.101 U	< 0.0203 U
2,4,6-Trichlorophenol				mg/kg	< 0.00985 U	< 0.0464 U	< 0.00932 U
2,4-Dichlorophenol				mg/kg	< 0.0158 U	< 0.0747 U	< 0.015 U
2,4-Dimethylphenol				mg/kg	< 0.0155 U	< 0.073 U	< 0.0147 U
2,4-Dinitrophenol				mg/kg	< 0.0227 U	< 0.107 U	< 0.0215 U
2,4-Dinitrotoluene				mg/kg	< 0.0168 U	< 0.0791 U	< 0.0159 U
2,6-Dinitrotoluene				mg/kg	< 0.0376 U	< 0.177 U	< 0.0356 U
2-Chloronaphthalene				mg/kg	< 0.0181 U	< 0.0853 U	< 0.0171 U
2-Chlorophenol				mg/kg	< 0.0208 U	< 0.0981 U	< 0.0197 U
2-Methylnaphthalene				mg/kg	6.49	908	0.0447 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0311 U	< 0.147 U	< 0.0294 U
2-Nitroaniline				mg/kg	< 0.0127 U	< 0.0596 U	< 0.012 U
2-Nitrophenol				mg/kg	< 0.0175 U	< 0.0825 U	< 0.0166 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0166 U	< 0.078 U	< 0.0157 U
3/4-Methylphenol				mg/kg	0.285	< 0.136 U	< 0.0273 U
3-Nitroaniline				mg/kg	< 0.0292 U	< 0.138 U	< 0.0276 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0297 U	< 0.14 U	< 0.0281 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0225 U	< 0.106 U	< 0.0213 U
4-Chloro-3-methylphenol				mg/kg	< 0.0248 U	< 0.117 U	< 0.0235 U
4-Chloroaniline				mg/kg	< 0.00551 U	< 0.026 U	< 0.00521 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0085 U	< 0.0401 U	< 0.00805 U
4-Nitroaniline				mg/kg	< 0.0787 U	< 0.371 U	< 0.0745 U
4-Nitrophenol				mg/kg	< 0.0101 U	< 0.0475 U	< 0.00953 U
Acenaphthene	20	**100**	*500*	mg/kg	43.2	**172**	0.0296 J
Acenaphthylene	100	**100**	*500*	mg/kg	19.8	**383**	0.1 J
Acetophenone				mg/kg	< 0.0156 U	< 0.0736 U	< 0.0148 U
Anthracene	100	**100**	*500*	mg/kg	46.7	**241**	< 0.0216 U
Atrazine				mg/kg	< 0.0148 U	< 0.0697 U	< 0.014 U
Benzaldehyde				mg/kg	< 0.0484 UJ	< 0.228 UJ	< 0.0458 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***25.4***	***152***	< 0.015 U
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***30.8***	***130***	< 0.026 U
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***30.9***	***84***	< 0.0209 U
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	35.6 J	54.3 J	< 0.0121 U
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	**7.07**	**36**	< 0.0171 U
Benzyl butyl phthalate				mg/kg	< 0.0143 U	< 0.0674 U	< 0.0135 U
Biphenyl (Diphenyl)				mg/kg	1.57	107	< 0.0131 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0218 U	< 0.103 U	< 0.0206 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0173 U	< 0.0814 U	< 0.0163 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0566 U	< 0.267 U	< 0.0536 U
bis(2-Ethylhexyl)phthalate				mg/kg	0.277	< 0.148 U	< 0.0298 U
Caprolactam				mg/kg	< 0.0203 U	< 0.0958 U	< 0.0192 U
Carbazole				mg/kg	2.66	11	< 0.0286 U
Chrysene	1	**3.9**	*56*	mg/kg	**26.1**	***143***	< 0.0102 U
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***1.18 J***	***6.16 J***	< 0.0148 U
Dibenzofuran	7	**59**	*350*	mg/kg	15.6	**59.3**	< 0.00887 U
Diethyl phthalate				mg/kg	< 0.0305 U	< 0.144 U	< 0.0289 U
Dimethyl phthalate				mg/kg	< 0.00977 U	< 0.046 U	< 0.00924 U
dI-n-Butyl phthalate				mg/kg	< 0.0643 U	< 0.303 U	< 0.0609 U
dI-n-Octyl phthalate				mg/kg	< 0.0323 U	< 0.152 U	< 0.0305 U
Fluoranthene	100	**100**	*500*	mg/kg	96.1	**308**	0.0337 J
Fluorene	30	**100**	*500*	mg/kg	9.27	**322**	0.0406 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0206 U	< 0.097 U	< 0.0195 U
Hexachlorobutadiene				mg/kg	< 0.0755 U	< 0.356 U	< 0.0715 U
Hexachlorocyclopentadiene				mg/kg	< 0.0656 U	< 0.309 UJ	< 0.0621 U
Hexachloroethane				mg/kg	< 0.0173 U	< 0.0814 U	< 0.0163 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***18.9 J***	***44.1 J***	< 0.016 U
Isophorone				mg/kg	< 0.0103 U	< 0.0486 U	< 0.00976 U
Naphthalene	12	**100**	*500*	mg/kg	75.7	***3330***	0.17
Nitrobenzene				mg/kg	< 0.0267 U	< 0.126 U	< 0.0253 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00843 U	< 0.0397 U	< 0.00798 U
N-Nitrosodiphenylamine				mg/kg	< 0.0336 U	< 0.158 U	< 0.0318 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0216 UJ	< 0.102 U	< 0.0205 U
Phenanthrene	100	**100**	*500*	mg/kg	43.4	***814***	0.0328 J
Phenol	0.33	100	500	mg/kg	< 0.0128 U	< 0.0602 U	< 0.0121 U
Pyrene	100	**100**	*500*	mg/kg	97.6	**354**	< 0.011 U

Notes:
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Concentrations above NYSPART375C are italicized
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mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
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UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-12	OH-SB-12	OH-SB-12A
				Sample ID	OH-SB-12-0.5-1.5-20230531	DUP-20230531	OH-SB-12A-1.5-2.5-20230531
				Sample Date	05/31/2023	05/31/2023	05/31/2023
				Depth (ft.)	0.5-1.5	0.5-1.5	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.0399 UJ	< 0.0397 UJ	< 0.2 UJ
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.218 U	< 0.217 U	< 1.09 U
2,4,5-Trichlorophenol				mg/kg	< 0.192 U	< 0.191 U	< 0.962 U
2,4,6-Trichlorophenol				mg/kg	< 0.0884 U	< 0.088 U	< 0.443 U
2,4-Dichlorophenol				mg/kg	< 0.142 U	< 0.142 U	< 0.712 U
2,4-Dimethylphenol				mg/kg	< 0.139 U	< 0.138 U	< 0.696 U
2,4-Dinitrophenol				mg/kg	< 0.204 UJ	< 0.203 U	< 1.02 UJ
2,4-Dinitrotoluene				mg/kg	< 0.151 U	< 0.15 UJ	< 0.754 U
2,6-Dinitrotoluene				mg/kg	< 0.337 U	< 0.336 U	< 1.69 U
2-Chloronaphthalene				mg/kg	< 0.162 U	< 0.162 U	< 0.813 U
2-Chlorophenol				mg/kg	< 0.187 U	< 0.186 U	< 0.935 U
2-Methylnaphthalene				mg/kg	< 0.339 U	< 0.337 U	< 1.69 U
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.279 U	< 0.278 U	< 1.4 U
2-Nitroaniline				mg/kg	< 0.114 U	< 0.113 U	< 0.568 U
2-Nitrophenol				mg/kg	< 0.157 UJ	< 0.156 UJ	< 0.786 UJ
3,3'-Dichlorobenzidine				mg/kg	< 0.149 U	< 0.148 U	< 0.744 U
3/4-Methylphenol				mg/kg	< 0.259 U	< 0.258 U	< 1.3 U
3-Nitroaniline				mg/kg	< 0.262 U	< 0.261 U	< 1.31 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.266 UJ	< 0.265 UJ	< 1.33 UJ
4-Bromophenyl phenyl ether				mg/kg	< 0.202 U	< 0.201 U	< 1.01 U
4-Chloro-3-methylphenol				mg/kg	< 0.223 U	< 0.222 U	< 1.12 U
4-Chloroaniline				mg/kg	< 0.0495 U	< 0.0493 U	< 0.248 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0763 U	< 0.076 U	< 0.382 U
4-Nitroaniline				mg/kg	< 0.707 U	< 0.704 U	< 3.54 U
4-Nitrophenol				mg/kg	< 0.0904 U	< 0.09 U	< 0.453 U
Acenaphthene	20	**100**	*500*	mg/kg	< 0.0805 U	< 0.0802 U	< 0.403 U
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.0491 U	< 0.0489 U	< 0.246 U
Acetophenone				mg/kg	< 0.14 U	< 0.14 U	< 0.701 U
Anthracene	100	**100**	*500*	mg/kg	< 0.205 U	< 0.204 U	10.4
Atrazine				mg/kg	< 0.133 UJ	< 0.132 UJ	< 0.664 UJ
Benzaldehyde				mg/kg	< 0.434 U	< 0.432 U	< 2.17 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	< 0.142 U	< 0.142 U	***16.8***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	< 0.246 U	< 0.245 U	***19.1***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	< 0.198 U	< 0.198 U	***18.7***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	< 0.115 U	< 0.114 U	8.28
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	< 0.162 U	< 0.162 U	**11.4**
Benzyl butyl phthalate				mg/kg	< 0.128 U	< 0.128 U	< 0.643 U
Biphenyl (Diphenyl)				mg/kg	< 0.124 U	< 0.124 U	< 0.622 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.195 U	< 0.194 U	< 0.978 U
bis(2-Chloroethyl)ether				mg/kg	< 0.155 U	< 0.154 U	< 0.776 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.508 U	< 0.506 U	< 2.54 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	6.65 J	< 0.281 U	42.7 J
Caprolactam				mg/kg	< 0.183 U	< 0.182 U	< 0.914 U
Carbazole				mg/kg	< 0.272 U	< 0.271 U	< 1.36 U
Chrysene	1	**3.9**	*56*	mg/kg	0.507 J	< 0.0964 U	**18**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.14 U	< 0.14 U	***3.33 J***
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.0842 U	< 0.0838 U	< 0.421 U
Diethyl phthalate				mg/kg	< 0.274 U	< 0.273 U	< 1.37 U
Dimethyl phthalate				mg/kg	< 0.0877 U	< 0.0873 U	< 0.439 U
dI-n-Butyl phthalate				mg/kg	< 0.577 U	< 0.575 U	< 2.89 U
dI-n-Octyl phthalate				mg/kg	< 0.29 U	< 0.289 U	< 1.45 U
Fluoranthene	100	**100**	*500*	mg/kg	0.395 J	< 0.132 U	49.3
Fluorene	30	**100**	*500*	mg/kg	< 0.118 U	< 0.117 U	4.36 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.185 U	< 0.184 U	< 0.924 U
Hexachlorobutadiene				mg/kg	< 0.678 U	< 0.675 U	< 3.39 U
Hexachlorocyclopentadiene				mg/kg	< 0.589 UJ	< 0.587 UJ	< 2.95 UJ
Hexachloroethane				mg/kg	< 0.155 UJ	< 0.154 UJ	< 0.776 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	< 0.152 U	< 0.151 U	***8.51***
Isophorone				mg/kg	< 0.0925 U	< 0.0922 U	< 0.463 U
Naphthalene	12	**100**	*500*	mg/kg	< 0.105 U	< 0.104 U	< 0.524 U
Nitrobenzene				mg/kg	< 0.24 U	< 0.239 U	< 1.2 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0757 U	< 0.0754 U	< 0.379 U
N-Nitrosodiphenylamine				mg/kg	< 0.301 U	< 0.3 U	< 1.51 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.194 U	< 0.193 U	< 0.972 UJ
Phenanthrene	100	**100**	*500*	mg/kg	< 0.186 U	< 0.185 U	28.2
Phenol	0.33	100	500	mg/kg	< 0.115 U	< 0.114 U	< 0.574 UJ
Pyrene	100	**100**	*500*	mg/kg	0.648 J	< 0.103 U	40.6

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-12A	OH-SB-13	OH-SB-13
				Sample ID	OH-SB-12A-5.0-6.0-20230531	OH-SB-13-3.0-4.0-20230516	OH-SB-13-5-6-20230516
				Sample Date	05/31/2023	05/16/2023	05/16/2023
				Depth (ft.)	5-6	3-4	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00457 UJ	< 0.00835 U	< 0.0137 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0249 U	< 0.0455 U	< 0.0749 U
2,4,5-Trichlorophenol				mg/kg	< 0.022 U	< 0.0402 U	< 0.0662 U
2,4,6-Trichlorophenol				mg/kg	< 0.0101 U	< 0.0185 U	< 0.0304 U
2,4-Dichlorophenol				mg/kg	< 0.0163 U	< 0.0298 U	< 0.049 U
2,4-Dimethylphenol				mg/kg	< 0.0159 U	< 0.0291 U	0.646
2,4-Dinitrophenol				mg/kg	< 0.0233 UJ	< 0.0426 UR	< 0.0702 U
2,4-Dinitrotoluene				mg/kg	< 0.0172 U	< 0.0315 U	< 0.0519 U
2,6-Dinitrotoluene				mg/kg	< 0.0386 U	< 0.0706 U	< 0.116 U
2-Chloronaphthalene				mg/kg	< 0.0186 U	< 0.034 U	< 0.0559 U
2-Chlorophenol				mg/kg	< 0.0214 U	< 0.0391 U	< 0.0643 U
2-Methylnaphthalene				mg/kg	0.773	0.198 J	2.25
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0319 U	< 0.0584 U	< 0.0961 U
2-Nitroaniline				mg/kg	< 0.013 U	< 0.0238 U	< 0.0391 U
2-Nitrophenol				mg/kg	< 0.018 UJ	< 0.0329 U	< 0.0541 U
3,3'-Dichlorobenzidine				mg/kg	< 0.017 U	< 0.0311 U	< 0.0512 U
3/4-Methylphenol				mg/kg	0.168	< 0.0542 U	1.14
3-Nitroaniline				mg/kg	< 0.03 U	< 0.0549 U	< 0.0903 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0305 UJ	< 0.0558 UR	< 0.0917 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0231 U	< 0.0422 U	< 0.0694 U
4-Chloro-3-methylphenol				mg/kg	< 0.0255 U	< 0.0466 U	< 0.0768 U
4-Chloroaniline				mg/kg	< 0.00566 U	< 0.0104 U	< 0.017 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00873 U	< 0.016 U	< 0.0263 U
4-Nitroaniline				mg/kg	< 0.0809 U	< 0.148 U	< 0.243 U
4-Nitrophenol				mg/kg	< 0.0103 U	< 0.0189 U	< 0.0311 U
Acenaphthene	20	**100**	*500*	mg/kg	1.65	0.313	12.8
Acenaphthylene	100	**100**	*500*	mg/kg	2.28	0.299	16.6
Acetophenone				mg/kg	< 0.016 U	< 0.0293 U	< 0.0482 U
Anthracene	100	**100**	*500*	mg/kg	2.65	1.1	13.8
Atrazine				mg/kg	< 0.0152 UJ	< 0.0278 U	< 0.0457 U
Benzaldehyde				mg/kg	< 0.0497 U	< 0.0908 UJ	< 0.149 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**4.71**	**3.29**	***12.2***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***5.85***	***3.75***	***32.4***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***6***	**4.81**	***33.9***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	8.96	2.45	49
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	2.69	1.66	**9.05**
Benzyl butyl phthalate				mg/kg	< 0.0147 U	< 0.0269 U	< 0.0442 U
Biphenyl (Diphenyl)				mg/kg	0.285 J	0.0582 J	< 0.0428 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0223 U	< 0.0409 U	< 0.0673 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0177 U	< 0.0324 U	< 0.0534 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0582 U	< 0.106 U	< 0.175 U
bis(2-Ethylhexyl)phthalate				mg/kg	1.43 J	6.22 J	< 0.0972 U
Caprolactam				mg/kg	< 0.0209 U	< 0.0382 U	< 0.0629 U
Carbazole				mg/kg	0.63	0.351 J	1.25
Chrysene	1	**3.9**	*56*	mg/kg	**5.5**	3.55	**16.9**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***1.27***	***0.661 J***	***6.5 J***
Dibenzofuran	7	**59**	*350*	mg/kg	0.83	0.291 J	5.44
Diethyl phthalate				mg/kg	< 0.0313 U	< 0.0573 U	< 0.0943 U
Dimethyl phthalate				mg/kg	< 0.01 U	0.191 J	< 0.0302 U
dl-n-Butyl phthalate				mg/kg	< 0.0661 U	< 0.121 U	< 0.199 U
dl-n-Octyl phthalate				mg/kg	< 0.0332 U	< 0.0606 U	< 0.0998 U
Fluoranthene	100	**100**	*500*	mg/kg	7.66	7.11	21.1
Fluorene	30	**100**	*500*	mg/kg	1.33	0.569	3.77
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0211 U	< 0.0386 U	< 0.0636 U
Hexachlorobutadiene				mg/kg	< 0.0776 U	< 0.142 U	< 0.234 U
Hexachlorocyclopentadiene				mg/kg	< 0.0674 UJ	< 0.123 UR	< 0.203 U
Hexachloroethane				mg/kg	< 0.0177 UJ	< 0.0324 U	< 0.0534 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**4.45**	**2.07**	***25.5***
Isophorone				mg/kg	< 0.0106 U	< 0.0194 U	< 0.0319 U
Naphthalene	12	**100**	*500*	mg/kg	1.93	0.241 J	8.18
Nitrobenzene				mg/kg	< 0.0274 U	< 0.0502 U	< 0.0826 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00866 U	< 0.0158 U	< 0.0261 U
N-Nitrosodiphenylamine				mg/kg	< 0.0345 U	< 0.0631 U	< 0.104 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0222 U	< 0.0406 U	< 0.0669 U
Phenanthrene	100	**100**	*500*	mg/kg	6.61	3.95	10.6
Phenol	0.33	100	500	mg/kg	< 0.0131 U	< 0.024 U	0.711
Pyrene	100	**100**	*500*	mg/kg	10.8	6.09	50.1

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-13	OH-SB-14	OH-SB-14
				Sample ID	OH-SB-13-15-16-20230516	OH-SB-14-1.0-2.0-20230517	OH-SB-14-7.7-8.7-20230517
				Sample Date	05/16/2023	05/17/2023	05/17/2023
				Depth (ft.)	15-16	1-2	7.7-8.7
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00553 U	< 0.00872 U	< 0.0065 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0302 U	< 0.0475 U	< 0.0354 U
2,4,5-Trichlorophenol				mg/kg	< 0.0266 U	< 0.042 U	< 0.0313 U
2,4,6-Trichlorophenol				mg/kg	< 0.0123 U	< 0.0193 U	< 0.0144 U
2,4-Dichlorophenol				mg/kg	< 0.0197 U	< 0.0311 U	< 0.0232 U
2,4-Dimethylphenol				mg/kg	< 0.0193 U	< 0.0304 U	< 0.0226 U
2,4-Dinitrophenol				mg/kg	< 0.0283 U	< 0.0445 UR	< 0.0332 U
2,4-Dinitrotoluene				mg/kg	< 0.0209 U	< 0.0329 U	< 0.0245 UJ
2,6-Dinitrotoluene				mg/kg	< 0.0468 U	< 0.0737 U	< 0.055 U
2-Chloronaphthalene				mg/kg	< 0.0225 U	< 0.0355 U	< 0.0264 U
2-Chlorophenol				mg/kg	< 0.0259 U	< 0.0408 U	< 0.0304 U
2-Methylnaphthalene				mg/kg	13.1	0.107 J	0.0955 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0387 U	< 0.061 U	< 0.0455 U
2-Nitroaniline				mg/kg	< 0.0157 U	< 0.0248 U	< 0.0185 U
2-Nitrophenol				mg/kg	< 0.0218 U	< 0.0343 U	< 0.0256 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0206 U	< 0.0325 UR	< 0.0242 U
3/4-Methylphenol				mg/kg	0.56	< 0.0566 U	< 0.0422 U
3-Nitroaniline				mg/kg	< 0.0364 U	< 0.0573 U	< 0.0427 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0369 U	< 0.0582 UR	< 0.0434 U
4-Bromophenyl phenyl ether				mg/kg	< 0.028 U	< 0.0441 U	< 0.0328 U
4-Chloro-3-methylphenol				mg/kg	< 0.0309 U	< 0.0487 U	< 0.0363 U
4-Chloroaniline				mg/kg	< 0.00686 U	< 0.0108 U	< 0.00805 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0106 U	< 0.0167 U	< 0.0124 U
4-Nitroaniline				mg/kg	< 0.098 U	< 0.154 U	< 0.115 U
4-Nitrophenol				mg/kg	< 0.0125 U	< 0.0198 U	< 0.0147 U
Acenaphthene	20	**100**	*500*	mg/kg	11.9	< 0.0176 U	0.182 J
Acenaphthylene	100	**100**	*500*	mg/kg	0.987	< 0.0107 U	0.219 J
Acetophenone				mg/kg	< 0.0194 U	< 0.0306 U	< 0.0228 U
Anthracene	100	**100**	*500*	mg/kg	7.7	0.844	0.86
Atrazine				mg/kg	< 0.0184 U	< 0.029 U	< 0.0216 U
Benzaldehyde				mg/kg	< 0.0602 UJ	< 0.0948 UJ	< 0.0707 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**5.27**	**2.6**	**2.71**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***4.64***	***2.4***	***2.58***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**4.65**	**3.24**	**2.91**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	2.25	2.24 J	1.21
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	1.9	1.19	1.03
Benzyl butyl phthalate				mg/kg	< 0.0178 U	< 0.0281 U	< 0.0209 U
Biphenyl (Diphenyl)				mg/kg	2.76	< 0.0271 U	< 0.0202 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0271 U	< 0.0427 U	< 0.0318 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0215 U	< 0.0338 U	< 0.0252 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0705 U	< 0.111 U	< 0.0828 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.196 UJ	0.107 J	< 0.046 U
Caprolactam				mg/kg	< 0.0253 U	< 0.0399 U	< 0.0297 U
Carbazole				mg/kg	4.18	< 0.0594 U	< 0.0442 U
Chrysene	1	**3.9**	*56*	mg/kg	**4.86**	2.6	2.43
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***0.635 J***	**0.474**	**0.436**
Dibenzofuran	7	**59**	*350*	mg/kg	6.69	< 0.0184 U	0.157 J
Diethyl phthalate				mg/kg	< 0.038 U	< 0.0598 U	< 0.0446 U
Dimethyl phthalate				mg/kg	< 0.0122 U	< 0.0192 U	< 0.0143 U
dI-n-Butyl phthalate				mg/kg	< 0.0801 U	< 0.126 U	< 0.094 U
dI-n-Octyl phthalate				mg/kg	< 0.0402 U	< 0.0633 U	< 0.0472 U
Fluoranthene	100	**100**	*500*	mg/kg	12.9	4.91 J	5.61
Fluorene	30	**100**	*500*	mg/kg	8.85	0.218 J	0.346
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0256 U	< 0.0403 U	< 0.0301 U
Hexachlorobutadiene				mg/kg	< 0.094 U	< 0.148 U	< 0.11 U
Hexachlorocyclopentadiene				mg/kg	< 0.0817 U	< 0.129 UR	< 0.0959 UJ
Hexachloroethane				mg/kg	< 0.0215 U	< 0.0338 U	< 0.0252 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**1.95**	**1.61**	**1.15**
Isophorone				mg/kg	< 0.0128 U	< 0.0202 U	< 0.0151 U
Naphthalene	12	**100**	*500*	mg/kg	49.5	0.28 J	0.71
Nitrobenzene				mg/kg	< 0.0333 U	< 0.0524 U	< 0.0391 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0105 U	< 0.0165 U	< 0.0123 U
N-Nitrosodiphenylamine				mg/kg	< 0.0418 U	< 0.0658 U	< 0.0491 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0269 U	< 0.0424 U	< 0.0316 U
Phenanthrene	100	**100**	*500*	mg/kg	25.1	2.28	2.35
Phenol	0.33	100	500	mg/kg	< 0.0159 U	< 0.025 U	< 0.0187 U
Pyrene	100	**100**	*500*	mg/kg	10.8	4.23 J	4.77

Notes:
Concentrations above NYSPART375UU are shaded gray
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Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
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UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-15	OH-SB-15	OH-SB-16
				Sample ID	OH-SB-15-3.5-4.5-20230515	OH-SB-15-6.0-7.0-20230515	OH-SB-16-3.0-4.0-20230524
				Sample Date	05/15/2023	05/15/2023	05/24/2023
				Depth (ft.)	3.5-4.5	6-7	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.0046 U	< 0.00468 U	< 0.0447 UJ
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0251 U	< 0.0255 U	< 0.244 UJ
2,4,5-Trichlorophenol				mg/kg	< 0.0222 U	< 0.0225 U	< 0.215 UJ
2,4,6-Trichlorophenol				mg/kg	< 0.0102 U	< 0.0104 U	< 0.0991 UJ
2,4-Dichlorophenol				mg/kg	< 0.0164 U	< 0.0167 U	< 0.159 UJ
2,4-Dimethylphenol				mg/kg	< 0.016 U	< 0.0163 U	< 0.156 UJ
2,4-Dinitrophenol				mg/kg	< 0.0235 U	< 0.0239 U	< 0.228 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0174 UJ	< 0.0177 UJ	< 0.169 UJ
2,6-Dinitrotoluene				mg/kg	< 0.0389 UJ	< 0.0396 UJ	< 0.378 UJ
2-Chloronaphthalene				mg/kg	< 0.0187 U	< 0.019 U	< 0.182 UJ
2-Chlorophenol				mg/kg	< 0.0215 U	< 0.0219 U	< 0.209 UJ
2-Methylnaphthalene				mg/kg	0.221 J	1.21	6090 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0322 U	< 0.0327 U	< 0.313 UJ
2-Nitroaniline				mg/kg	< 0.0131 U	< 0.0133 U	< 0.127 UJ
2-Nitrophenol				mg/kg	< 0.0181 U	< 0.0184 U	< 0.176 UJ
3,3'-Dichlorobenzidine				mg/kg	< 0.0171 U	< 0.0174 U	< 0.166 UJ
3/4-Methylphenol				mg/kg	< 0.0299 U	< 0.0304 U	< 0.29 UJ
3-Nitroaniline				mg/kg	< 0.0302 U	< 0.0308 U	< 0.294 UJ
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0307 U	< 0.0312 U	< 0.298 UJ
4-Bromophenyl phenyl ether				mg/kg	< 0.0233 U	< 0.0237 U	< 0.226 UJ
4-Chloro-3-methylphenol				mg/kg	< 0.0257 U	< 0.0261 U	< 0.25 UJ
4-Chloroaniline				mg/kg	< 0.0057 U	< 0.0058 U	< 0.0554 UJ
4-Chlorophenyl phenyl ether				mg/kg	< 0.0088 U	< 0.00895 U	< 0.0855 UJ
4-Nitroaniline				mg/kg	< 0.0815 U	< 0.0829 U	< 0.792 UJ
4-Nitrophenol				mg/kg	< 0.0104 U	< 0.0106 U	< 0.101 UJ
Acenaphthene	20	**100**	*500*	mg/kg	0.263	5.44	***2960 J***
Acenaphthylene	100	**100**	*500*	mg/kg	0.148 J	5.81	***836 J***
Acetophenone				mg/kg	< 0.0162 U	< 0.0164 U	< 0.157 UJ
Anthracene	100	**100**	*500*	mg/kg	0.534	9.7	***1570 J***
Atrazine				mg/kg	< 0.0153 U	< 0.0156 U	< 0.149 UJ
Benzaldehyde				mg/kg	< 0.0501 U	< 0.0509 U	< 0.486 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.44**	***15.8***	***822 J***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.74***	***17.9***	***657 J***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.43**	***16.6***	***469 J***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	1.16	9.99	59.6 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.546	**5.29**	**51 J**
Benzyl butyl phthalate				mg/kg	< 0.0148 U	< 0.0151 U	< 0.144 UJ
Biphenyl (Diphenyl)				mg/kg	< 0.0143 U	0.583	741 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0225 U	< 0.0229 U	< 0.219 UJ
bis(2-Chloroethyl)ether				mg/kg	< 0.0179 U	< 0.0182 U	< 0.174 UJ
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0586 U	< 0.0596 U	< 0.57 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0326 U	< 0.0331 U	< 0.316 UJ
Caprolactam				mg/kg	< 0.0211 U	< 0.0214 U	< 0.205 UJ
Carbazole				mg/kg	0.217 J	1.2	21.6 J
Chrysene	1	**3.9**	*56*	mg/kg	1.63	**15.6**	***809 J***
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.237	***2.15***	***10.1 J***
Dibenzofuran	7	**59**	*350*	mg/kg	0.164	1.76	28.5 J
Diethyl phthalate				mg/kg	< 0.0316 U	< 0.0321 U	< 0.307 UJ
Dimethyl phthalate				mg/kg	< 0.0101 U	< 0.0103 U	< 0.0982 UJ
dI-n-Butyl phthalate				mg/kg	< 0.0666 U	< 0.0677 U	< 0.647 UJ
dI-n-Octyl phthalate				mg/kg	< 0.0334 U	< 0.034 U	< 0.325 UJ
Fluoranthene	100	**100**	*500*	mg/kg	2.53	36.5	***1390 J***
Fluorene	30	**100**	*500*	mg/kg	0.321	2.88	***1970 J***
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0213 U	< 0.0217 U	< 0.207 UJ
Hexachlorobutadiene				mg/kg	< 0.0782 U	< 0.0796 U	< 0.76 UJ
Hexachlorocyclopentadiene				mg/kg	< 0.0679 U	< 0.0691 U	< 0.66 UJ
Hexachloroethane				mg/kg	< 0.0179 U	< 0.0182 U	< 0.174 UJ
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.797**	***6.83***	***46.4 J***
Isophorone				mg/kg	< 0.0107 U	< 0.0109 U	< 0.104 UJ
Naphthalene	12	**100**	*500*	mg/kg	0.369	4.69	***6630 J***
Nitrobenzene				mg/kg	< 0.0277 U	< 0.0281 U	< 0.269 UJ
N-Nitroso-di-n-propylamine				mg/kg	< 0.00873 U	< 0.00888 U	< 0.0848 UJ
N-Nitrosodiphenylamine				mg/kg	< 0.0348 U	< 0.0354 U	< 0.338 UJ
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0224 U	< 0.0228 U	< 0.218 UJ
Phenanthrene	100	**100**	*500*	mg/kg	2.43	17.2	***4400 J***
Phenol	0.33	100	500	mg/kg	< 0.0132 U	< 0.0134 U	< 0.128 UJ
Pyrene	100	**100**	*500*	mg/kg	2.48	40.8	***2210 J***

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-16A	OH-SB-16A	OH-SB-16A
				Sample ID	OH-SB-16A-1.0-2.0-20230525	OH-SB-16A-9.5-10.5-20230525	OH-SB-16A-46.0-47.0-20230525
				Sample Date	05/25/2023	05/25/2023	05/25/2023
				Depth (ft.)	1-2	9.5-10.5	46-47
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00833 U	< 0.0047 U	< 0.0891 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0454 U	< 0.0256 U	< 0.486 U
2,4,5-Trichlorophenol				mg/kg	< 0.0401 U	< 0.0226 U	< 0.429 U
2,4,6-Trichlorophenol				mg/kg	< 0.0184 U	< 0.0104 U	< 0.197 U
2,4-Dichlorophenol				mg/kg	< 0.0297 U	< 0.0167 U	< 0.318 U
2,4-Dimethylphenol				mg/kg	< 0.029 U	< 0.0164 U	< 0.311 U
2,4-Dinitrophenol				mg/kg	< 0.0425 U	< 0.024 U	< 0.455 U
2,4-Dinitrotoluene				mg/kg	< 0.0314 U	< 0.0177 U	< 0.337 U
2,6-Dinitrotoluene				mg/kg	< 0.0704 U	< 0.0397 U	< 0.754 U
2-Chloronaphthalene				mg/kg	< 0.0339 U	< 0.0191 U	< 0.363 U
2-Chlorophenol				mg/kg	< 0.039 U	< 0.022 U	< 0.417 U
2-Methylnaphthalene				mg/kg	2.17	0.0823 J	1660
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0582 U	< 0.0329 U	< 0.623 U
2-Nitroaniline				mg/kg	< 0.0237 U	< 0.0134 U	< 0.254 U
2-Nitrophenol				mg/kg	< 0.0328 UJ	< 0.0185 UJ	< 0.351 UJ
3,3'-Dichlorobenzidine				mg/kg	< 0.031 U	< 0.0175 U	< 0.332 U
3/4-Methylphenol				mg/kg	< 0.054 U	< 0.0305 U	< 0.578 U
3-Nitroaniline				mg/kg	< 0.0547 U	< 0.0309 U	< 0.585 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0556 U	< 0.0314 U	< 0.595 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0421 U	< 0.0237 U	< 0.45 U
4-Chloro-3-methylphenol				mg/kg	< 0.0465 U	< 0.0262 U	< 0.498 U
4-Chloroaniline				mg/kg	< 0.0103 U	< 0.00582 U	< 0.11 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0159 U	< 0.00898 U	< 0.17 U
4-Nitroaniline				mg/kg	< 0.147 U	< 0.0832 U	< 1.58 U
4-Nitrophenol				mg/kg	< 0.0189 U	< 0.0106 U	< 0.202 U
Acenaphthene	20	**100**	*500*	mg/kg	3.73	0.505	***931***
Acenaphthylene	100	**100**	*500*	mg/kg	2.5	0.159 J	62.9
Acetophenone				mg/kg	< 0.0292 U	< 0.0165 U	< 0.313 U
Anthracene	100	**100**	*500*	mg/kg	14.2	14.3	**470**
Atrazine				mg/kg	< 0.0277 UJ	< 0.0156 UJ	< 0.296 UJ
Benzaldehyde				mg/kg	< 0.0906 U	< 0.0511 U	< 0.97 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***29.5***	***6.89***	***126***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***26.9***	***2.63***	***99.5***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***25.1***	**3.89**	***77.2***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	13.2	0.655	33.6 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	**8.86**	0.882	**25.5**
Benzyl butyl phthalate				mg/kg	< 0.0268 U	< 0.0151 U	< 0.287 U
Biphenyl (Diphenyl)				mg/kg	0.62	< 0.0146 U	104
bis(2-Chloroethoxy)methane				mg/kg	< 0.0407 U	< 0.023 U	< 0.436 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0323 U	< 0.0182 U	< 0.346 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.106 U	< 0.0598 U	< 1.14 U
bis(2-Ethylhexyl)phthalate				mg/kg	4.69	< 0.0332 U	< 0.631 U
Caprolactam				mg/kg	< 0.0381 U	< 0.0215 U	< 0.408 U
Carbazole				mg/kg	3.08	0.299 J	< 0.607 U
Chrysene	1	**3.9**	*56*	mg/kg	**27.2**	**8.56**	***122***
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***1.84***	0.208	***6.96***
Dibenzofuran	7	**59**	*350*	mg/kg	1.95	< 0.00991 U	35.6
Diethyl phthalate				mg/kg	< 0.0571 U	< 0.0322 U	< 0.612 U
Dimethyl phthalate				mg/kg	< 0.0183 U	< 0.0103 U	< 0.196 U
dI-n-Butyl phthalate				mg/kg	< 0.12 U	< 0.068 U	< 1.29 U
dI-n-Octyl phthalate				mg/kg	< 0.0605 U	< 0.0341 U	< 0.647 U
Fluoranthene	100	**100**	*500*	mg/kg	54.2	42.4	**417**
Fluorene	30	**100**	*500*	mg/kg	4.98	0.438	96
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0385 U	< 0.0217 U	< 0.412 U
Hexachlorobutadiene				mg/kg	< 0.142 U	< 0.0798 U	< 1.51 U
Hexachlorocyclopentadiene				mg/kg	< 0.123 U	< 0.0693 U	< 1.32 UJ
Hexachloroethane				mg/kg	< 0.0323 U	< 0.0182 U	< 0.346 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***11.8***	**0.639**	***27.2***
Isophorone				mg/kg	< 0.0193 U	< 0.0109 U	< 0.207 U
Naphthalene	12	**100**	*500*	mg/kg	2.01	0.165 J	***2900***
Nitrobenzene				mg/kg	< 0.05 U	< 0.0282 U	< 0.536 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0158 U	< 0.00891 U	< 0.169 U
N-Nitrosodiphenylamine				mg/kg	< 0.0629 U	< 0.0355 U	< 0.673 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0405 U	< 0.0229 U	< 0.434 UJ
Phenanthrene	100	**100**	*500*	mg/kg	46.3	1.67	***1410***
Phenol	0.33	100	500	mg/kg	< 0.0239 U	< 0.0135 U	< 0.256 U
Pyrene	100	**100**	*500*	mg/kg	56.1	29.1	***652***

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-17	OH-SB-17	OH-SB-18
				Sample ID	OH-SB-17-1.5-2.5-20230518	OH-SB-17-10.8-11.8-20230518	OH-SB-18-3.5-4.5-20230517
				Sample Date	05/18/2023	05/18/2023	05/17/2023
				Depth (ft.)	1.5-2.5	10.8-11.8	3.5-4.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00828 U	< 0.00583 U	< 0.00491 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0451 U	< 0.0318 U	< 0.0268 U
2,4,5-Trichlorophenol				mg/kg	< 0.0399 U	< 0.0281 U	< 0.0236 U
2,4,6-Trichlorophenol				mg/kg	< 0.0183 U	< 0.0129 U	< 0.0109 U
2,4-Dichlorophenol				mg/kg	< 0.0295 U	< 0.0208 U	< 0.0175 U
2,4-Dimethylphenol				mg/kg	< 0.0288 U	0.527	0.524 J
2,4-Dinitrophenol				mg/kg	< 0.0423 U	< 0.0298 U	< 0.0251 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0313 U	< 0.022 U	< 0.0185 U
2,6-Dinitrotoluene				mg/kg	< 0.07 U	< 0.0493 U	< 0.0415 U
2-Chloronaphthalene				mg/kg	< 0.0337 U	< 0.0237 U	< 0.02 U
2-Chlorophenol				mg/kg	< 0.0388 U	< 0.0273 U	< 0.023 U
2-Methylnaphthalene				mg/kg	0.402 J	35.3	0.616
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0579 U	< 0.0408 U	< 0.0343 U
2-Nitroaniline				mg/kg	< 0.0236 U	< 0.0166 U	< 0.014 U
2-Nitrophenol				mg/kg	< 0.0326 U	< 0.0229 U	< 0.0193 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0308 U	< 0.0217 U	< 0.0183 U
3/4-Methylphenol				mg/kg	< 0.0537 U	0.304	0.5
3-Nitroaniline				mg/kg	< 0.0544 U	< 0.0383 U	< 0.0322 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0553 U	< 0.0389 U	< 0.0328 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0418 U	< 0.0295 U	< 0.0248 U
4-Chloro-3-methylphenol				mg/kg	< 0.0462 U	< 0.0326 U	< 0.0274 U
4-Chloroaniline				mg/kg	< 0.0103 U	< 0.00722 U	< 0.00608 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0158 U	< 0.0111 U	< 0.00938 U
4-Nitroaniline				mg/kg	< 0.147 U	< 0.103 U	< 0.0869 U
4-Nitrophenol				mg/kg	< 0.0188 U	< 0.0132 U	< 0.0111 U
Acenaphthene	20	**100**	*500*	mg/kg	1	27.6	3.51
Acenaphthylene	100	**100**	*500*	mg/kg	0.647	6.67	0.989
Acetophenone				mg/kg	0.0771 J	< 0.0205 U	< 0.0172 U
Anthracene	100	**100**	*500*	mg/kg	3.78	20.9	5.54
Atrazine				mg/kg	< 0.0275 U	< 0.0194 U	< 0.0163 U
Benzaldehyde				mg/kg	< 0.0901 UJ	< 0.0634 UJ	< 0.0534 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***9.32***	***20.2***	**4.52**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***11.3***	***16.5***	***4.54***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***13.7***	***14.6***	**5.51**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	7.28 J	9.22 J	3.94
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	**4.61**	**7.13**	2.4
Benzyl butyl phthalate				mg/kg	43.8	< 0.0188 U	< 0.0158 U
Biphenyl (Diphenyl)				mg/kg	0.122 J	6.74	< 0.0153 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0405 U	< 0.0285 U	< 0.024 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0321 U	< 0.0226 U	< 0.0191 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.105 UJ	< 0.0743 UJ	< 0.0625 U
bis(2-Ethylhexyl)phthalate				mg/kg	4.94	1.08	< 0.0347 U
Caprolactam				mg/kg	< 0.0379 U	< 0.0267 U	< 0.0225 U
Carbazole				mg/kg	0.918	10.1	0.828
Chrysene	1	**3.9**	*56*	mg/kg	**10.1**	**17.5**	**4.57**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***0.714 J***	***1.09 J***	***0.999***
Dibenzofuran	7	**59**	*350*	mg/kg	0.519	19.2	1.49
Diethyl phthalate				mg/kg	< 0.0568 U	< 0.04 U	< 0.0337 U
Dimethyl phthalate				mg/kg	< 0.0182 U	< 0.0128 U	< 0.0108 U
dl-n-Butyl phthalate				mg/kg	0.836	< 0.0843 U	< 0.071 U
dl-n-Octyl phthalate				mg/kg	< 0.0601 U	< 0.0423 U	< 0.0356 U
Fluoranthene	100	**100**	*500*	mg/kg	18.1	46.2	9.94
Fluorene	30	**100**	*500*	mg/kg	1.22	26.9	2.11
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0383 U	< 0.027 U	< 0.0227 U
Hexachlorobutadiene				mg/kg	< 0.141 U	< 0.0991 U	< 0.0834 U
Hexachlorocyclopentadiene				mg/kg	< 0.122 U	< 0.086 U	< 0.0724 UJ
Hexachloroethane				mg/kg	< 0.0321 U	< 0.0226 U	< 0.0191 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***6.04 J***	***7.76 J***	**2.84**
Isophorone				mg/kg	< 0.0192 U	< 0.0135 U	< 0.0114 U
Naphthalene	12	**100**	*500*	mg/kg	0.317	**156**	2.25
Nitrobenzene				mg/kg	< 0.0498 U	< 0.035 U	< 0.0295 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0157 U	< 0.0111 U	< 0.00931 U
N-Nitrosodiphenylamine				mg/kg	< 0.0625 U	< 0.044 U	< 0.0371 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0403 U	< 0.0284 U	< 0.0239 U
Phenanthrene	100	**100**	*500*	mg/kg	12.6	70.9	7.31
Phenol	0.33	100	500	mg/kg	< 0.0238 U	< 0.0167 U	< 0.0141 U
Pyrene	100	**100**	*500*	mg/kg	17.1	38.9	9.8

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
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J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-18	OH-SB-19	OH-SB-19
				Sample ID	OH-SB-18-5.0-6.0-20230518	OH-SB-19-3.5-4.5-20230517	OH-SB-19-5.5-6.5-20230517
				Sample Date	05/18/2023	05/17/2023	05/17/2023
				Depth (ft.)	5-6	3.5-4.5	5.5-6.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00532 U	< 0.00464 U	< 0.00517 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.029 U	< 0.0253 U	< 0.0282 U
2,4,5-Trichlorophenol				mg/kg	< 0.0256 U	< 0.0223 U	< 0.0249 U
2,4,6-Trichlorophenol				mg/kg	< 0.0118 U	< 0.0103 U	< 0.0115 U
2,4-Dichlorophenol				mg/kg	< 0.019 U	< 0.0165 U	< 0.0184 U
2,4-Dimethylphenol				mg/kg	< 0.0185 U	< 0.0162 U	< 0.018 U
2,4-Dinitrophenol				mg/kg	< 0.0272 U	< 0.0237 UJ	< 0.0264 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0201 U	< 0.0175 U	< 0.0195 U
2,6-Dinitrotoluene				mg/kg	< 0.045 U	< 0.0393 U	< 0.0438 U
2-Chloronaphthalene				mg/kg	< 0.0216 U	< 0.0189 U	< 0.0211 U
2-Chlorophenol				mg/kg	< 0.0249 U	< 0.0217 U	< 0.0242 U
2-Methylnaphthalene				mg/kg	0.0616 J	0.226 J	0.0746 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0372 U	< 0.0325 U	< 0.0362 U
2-Nitroaniline				mg/kg	< 0.0151 U	< 0.0132 U	< 0.0147 U
2-Nitrophenol				mg/kg	< 0.0209 U	< 0.0183 U	< 0.0204 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0198 U	< 0.0173 U	< 0.0193 U
3/4-Methylphenol				mg/kg	0.0802 J	< 0.0301 U	< 0.0336 U
3-Nitroaniline				mg/kg	< 0.0349 U	< 0.0305 U	< 0.034 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0355 U	< 0.031 U	< 0.0345 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0269 U	< 0.0235 U	< 0.0261 U
4-Chloro-3-methylphenol				mg/kg	< 0.0297 U	< 0.0259 U	< 0.0289 U
4-Chloroaniline				mg/kg	< 0.00659 U	< 0.00575 U	< 0.00641 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0102 U	< 0.00888 U	< 0.00989 U
4-Nitroaniline				mg/kg	< 0.0942 U	< 0.0822 U	< 0.0917 U
4-Nitrophenol				mg/kg	< 0.0121 U	< 0.0105 U	< 0.0117 U
Acenaphthene	20	**100**	*500*	mg/kg	0.177 J	< 0.00937 U	0.305
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00655 U	< 0.00572 U	< 0.00637 U
Acetophenone				mg/kg	< 0.0187 U	< 0.0163 U	< 0.0182 U
Anthracene	100	**100**	*500*	mg/kg	0.756	0.233	0.27
Atrazine				mg/kg	< 0.0177 U	< 0.0154 U	< 0.0172 U
Benzaldehyde				mg/kg	0.235 J	< 0.0505 UJ	< 0.0563 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.13**	0.467	0.407
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.564	0.487	0.539
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.779	0.519	0.562
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.375 J	0.516	0.435
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.285	0.371	0.334
Benzyl butyl phthalate				mg/kg	< 0.0171 U	< 0.0149 U	< 0.0167 U
Biphenyl (Diphenyl)				mg/kg	< 0.0165 U	< 0.0144 U	< 0.0161 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.026 U	< 0.0227 U	< 0.0253 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0206 U	< 0.018 U	< 0.0201 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0677 U	< 0.0591 U	< 0.0659 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0376 U	< 0.0328 U	< 0.0366 U
Caprolactam				mg/kg	< 0.0243 U	< 0.0212 U	< 0.0237 U
Carbazole				mg/kg	< 0.0362 U	< 0.0316 U	< 0.0352 U
Chrysene	1	**3.9**	*56*	mg/kg	1.3	0.552	0.4
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.176 J	0.141 J	0.0445 J
Dibenzofuran	7	**59**	*350*	mg/kg	0.136 J	< 0.00979 U	< 0.0109 U
Diethyl phthalate				mg/kg	< 0.0365 U	< 0.0318 U	< 0.0355 U
Dimethyl phthalate				mg/kg	< 0.0117 U	< 0.0102 U	< 0.0114 U
dI-n-Butyl phthalate				mg/kg	< 0.0769 U	< 0.0672 U	< 0.0749 U
dI-n-Octyl phthalate				mg/kg	< 0.0386 U	< 0.0337 U	< 0.0376 U
Fluoranthene	100	**100**	*500*	mg/kg	3.79	0.954	0.816
Fluorene	30	**100**	*500*	mg/kg	0.332	0.141 J	0.171 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0246 U	< 0.0215 U	< 0.0239 U
Hexachlorobutadiene				mg/kg	< 0.0904 U	< 0.0789 U	< 0.0879 U
Hexachlorocyclopentadiene				mg/kg	< 0.0785 U	< 0.0685 UJ	< 0.0764 UJ
Hexachloroethane				mg/kg	< 0.0206 U	< 0.018 U	< 0.0201 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	0.294 J	0.359	0.297
Isophorone				mg/kg	< 0.0123 U	< 0.0108 U	< 0.012 U
Naphthalene	12	**100**	*500*	mg/kg	0.15 J	0.178	0.209
Nitrobenzene				mg/kg	< 0.032 U	< 0.0279 U	< 0.0311 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0101 U	< 0.0088 U	< 0.00981 U
N-Nitrosodiphenylamine				mg/kg	< 0.0402 U	< 0.0351 U	< 0.0391 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0259 U	< 0.0226 U	< 0.0252 U
Phenanthrene	100	**100**	*500*	mg/kg	4.83	0.796	0.552
Phenol	0.33	100	500	mg/kg	< 0.0153 U	< 0.0133 U	< 0.0149 U
Pyrene	100	**100**	*500*	mg/kg	2.68	1	0.735

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-20	OH-SB-20	OH-SB-21
				Sample ID	OH-SB-20-1.0-2.0-20230515	OH-SB-20-4.0-5.0-20230515	OH-SB-21-0.5-1.5-20230522
				Sample Date	05/15/2023	05/15/2023	05/22/2023
				Depth (ft.)	1-2	4-5	0.5-1.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.0041 U	< 0.0291 U	< 0.00416 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0223 U	< 0.159 U	< 0.0227 U
2,4,5-Trichlorophenol				mg/kg	< 0.0197 U	< 0.14 U	< 0.02 U
2,4,6-Trichlorophenol				mg/kg	< 0.00907 U	< 0.0645 U	< 0.00923 U
2,4-Dichlorophenol				mg/kg	< 0.0146 U	< 0.104 U	< 0.0148 U
2,4-Dimethylphenol				mg/kg	< 0.0143 U	< 0.101 U	< 0.0145 U
2,4-Dinitrophenol				mg/kg	< 0.0209 U	< 0.149 U	< 0.0213 U
2,4-Dinitrotoluene				mg/kg	< 0.0155 UJ	< 0.11 UJ	< 0.0157 U
2,6-Dinitrotoluene				mg/kg	< 0.0346 UJ	< 0.246 UJ	< 0.0352 U
2-Chloronaphthalene				mg/kg	< 0.0167 U	< 0.118 U	< 0.0169 U
2-Chlorophenol				mg/kg	< 0.0192 U	< 0.136 U	< 0.0195 U
2-Methylnaphthalene				mg/kg	< 0.0347 U	< 0.247 U	0.0364 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0286 U	< 0.204 U	< 0.0291 U
2-Nitroaniline				mg/kg	< 0.0117 U	< 0.0829 U	< 0.0118 U
2-Nitrophenol				mg/kg	< 0.0161 U	< 0.115 U	< 0.0164 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0152 U	< 0.108 U	< 0.0155 U
3/4-Methylphenol				mg/kg	< 0.0266 U	< 0.189 U	< 0.027 U
3-Nitroaniline				mg/kg	< 0.0269 U	< 0.191 U	< 0.0274 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0273 U	< 0.194 U	< 0.0278 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0207 U	< 0.147 U	< 0.021 U
4-Chloro-3-methylphenol				mg/kg	< 0.0229 U	< 0.163 U	< 0.0233 U
4-Chloroaniline				mg/kg	< 0.00508 U	< 0.0361 U	< 0.00516 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00783 U	< 0.0557 U	< 0.00796 U
4-Nitroaniline				mg/kg	< 0.0725 U	< 0.516 U	< 0.0738 U
4-Nitrophenol				mg/kg	< 0.00928 U	< 0.066 U	< 0.00944 U
Acenaphthene	20	**100**	*500*	mg/kg	< 0.00827 U	38.7	< 0.00841 U
Acenaphthylene	100	**100**	*500*	mg/kg	0.0516 J	56	0.0332 J
Acetophenone				mg/kg	< 0.0144 U	< 0.102 U	< 0.0146 U
Anthracene	100	**100**	*500*	mg/kg	0.0704 J	88.9	0.0759 J
Atrazine				mg/kg	< 0.0136 U	< 0.0968 U	< 0.0138 U
Benzaldehyde				mg/kg	< 0.0445 U	< 0.317 U	< 0.0453 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.234	***68.3***	0.356
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.288	***102***	0.455
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.256	***88.2***	0.562
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.263	**108**	0.279 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.0859 J	**19.1**	0.175
Benzyl butyl phthalate				mg/kg	< 0.0132 U	< 0.0937 U	< 0.0134 U
Biphenyl (Diphenyl)				mg/kg	< 0.0127 U	17.6	< 0.013 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.02 U	< 0.143 U	< 0.0204 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0159 U	< 0.113 U	< 0.0162 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0522 U	< 0.371 U	< 0.053 U
bis(2-Ethylhexyl)phthalate				mg/kg	0.53	< 0.206 U	0.0348 J
Caprolactam				mg/kg	< 0.0187 U	< 0.133 U	< 0.019 U
Carbazole				mg/kg	< 0.0279 U	< 0.198 U	< 0.0284 U
Chrysene	1	**3.9**	*56*	mg/kg	0.278	***76.5***	0.368
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.0144 U	***12.8***	0.0652 J
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.00864 U	< 0.0614 U	< 0.00878 U
Diethyl phthalate				mg/kg	< 0.0281 U	< 0.2 U	< 0.0286 U
Dimethyl phthalate				mg/kg	< 0.009 U	< 0.064 U	< 0.00915 U
dI-n-Butyl phthalate				mg/kg	< 0.0593 U	< 0.421 U	< 0.0602 U
dI-n-Octyl phthalate				mg/kg	< 0.0297 U	< 0.211 U	< 0.0302 U
Fluoranthene	100	**100**	*500*	mg/kg	0.246	**119**	0.607
Fluorene	30	**100**	*500*	mg/kg	< 0.0121 U	34.3	< 0.0123 U
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.019 U	< 0.135 U	< 0.0193 U
Hexachlorobutadiene				mg/kg	< 0.0696 U	< 0.495 U	< 0.0708 U
Hexachlorocyclopentadiene				mg/kg	< 0.0604 U	< 0.43 U	< 0.0615 U
Hexachloroethane				mg/kg	< 0.0159 U	< 0.113 U	< 0.0162 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	0.173	***45***	0.207 J
Isophorone				mg/kg	< 0.0095 U	< 0.0675 U	< 0.00966 U
Naphthalene	12	**100**	*500*	mg/kg	< 0.0107 U	13.7	0.0264 J
Nitrobenzene				mg/kg	< 0.0246 U	< 0.175 U	< 0.025 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00777 U	< 0.0552 U	< 0.0079 U
N-Nitrosodiphenylamine				mg/kg	< 0.0309 U	< 0.22 U	< 0.0315 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0199 U	< 0.142 U	< 0.0203 U
Phenanthrene	100	**100**	*500*	mg/kg	0.111 J	**176**	0.192
Phenol	0.33	100	500	mg/kg	< 0.0118 U	< 0.0836 U	< 0.012 U
Pyrene	100	**100**	*500*	mg/kg	0.297	**435**	0.497

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-21	OH-SB-22	OH-SB-22
				Sample ID	OH-SB-21-6.0-7.0-20230523	OH-SB-22-2.0-3.0-20230523	OH-SB-22-6.4-7.4-20230523
				Sample Date	05/23/2023	05/23/2023	05/23/2023
				Depth (ft.)	6-7	2-3	6.4-7.4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00466 U	< 0.00419 U	< 0.0237 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0254 U	< 0.0228 U	< 0.129 U
2,4,5-Trichlorophenol				mg/kg	< 0.0224 U	< 0.0202 U	< 0.114 U
2,4,6-Trichlorophenol				mg/kg	< 0.0103 U	< 0.00928 U	< 0.0524 U
2,4-Dichlorophenol				mg/kg	< 0.0166 U	< 0.0149 U	< 0.0843 U
2,4-Dimethylphenol				mg/kg	0.291	< 0.0146 U	1.75
2,4-Dinitrophenol				mg/kg	< 0.0238 U	< 0.0214 U	< 0.121 U
2,4-Dinitrotoluene				mg/kg	< 0.0176 U	< 0.0158 U	< 0.0893 U
2,6-Dinitrotoluene				mg/kg	< 0.0394 U	< 0.0354 U	< 0.2 U
2-Chloronaphthalene				mg/kg	< 0.019 U	< 0.017 U	< 0.0963 U
2-Chlorophenol				mg/kg	< 0.0218 U	< 0.0196 U	< 0.111 U
2-Methylnaphthalene				mg/kg	1.6	0.175 J	8.03
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	0.0766 J	< 0.0293 U	0.678 J
2-Nitroaniline				mg/kg	< 0.0133 U	< 0.0119 U	< 0.0673 U
2-Nitrophenol				mg/kg	< 0.0184 U	< 0.0165 U	< 0.0931 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0174 U	< 0.0156 U	< 0.0881 U
3/4-Methylphenol				mg/kg	0.288	< 0.0272 U	< 0.153 U
3-Nitroaniline				mg/kg	< 0.0306 U	< 0.0275 U	< 0.155 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0311 U	< 0.028 U	< 0.158 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0236 U	< 0.0212 U	< 0.12 U
4-Chloro-3-methylphenol				mg/kg	< 0.026 U	< 0.0234 U	< 0.132 U
4-Chloroaniline				mg/kg	< 0.00578 U	< 0.00519 U	< 0.0293 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00892 U	< 0.00801 U	< 0.0452 U
4-Nitroaniline				mg/kg	< 0.0826 U	< 0.0742 U	< 0.419 U
4-Nitrophenol				mg/kg	< 0.0106 U	< 0.00949 U	< 0.0536 U
Acenaphthene	20	**100**	*500*	mg/kg	2.42	0.21	***988***
Acenaphthylene	100	**100**	*500*	mg/kg	0.968	0.269	13.8
Acetophenone				mg/kg	< 0.0164 U	< 0.0147 U	< 0.083 U
Anthracene	100	**100**	*500*	mg/kg	3.84	0.832	***864***
Atrazine				mg/kg	< 0.0155 U	< 0.0139 U	< 0.0786 U
Benzaldehyde				mg/kg	< 0.0507 UJ	< 0.0456 UJ	< 0.257 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**4.52**	**2**	***149***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***5.45***	***2.12***	***70.8***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***6.09***	**2.86**	***97.2***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	3.97	1.29	22 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	1.77	0.975	**30.7**
Benzyl butyl phthalate				mg/kg	< 0.015 U	49.1	< 0.0761 U
Biphenyl (Diphenyl)				mg/kg	0.598	0.074 J	33
bis(2-Chloroethoxy)methane				mg/kg	< 0.0228 U	< 0.0205 U	< 0.116 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0181 U	< 0.0163 U	< 0.0918 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0594 UJ	< 0.0533 UJ	< 0.301 U
bis(2-Ethylhexyl)phthalate				mg/kg	0.378	3.45	< 0.167 U
Caprolactam				mg/kg	< 0.0213 U	< 0.0192 U	< 0.108 U
Carbazole				mg/kg	1.73	0.194 J	154
Chrysene	1	**3.9**	*56*	mg/kg	**4.71**	2.21	***143***
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***0.942***	**0.401**	***2.77 J***
Dibenzofuran	7	**59**	*350*	mg/kg	2.88	0.153	***540***
Diethyl phthalate				mg/kg	< 0.032 U	< 0.0287 U	< 0.162 U
Dimethyl phthalate				mg/kg	< 0.0102 U	< 0.0092 U	< 0.052 U
dI-n-Butyl phthalate				mg/kg	< 0.0675 U	1.62	< 0.342 U
dI-n-Octyl phthalate				mg/kg	< 0.0339 U	< 0.0304 U	< 0.172 U
Fluoranthene	100	**100**	*500*	mg/kg	15.2	4.51	***1150***
Fluorene	30	**100**	*500*	mg/kg	3.62	0.309	***788***
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0216 U	0.0547 J	< 0.109 U
Hexachlorobutadiene				mg/kg	< 0.0792 U	< 0.0712 U	< 0.402 U
Hexachlorocyclopentadiene				mg/kg	< 0.0688 U	< 0.0618 U	< 0.349 U
Hexachloroethane				mg/kg	< 0.0181 U	< 0.0163 U	< 0.0918 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**3.3**	**1.18**	***21.5 J***
Isophorone				mg/kg	< 0.0108 U	< 0.00971 U	< 0.0549 U
Naphthalene	12	**100**	*500*	mg/kg	3.4	0.15	13.8
Nitrobenzene				mg/kg	< 0.028 U	< 0.0252 U	< 0.142 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00884 U	< 0.00794 U	< 0.0449 U
N-Nitrosodiphenylamine				mg/kg	< 0.0352 U	< 0.0316 U	< 0.179 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0227 U	< 0.0204 U	< 0.115 U
Phenanthrene	100	**100**	*500*	mg/kg	19.2	2.64	***2400***
Phenol	0.33	100	500	mg/kg	< 0.0134 U	< 0.012 U	1.07
Pyrene	100	**100**	*500*	mg/kg	12.4	3.52	***806***

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-22	OH-SB-23	OH-SB-23
				Sample ID	OH-SB-22-46.0-47.0-20230524	OH-SB-23-1.0-2.0-20230518	DUP-20230518
				Sample Date	05/24/2023	05/18/2023	05/18/2023
				Depth (ft.)	46-47	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00437 U	< 0.00812 U	< 0.00822 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0238 U	< 0.0443 U	< 0.0448 U
2,4,5-Trichlorophenol				mg/kg	< 0.021 U	< 0.0391 U	< 0.0395 U
2,4,6-Trichlorophenol				mg/kg	< 0.00967 U	< 0.018 U	< 0.0182 U
2,4-Dichlorophenol				mg/kg	< 0.0156 U	< 0.0289 U	< 0.0293 U
2,4-Dimethylphenol				mg/kg	< 0.0152 U	< 0.0283 U	< 0.0286 U
2,4-Dinitrophenol				mg/kg	< 0.0223 U	< 0.0415 U	< 0.042 U
2,4-Dinitrotoluene				mg/kg	< 0.0165 U	< 0.0307 U	< 0.031 U
2,6-Dinitrotoluene				mg/kg	< 0.0369 U	< 0.0687 U	< 0.0695 U
2-Chloronaphthalene				mg/kg	< 0.0178 U	< 0.033 U	< 0.0334 U
2-Chlorophenol				mg/kg	< 0.0204 U	< 0.038 U	< 0.0385 U
2-Methylnaphthalene				mg/kg	0.0725 J	0.0837 J	0.0858 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0305 U	< 0.0568 U	< 0.0575 U
2-Nitroaniline				mg/kg	< 0.0124 U	< 0.0231 U	< 0.0234 U
2-Nitrophenol				mg/kg	< 0.0172 U	< 0.032 U	< 0.0323 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0163 UR	< 0.0302 U	< 0.0306 U
3/4-Methylphenol				mg/kg	< 0.0283 U	< 0.0527 U	< 0.0533 U
3-Nitroaniline				mg/kg	< 0.0287 U	< 0.0533 U	< 0.054 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0291 U	< 0.0542 U	< 0.0548 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0221 U	< 0.041 U	< 0.0415 U
4-Chloro-3-methylphenol				mg/kg	< 0.0244 U	< 0.0454 U	< 0.0459 U
4-Chloroaniline				mg/kg	< 0.00541 U	< 0.0101 U	< 0.0102 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00835 U	< 0.0155 U	< 0.0157 U
4-Nitroaniline				mg/kg	< 0.0773 U	< 0.144 U	< 0.146 U
4-Nitrophenol				mg/kg	< 0.00989 U	< 0.0184 U	< 0.0186 U
Acenaphthene	20	**100**	*500*	mg/kg	0.0845 J	0.177 J	0.181 J
Acenaphthylene	100	**100**	*500*	mg/kg	0.135 J	0.22 J	0.227 J
Acetophenone				mg/kg	< 0.0153 U	< 0.0285 U	< 0.0288 U
Anthracene	100	**100**	*500*	mg/kg	0.399	0.483	0.555
Atrazine				mg/kg	< 0.0145 UJ	< 0.027 U	< 0.0273 U
Benzaldehyde				mg/kg	< 0.0475 UJ	< 0.0883 UJ	< 0.0894 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.42**	**2.22**	**2.35**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.61***	***3.79***	***3.94***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.98**	**5.55**	**5.46**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	1.42 J	3.08 J	2.64 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.803	1.66	1.97
Benzyl butyl phthalate				mg/kg	< 0.014 U	2.53	5.13
Biphenyl (Diphenyl)				mg/kg	< 0.0136 U	< 0.0253 U	< 0.0256 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0214 U	< 0.0397 U	< 0.0402 U
bis(2-Chloroethyl)ether				mg/kg	< 0.017 U	< 0.0315 U	< 0.0319 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0556 U	< 0.103 UJ	< 0.105 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0309 U	15	9.06
Caprolactam				mg/kg	< 0.02 U	< 0.0371 U	< 0.0376 U
Carbazole				mg/kg	0.176 J	0.221 J	0.217 J
Chrysene	1	**3.9**	*56*	mg/kg	1.48	2.66	2.86
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.0933 J	0.266 J	0.257 J
Dibenzofuran	7	**59**	*350*	mg/kg	0.0604 J	0.11 J	0.123 J
Diethyl phthalate				mg/kg	< 0.03 U	< 0.0557 U	< 0.0564 U
Dimethyl phthalate				mg/kg	< 0.00959 U	< 0.0178 U	< 0.018 U
dl-n-Butyl phthalate				mg/kg	< 0.0632 U	< 0.117 U	< 0.119 U
dl-n-Octyl phthalate				mg/kg	< 0.0317 U	< 0.059 U	< 0.0596 U
Fluoranthene	100	**100**	*500*	mg/kg	2.96	3.95	4.69
Fluorene	30	**100**	*500*	mg/kg	0.0989 J	0.184 J	0.204 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0202 U	< 0.0376 U	< 0.038 U
Hexachlorobutadiene				mg/kg	< 0.0742 U	< 0.138 U	< 0.14 U
Hexachlorocyclopentadiene				mg/kg	< 0.0644 U	< 0.12 U	< 0.121 U
Hexachloroethane				mg/kg	< 0.017 U	< 0.0315 U	< 0.0319 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**1.04 J**	**2.58 J**	**2.34 J**
Isophorone				mg/kg	< 0.0101 U	< 0.0188 U	< 0.0191 U
Naphthalene	12	**100**	*500*	mg/kg	0.0907 J	0.183 J	0.117 J
Nitrobenzene				mg/kg	< 0.0262 U	< 0.0488 U	< 0.0494 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00828 U	< 0.0154 U	< 0.0156 U
N-Nitrosodiphenylamine				mg/kg	< 0.033 U	< 0.0613 U	< 0.0621 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0212 U	< 0.0395 U	< 0.04 U
Phenanthrene	100	**100**	*500*	mg/kg	1.63	1.27	1.48
Phenol	0.33	100	500	mg/kg	< 0.0125 U	< 0.0233 U	< 0.0236 U
Pyrene	100	**100**	*500*	mg/kg	2.1	5.2	6.05

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-23	OH-SB-23	OH-SB-24
				Sample ID	OH-SB-23-7.3-8.3-20230518	OH-SB-23-14.8-15.8-20230518	OH-SB-24-2.5-3.5-20230526
				Sample Date	05/18/2023	05/18/2023	05/26/2023
				Depth (ft.)	7.5-8.3	14.8-15.8	2.5-3.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00485 U	< 0.00584 U	< 0.00445 UJ
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0265 U	< 0.0318 U	< 0.0242 U
2,4,5-Trichlorophenol				mg/kg	< 0.0234 U	< 0.0281 U	< 0.0214 U
2,4,6-Trichlorophenol				mg/kg	< 0.0108 U	< 0.0129 U	< 0.00985 U
2,4-Dichlorophenol				mg/kg	< 0.0173 U	< 0.0208 U	< 0.0158 U
2,4-Dimethylphenol				mg/kg	0.109 J	0.28	< 0.0155 U
2,4-Dinitrophenol				mg/kg	< 0.0248 U	< 0.0298 U	< 0.0227 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0183 U	< 0.022 U	< 0.0168 U
2,6-Dinitrotoluene				mg/kg	< 0.041 U	< 0.0494 U	< 0.0376 U
2-Chloronaphthalene				mg/kg	< 0.0197 U	< 0.0238 U	< 0.0181 U
2-Chlorophenol				mg/kg	< 0.0227 U	< 0.0273 U	< 0.0208 UJ
2-Methylnaphthalene				mg/kg	0.0896 J	44.4	1.88
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	0.0604 J	0.141 J	< 0.0311 U
2-Nitroaniline				mg/kg	< 0.0138 U	< 0.0166 U	< 0.0127 U
2-Nitrophenol				mg/kg	< 0.0191 U	< 0.023 U	< 0.0175 UJ
3,3'-Dichlorobenzidine				mg/kg	< 0.0181 U	< 0.0217 U	< 0.0166 U
3/4-Methylphenol				mg/kg	0.149 J	0.715	0.582 J
3-Nitroaniline				mg/kg	< 0.0319 U	< 0.0384 U	< 0.0292 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0324 U	< 0.039 U	< 0.0297 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0245 U	< 0.0295 U	< 0.0225 U
4-Chloro-3-methylphenol				mg/kg	< 0.0271 U	< 0.0326 U	< 0.0248 U
4-Chloroaniline				mg/kg	< 0.00601 U	< 0.00724 U	< 0.00551 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00928 U	< 0.0112 U	< 0.0085 U
4-Nitroaniline				mg/kg	< 0.086 U	< 0.103 U	< 0.0788 U
4-Nitrophenol				mg/kg	< 0.011 U	< 0.0132 U	< 0.0101 U
Acenaphthene	20	**100**	*500*	mg/kg	0.283	37.9	8.84
Acenaphthylene	100	**100**	*500*	mg/kg	0.115 J	5.74	0.967
Acetophenone				mg/kg	< 0.017 U	< 0.0205 U	< 0.0156 U
Anthracene	100	**100**	*500*	mg/kg	0.375	25.8	6.92
Atrazine				mg/kg	< 0.0161 U	< 0.0194 U	< 0.0148 UJ
Benzaldehyde				mg/kg	< 0.0528 UJ	< 0.0635 UJ	< 0.0484 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.988	***20.3***	***8.18***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.11***	***17.1***	***10.8***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.35**	***15.6***	***10.7***
Benzo(g,h,i)perylene	100	**100**	*500*	mg/kg	0.655 J	9.41 J	6.69
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.385	**7.67**	3.89
Benzyl butyl phthalate				mg/kg	< 0.0156 U	< 0.0188 U	< 0.0143 U
Biphenyl (Diphenyl)				mg/kg	0.0497 J	7.86	0.32
bis(2-Chloroethoxy)methane				mg/kg	< 0.0237 U	< 0.0286 U	< 0.0218 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0188 U	< 0.0227 U	< 0.0173 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0618 UJ	< 0.0744 UJ	< 0.0567 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0343 U	< 0.0413 U	< 0.0315 U
Caprolactam				mg/kg	< 0.0222 U	< 0.0267 U	< 0.0203 U
Carbazole				mg/kg	0.0565 J	19.3	1.84
Chrysene	1	**3.9**	*56*	mg/kg	0.964	**18.5**	**8.46**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.0672 J	***1.03 J***	**0.515**
Dibenzofuran	7	**59**	*350*	mg/kg	0.126 J	18.3	5.92
Diethyl phthalate				mg/kg	< 0.0333 U	< 0.0401 U	< 0.0305 U
Dimethyl phthalate				mg/kg	< 0.0107 U	< 0.0128 U	< 0.00977 U
dl-n-Butyl phthalate				mg/kg	< 0.0702 U	< 0.0845 U	< 0.0643 U
dl-n-Octyl phthalate				mg/kg	< 0.0352 U	< 0.0424 U	< 0.0323 U
Fluoranthene	100	**100**	*500*	mg/kg	1.97	48	20.1
Fluorene	30	**100**	*500*	mg/kg	0.221	26.8	6.25
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0225 U	< 0.027 U	< 0.0206 U
Hexachlorobutadiene				mg/kg	< 0.0825 U	< 0.0992 U	< 0.0756 U
Hexachlorocyclopentadiene				mg/kg	< 0.0716 U	< 0.0862 U	< 0.0656 U
Hexachloroethane				mg/kg	< 0.0188 U	< 0.0227 U	< 0.0173 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.582 J**	***8.18 J***	**5.43**
Isophorone				mg/kg	< 0.0113 U	< 0.0135 U	< 0.0103 U
Naphthalene	12	**100**	*500*	mg/kg	1.14	**190**	2.97
Nitrobenzene				mg/kg	< 0.0292 U	< 0.0351 U	< 0.0267 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0092 U	< 0.0111 U	< 0.00843 U
N-Nitrosodiphenylamine				mg/kg	< 0.0367 U	< 0.0441 U	< 0.0336 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0236 U	< 0.0284 U	< 0.0216 U
Phenanthrene	100	**100**	*500*	mg/kg	0.972	79.2	21.3
Phenol	0.33	100	500	mg/kg	< 0.0139 U	< 0.0168 U	< 0.0128 U
Pyrene	100	**100**	*500*	mg/kg	1.3	41.6	18.2

Notes:
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Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
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TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-24	OH-SB-24	OH-SB-25
				Sample ID	OH-SB-24-5.5-6.5-20230526	OH-SB-24-34.5-35.5-20230526	OH-SB-25-1.0-2.0-20230522
				Sample Date	05/26/2023	05/26/2023	05/22/2023
				Depth (ft.)	5.5-6.5	34.5-35.5	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00481 U	< 0.00429 U	< 0.00415 UJ
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0262 U	< 0.0234 U	< 0.0226 U
2,4,5-Trichlorophenol				mg/kg	< 0.0232 U	< 0.0207 U	< 0.02 U
2,4,6-Trichlorophenol				mg/kg	< 0.0107 U	< 0.00951 U	< 0.00919 U
2,4-Dichlorophenol				mg/kg	< 0.0172 U	< 0.0153 U	< 0.0148 U
2,4-Dimethylphenol				mg/kg	< 0.0168 U	< 0.015 U	< 0.0144 U
2,4-Dinitrophenol				mg/kg	< 0.0246 UJ	< 0.0219 UJ	< 0.0212 U
2,4-Dinitrotoluene				mg/kg	< 0.0182 U	< 0.0162 U	< 0.0157 UJ
2,6-Dinitrotoluene				mg/kg	< 0.0407 U	< 0.0363 U	< 0.0351 UJ
2-Chloronaphthalene				mg/kg	< 0.0196 U	< 0.0175 U	< 0.0169 UJ
2-Chlorophenol				mg/kg	< 0.0225 U	< 0.0201 U	< 0.0194 UJ
2-Methylnaphthalene				mg/kg	0.109 J	280	0.0505 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0337 U	< 0.03 U	< 0.029 U
2-Nitroaniline				mg/kg	< 0.0137 U	< 0.0122 U	< 0.0118 UJ
2-Nitrophenol				mg/kg	< 0.019 U	< 0.0169 U	< 0.0163 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0179 U	< 0.016 U	< 0.0154 UJ
3/4-Methylphenol				mg/kg	< 0.0312 U	< 0.0279 U	< 0.0269 U
3-Nitroaniline				mg/kg	< 0.0316 U	< 0.0282 U	< 0.0272 UJ
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0321 UJ	< 0.0287 UJ	< 0.0277 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0243 U	< 0.0217 U	< 0.021 UJ
4-Chloro-3-methylphenol				mg/kg	< 0.0269 U	< 0.024 U	< 0.0232 U
4-Chloroaniline				mg/kg	< 0.00597 U	< 0.00532 U	< 0.00514 UJ
4-Chlorophenyl phenyl ether				mg/kg	< 0.00921 U	< 0.00821 U	< 0.00793 UJ
4-Nitroaniline				mg/kg	< 0.0853 U	< 0.0761 U	< 0.0734 UJ
4-Nitrophenol				mg/kg	< 0.0109 U	< 0.00973 U	< 0.0094 U
Acenaphthene	20	**100**	*500*	mg/kg	0.574	44.3	0.0279 J
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00593 U	**143**	0.0469 J
Acetophenone				mg/kg	< 0.0169 U	< 0.0151 U	< 0.0146 UJ
Anthracene	100	**100**	*500*	mg/kg	< 0.0247 U	66.4	0.11 J
Atrazine				mg/kg	< 0.016 UJ	< 0.0143 UJ	< 0.0138 UJ
Benzaldehyde				mg/kg	< 0.0524 U	< 0.0467 U	< 0.0451 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	< 0.0172 U	***38.9***	0.271 J
Benzo(a)pyrene	1	**1**	*1*	mg/kg	< 0.0297 U	***25.6***	0.347 J
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.0305 J	***17.6***	0.434 J
Benzo(g,h,i)perylene	100	**100**	*500*	mg/kg	< 0.0138 U	10.4 J	0.334 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	< 0.0196 U	**8.98**	0.18 J
Benzyl butyl phthalate				mg/kg	< 0.0155 U	< 0.0138 U	< 0.0133 UJ
Biphenyl (Diphenyl)				mg/kg	< 0.015 U	28.7	< 0.0129 UJ
bis(2-Chloroethoxy)methane				mg/kg	< 0.0236 U	< 0.021 U	< 0.0203 UJ
bis(2-Chloroethyl)ether				mg/kg	< 0.0187 U	< 0.0167 U	< 0.0161 UJ
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0613 U	< 0.0547 U	< 0.0528 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0341 U	< 0.0304 U	0.224 J
Caprolactam				mg/kg	< 0.022 U	< 0.0196 U	< 0.019 UJ
Carbazole				mg/kg	< 0.0328 U	2.16	0.0503 J
Chrysene	1	**3.9**	*56*	mg/kg	< 0.0117 U	**34.3**	0.297 J
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.0169 U	***1.19 J***	0.0746 J
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.0102 U	9.05	< 0.00874 UJ
Diethyl phthalate				mg/kg	< 0.033 U	< 0.0295 U	< 0.0285 UJ
Dimethyl phthalate				mg/kg	< 0.0106 U	< 0.00943 U	< 0.00911 UJ
dl-n-Butyl phthalate				mg/kg	< 0.0697 U	< 0.0621 U	< 0.06 UJ
dl-n-Octyl phthalate				mg/kg	< 0.035 U	< 0.0312 U	< 0.0301 UJ
Fluoranthene	100	**100**	*500*	mg/kg	0.044 J	69.9	0.536 J
Fluorene	30	**100**	*500*	mg/kg	< 0.0142 U	**118**	0.0337 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0223 U	< 0.0199 U	< 0.0192 UJ
Hexachlorobutadiene				mg/kg	< 0.0818 U	< 0.073 U	< 0.0705 UJ
Hexachlorocyclopentadiene				mg/kg	< 0.0711 U	< 0.0634 U	< 0.0612 UJ
Hexachloroethane				mg/kg	< 0.0187 U	< 0.0167 U	< 0.0161 UJ
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	< 0.0183 U	***8.73 J***	0.248 J
Isophorone				mg/kg	< 0.0112 U	< 0.00996 U	< 0.00962 UJ
Naphthalene	12	**100**	*500*	mg/kg	0.204	**481**	< 0.0109 UJ
Nitrobenzene				mg/kg	< 0.0289 U	< 0.0258 U	< 0.0249 UJ
N-Nitroso-di-n-propylamine				mg/kg	< 0.00913 U	< 0.00814 U	< 0.00786 UJ
N-Nitrosodiphenylamine				mg/kg	< 0.0364 U	< 0.0324 U	< 0.0313 UJ
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0234 U	< 0.0209 U	< 0.0202 U
Phenanthrene	100	**100**	*500*	mg/kg	0.053 J	**223**	0.296 J
Phenol	0.33	100	500	mg/kg	< 0.0138 U	< 0.0123 U	< 0.0119 U
Pyrene	100	**100**	*500*	mg/kg	0.0442 J	**105**	0.442 J

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
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UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-25	OH-SB-27	OH-SB-27
				Sample ID	OH-SB-25-5.7-6.7-20230522	OH-SB-27-1.0-2.0-20230519	OH-SB-27-10.0-11.0-20230519
				Sample Date	05/22/2023	05/19/2023	05/19/2023
				Depth (ft.)	5.7-6.7	1-2	10-11
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00556 U	< 0.00818 U	< 0.00484 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0303 U	< 0.0446 U	< 0.0264 U
2,4,5-Trichlorophenol				mg/kg	< 0.0268 U	< 0.0394 U	< 0.0233 U
2,4,6-Trichlorophenol				mg/kg	< 0.0123 U	< 0.0181 U	< 0.0107 U
2,4-Dichlorophenol				mg/kg	< 0.0198 U	< 0.0292 U	< 0.0172 U
2,4-Dimethylphenol				mg/kg	< 0.0194 U	< 0.0285 U	< 0.0169 U
2,4-Dinitrophenol				mg/kg	< 0.0284 U	< 0.0418 U	< 0.0247 U
2,4-Dinitrotoluene				mg/kg	< 0.021 U	< 0.0309 U	< 0.0183 U
2,6-Dinitrotoluene				mg/kg	< 0.047 U	< 0.0692 U	< 0.0409 U
2-Chloronaphthalene				mg/kg	< 0.0226 U	< 0.0333 U	< 0.0197 U
2-Chlorophenol				mg/kg	< 0.026 U	< 0.0383 U	< 0.0226 U
2-Methylnaphthalene				mg/kg	1.44	< 0.0694 U	< 0.041 U
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0389 U	< 0.0572 U	< 0.0338 U
2-Nitroaniline				mg/kg	< 0.0158 U	< 0.0233 U	< 0.0138 U
2-Nitrophenol				mg/kg	< 0.0219 U	< 0.0322 U	< 0.019 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0207 U	< 0.0305 U	< 0.018 U
3/4-Methylphenol				mg/kg	0.264	< 0.0531 U	< 0.0314 U
3-Nitroaniline				mg/kg	< 0.0365 U	< 0.0538 U	< 0.0318 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0371 U	< 0.0546 U	< 0.0323 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0281 U	< 0.0414 U	< 0.0244 U
4-Chloro-3-methylphenol				mg/kg	< 0.031 U	< 0.0457 U	< 0.027 U
4-Chloroaniline				mg/kg	< 0.00689 U	< 0.0101 U	< 0.006 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0106 U	< 0.0156 U	< 0.00925 U
4-Nitroaniline				mg/kg	< 0.0984 U	< 0.145 U	< 0.0857 U
4-Nitrophenol				mg/kg	< 0.0126 U	< 0.0185 U	< 0.011 U
Acenaphthene	20	**100**	*500*	mg/kg	2.05	0.136 J	1.04
Acenaphthylene	100	**100**	*500*	mg/kg	10.4	0.146 J	10.5
Acetophenone				mg/kg	0.919	< 0.0287 U	< 0.017 U
Anthracene	100	**100**	*500*	mg/kg	2.91	0.452	0.957
Atrazine				mg/kg	< 0.0185 U	< 0.0272 U	< 0.0161 U
Benzaldehyde				mg/kg	< 0.0604 UJ	< 0.089 U	< 0.0526 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***11.8***	**1.55**	***6.96***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***24.7***	***1.62***	***16.1***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***16.7***	**2.09**	***11***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	17.9 J	1.05 J	11.4 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	**7.53**	0.696	**4.79**
Benzyl butyl phthalate				mg/kg	< 0.0179 U	< 0.0263 U	< 0.0156 U
Biphenyl (Diphenyl)				mg/kg	0.51	< 0.0255 U	< 0.0151 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0272 U	< 0.0401 U	< 0.0237 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0216 U	< 0.0318 U	< 0.0188 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0708 U	< 0.104 U	< 0.0616 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0393 U	0.465	< 0.0342 U
Caprolactam				mg/kg	< 0.0254 U	< 0.0374 U	< 0.0221 U
Carbazole				mg/kg	< 0.0378 U	0.161 J	< 0.0329 U
Chrysene	1	**3.9**	*56*	mg/kg	**11.8**	1.55	3.58
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***3.38 J***	0.107 J	**0.554 J**
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.0117 U	0.0754 J	< 0.0102 U
Diethyl phthalate				mg/kg	< 0.0381 U	< 0.0562 U	< 0.0332 U
Dimethyl phthalate				mg/kg	< 0.0122 U	< 0.018 U	< 0.0106 U
dl-n-Butyl phthalate				mg/kg	< 0.0804 U	< 0.118 U	< 0.07 U
dl-n-Octyl phthalate				mg/kg	< 0.0403 U	< 0.0594 U	< 0.0351 U
Fluoranthene	100	**100**	*500*	mg/kg	19.4	2.88	2.97
Fluorene	30	**100**	*500*	mg/kg	1.53	0.126 J	1.49
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0257 U	< 0.0379 U	< 0.0224 U
Hexachlorobutadiene				mg/kg	< 0.0944 U	< 0.139 U	< 0.0822 U
Hexachlorocyclopentadiene				mg/kg	< 0.082 U	< 0.121 U	< 0.0714 U
Hexachloroethane				mg/kg	< 0.0216 U	< 0.0318 U	< 0.0188 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***11.5 J***	**0.868 J**	***6.29 J***
Isophorone				mg/kg	< 0.0129 U	< 0.019 U	< 0.0112 U
Naphthalene	12	**100**	*500*	mg/kg	7.04	0.0538 J	0.314
Nitrobenzene				mg/kg	< 0.0334 U	< 0.0492 U	< 0.0291 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0105 U	< 0.0155 U	< 0.00917 U
N-Nitrosodiphenylamine				mg/kg	< 0.042 U	< 0.0618 U	< 0.0365 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.027 U	< 0.0398 U	< 0.0235 U
Phenanthrene	100	**100**	*500*	mg/kg	2.76	1.52	0.365
Phenol	0.33	100	500	mg/kg	< 0.016 U	< 0.0235 U	< 0.0139 U
Pyrene	100	**100**	*500*	mg/kg	57.5	2.24	68.6

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-28	OH-SB-28	OH-SB-29
				Sample ID	OH-SB-28-0.5-1.5-20230519	OH-SB-28-15.0-16.0-20230519	OH-SB-29-1.5-2.5-20230518
				Sample Date	05/19/2023	05/19/2023	05/18/2023
				Depth (ft.)	0.5-1.5	15-16	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00827 U	< 0.00448 U	< 0.00872 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0451 U	< 0.0244 U	< 0.0475 U
2,4,5-Trichlorophenol				mg/kg	< 0.0398 U	< 0.0215 U	< 0.042 U
2,4,6-Trichlorophenol				mg/kg	< 0.0183 U	< 0.00992 U	< 0.0193 U
2,4-Dichlorophenol				mg/kg	< 0.0295 U	< 0.016 U	< 0.0311 U
2,4-Dimethylphenol				mg/kg	< 0.0288 U	< 0.0156 U	< 0.0304 U
2,4-Dinitrophenol				mg/kg	< 0.0422 U	< 0.0229 U	< 0.0445 U
2,4-Dinitrotoluene				mg/kg	< 0.0312 U	< 0.0169 U	< 0.0329 U
2,6-Dinitrotoluene				mg/kg	< 0.0699 U	< 0.0379 U	< 0.0738 U
2-Chloronaphthalene				mg/kg	< 0.0337 U	< 0.0182 U	< 0.0355 U
2-Chlorophenol				mg/kg	< 0.0387 U	< 0.0209 U	< 0.0408 U
2-Methylnaphthalene				mg/kg	< 0.0702 U	< 0.038 U	0.189 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0578 U	< 0.0313 U	< 0.061 U
2-Nitroaniline				mg/kg	< 0.0235 U	< 0.0127 U	< 0.0248 U
2-Nitrophenol				mg/kg	< 0.0326 U	< 0.0176 U	< 0.0343 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0308 U	< 0.0167 U	< 0.0325 U
3/4-Methylphenol				mg/kg	< 0.0537 U	< 0.029 U	0.146 J
3-Nitroaniline				mg/kg	< 0.0543 U	< 0.0294 U	< 0.0573 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0552 U	< 0.0299 U	< 0.0582 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0418 U	< 0.0226 U	< 0.0441 U
4-Chloro-3-methylphenol				mg/kg	< 0.0462 U	< 0.025 U	< 0.0487 U
4-Chloroaniline				mg/kg	< 0.0102 U	< 0.00555 U	< 0.0108 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.0158 U	< 0.00856 U	< 0.0167 U
4-Nitroaniline				mg/kg	< 0.146 U	< 0.0793 U	< 0.154 U
4-Nitrophenol				mg/kg	< 0.0187 U	< 0.0101 U	< 0.0198 U
Acenaphthene	20	**100**	*500*	mg/kg	0.108 J	0.117 J	0.133 J
Acenaphthylene	100	**100**	*500*	mg/kg	0.192 J	0.0748 J	4.58
Acetophenone				mg/kg	< 0.029 U	< 0.0157 U	< 0.0306 U
Anthracene	100	**100**	*500*	mg/kg	0.284 J	0.664	1.16
Atrazine				mg/kg	< 0.0275 U	< 0.0149 U	< 0.029 U
Benzaldehyde				mg/kg	< 0.09 U	< 0.0487 U	< 0.0949 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.13**	0.463	**1.25**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.28***	0.343	***3.68***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.57**	0.358	**3.58**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.978 J	0.219 J	16.5 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.63	0.192	1.36
Benzyl butyl phthalate				mg/kg	0.492	< 0.0144 U	< 0.0281 U
Biphenyl (Diphenyl)				mg/kg	< 0.0257 U	< 0.0139 U	< 0.0271 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0405 U	< 0.0219 U	< 0.0427 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0321 U	< 0.0174 U	< 0.0339 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.105 U	< 0.057 U	< 0.111 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	7.13	0.118 J	< 0.0617 U
Caprolactam				mg/kg	< 0.0378 U	< 0.0205 U	< 0.0399 U
Carbazole				mg/kg	0.139 J	0.0513 J	< 0.0594 U
Chrysene	1	**3.9**	*56*	mg/kg	1.23	0.43	1.61
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.0897 J	0.0558 J	0.298 J
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.0174 U	0.0581 J	< 0.0184 U
Diethyl phthalate				mg/kg	< 0.0567 U	< 0.0307 U	< 0.0598 U
Dimethyl phthalate				mg/kg	< 0.0182 U	< 0.00983 U	< 0.0192 U
dl-n-Butyl phthalate				mg/kg	< 0.12 U	< 0.0648 U	< 0.126 U
dl-n-Octyl phthalate				mg/kg	< 0.06 U	< 0.0325 U	< 0.0633 U
Fluoranthene	100	**100**	*500*	mg/kg	2.17	1.25	1.62
Fluorene	30	**100**	*500*	mg/kg	0.0863 J	0.148 J	0.418
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0383 U	< 0.0207 U	< 0.0404 U
Hexachlorobutadiene				mg/kg	< 0.141 U	< 0.0761 U	< 0.148 U
Hexachlorocyclopentadiene				mg/kg	< 0.122 U	< 0.0661 U	< 0.129 U
Hexachloroethane				mg/kg	< 0.0321 U	< 0.0174 U	< 0.0339 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.755 J**	0.159 J	***5.8 J***
Isophorone				mg/kg	< 0.0192 U	< 0.0104 U	< 0.0202 U
Naphthalene	12	**100**	*500*	mg/kg	0.0562 J	0.113 J	0.484
Nitrobenzene				mg/kg	< 0.0497 U	< 0.0269 U	< 0.0524 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0157 U	< 0.00849 U	< 0.0165 U
N-Nitrosodiphenylamine				mg/kg	< 0.0625 U	< 0.0338 U	< 0.0659 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0403 U	< 0.0218 U	< 0.0424 U
Phenanthrene	100	**100**	*500*	mg/kg	1.02	0.432	0.806
Phenol	0.33	100	500	mg/kg	< 0.0238 U	< 0.0129 U	< 0.0251 U
Pyrene	100	**100**	*500*	mg/kg	1.84	1.18	2.88

Notes:
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Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-29	OH-SB-30	OH-SB-30
				Sample ID	OH-SB-29-10-0-11.0-20230519	OH-SB-30-3.0-4.0-20230516	OH-SB-30-6.5-7.5-20230516
				Sample Date	05/19/2023	05/16/2023	05/16/2023
				Depth (ft.)	10-11	4-4	6.5-7.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00468 U	< 0.0091 U	< 0.00444 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0255 U	< 0.0496 U	< 0.0242 U
2,4,5-Trichlorophenol				mg/kg	< 0.0225 U	< 0.0438 U	< 0.0214 U
2,4,6-Trichlorophenol				mg/kg	< 0.0104 U	< 0.0202 U	< 0.00984 U
2,4-Dichlorophenol				mg/kg	< 0.0167 U	< 0.0324 U	< 0.0158 U
2,4-Dimethylphenol				mg/kg	< 0.0163 U	0.128 J	0.0735 J
2,4-Dinitrophenol				mg/kg	< 0.0239 U	< 0.0465 U	< 0.0227 U
2,4-Dinitrotoluene				mg/kg	< 0.0177 U	< 0.0344 U	< 0.0168 U
2,6-Dinitrotoluene				mg/kg	< 0.0396 U	< 0.077 U	< 0.0376 U
2-Chloronaphthalene				mg/kg	< 0.0191 U	< 0.037 U	< 0.0181 U
2-Chlorophenol				mg/kg	< 0.0219 U	< 0.0426 U	< 0.0208 U
2-Methylnaphthalene				mg/kg	< 0.0397 U	0.549	0.108 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0328 U	< 0.0637 U	< 0.0311 U
2-Nitroaniline				mg/kg	< 0.0133 U	< 0.0259 U	< 0.0126 U
2-Nitrophenol				mg/kg	< 0.0184 U	< 0.0358 U	< 0.0175 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0174 U	< 0.0339 U	< 0.0165 U
3/4-Methylphenol				mg/kg	< 0.0304 U	0.374	0.18
3-Nitroaniline				mg/kg	< 0.0308 U	< 0.0598 U	< 0.0292 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0313 U	< 0.0608 U	< 0.0297 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0237 U	< 0.046 U	< 0.0224 U
4-Chloro-3-methylphenol				mg/kg	< 0.0262 U	< 0.0508 U	< 0.0248 U
4-Chloroaniline				mg/kg	< 0.0058 U	< 0.0113 U	< 0.00551 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00895 U	< 0.0174 U	< 0.0085 U
4-Nitroaniline				mg/kg	< 0.0829 U	< 0.161 U	< 0.0787 U
4-Nitrophenol				mg/kg	< 0.0106 U	< 0.0206 U	< 0.0101 U
Acenaphthene	20	**100**	*500*	mg/kg	< 0.00945 U	2.28	0.136 J
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00577 U	0.908	0.17
Acetophenone				mg/kg	< 0.0164 U	< 0.032 U	< 0.0156 U
Anthracene	100	**100**	*500*	mg/kg	< 0.024 U	3.23	0.28
Atrazine				mg/kg	< 0.0156 U	< 0.0303 U	< 0.0148 U
Benzaldehyde				mg/kg	< 0.0509 U	0.164 J	< 0.0483 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	< 0.0167 U	***7.9***	**1.41**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	< 0.0289 U	***8.38***	***1.99***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	< 0.0233 U	***9.55***	**2.41**
Benzo(g,h,i)perylene	100	**100**	*500*	mg/kg	< 0.0134 U	5.54	1.52
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	< 0.0191 U	3.15	0.855
Benzyl butyl phthalate				mg/kg	< 0.0151 U	< 0.0293 U	< 0.0143 U
Biphenyl (Diphenyl)				mg/kg	< 0.0146 U	0.215 J	0.0437 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0229 U	< 0.0445 U	< 0.0217 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0182 U	< 0.0353 U	< 0.0173 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0597 U	< 0.116 U	< 0.0566 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0331 U	< 0.0644 U	< 0.0314 U
Caprolactam				mg/kg	< 0.0214 U	< 0.0416 U	< 0.0203 U
Carbazole				mg/kg	< 0.0319 U	1.07	0.127 J
Chrysene	1	**3.9**	*56*	mg/kg	< 0.0114 U	**8.1**	1.67
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.0164 U	***1.32 J***	**0.375 J**
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.00988 U	1.11	0.119 J
Diethyl phthalate				mg/kg	< 0.0321 U	< 0.0625 U	< 0.0305 U
Dimethyl phthalate				mg/kg	< 0.0103 U	< 0.02 U	< 0.00976 U
dI-n-Butyl phthalate				mg/kg	< 0.0677 U	< 0.132 U	< 0.0643 U
dI-n-Octyl phthalate				mg/kg	< 0.034 U	< 0.0661 U	< 0.0323 U
Fluoranthene	100	**100**	*500*	mg/kg	< 0.0156 U	19.3	2.42
Fluorene	30	**100**	*500*	mg/kg	< 0.0138 U	1.9	0.0944 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0217 U	< 0.0421 U	< 0.0206 U
Hexachlorobutadiene				mg/kg	< 0.0796 U	< 0.155 U	< 0.0755 U
Hexachlorocyclopentadiene				mg/kg	< 0.0691 U	< 0.134 U	< 0.0656 U
Hexachloroethane				mg/kg	< 0.0182 U	< 0.0353 U	< 0.0173 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	< 0.0178 U	**4.22**	**1.22**
Isophorone				mg/kg	< 0.0109 U	< 0.0211 U	< 0.0103 U
Naphthalene	12	**100**	*500*	mg/kg	< 0.0123 U	0.959	0.264
Nitrobenzene				mg/kg	< 0.0281 U	< 0.0547 U	< 0.0267 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00888 U	< 0.0173 U	< 0.00842 U
N-Nitrosodiphenylamine				mg/kg	< 0.0354 U	< 0.0688 U	< 0.0336 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0228 U	< 0.0443 U	< 0.0216 U
Phenanthrene	100	**100**	*500*	mg/kg	< 0.0218 U	15.5	1.09
Phenol	0.33	100	500	mg/kg	< 0.0134 U	< 0.0261 U	< 0.0128 U
Pyrene	100	**100**	*500*	mg/kg	< 0.0122 U	16.5	2.19

Notes:
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Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
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analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-31	OH-SB-31	OH-SB-33
				Sample ID	OH-SB-31-2.5-3.5-20230522	OH-SB-31-6.1-7.1-20230522	OH-SB-33-1.0-2.0-20230513
				Sample Date	05/22/2023	05/22/2023	05/13/2023
				Depth (ft.)	2.5-3.5	6.1-7.1	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00425 U	< 0.00629 U	< 0.00453 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0232 U	< 0.0343 U	< 0.0247 U
2,4,5-Trichlorophenol				mg/kg	< 0.0205 U	< 0.0303 U	< 0.0218 U
2,4,6-Trichlorophenol				mg/kg	< 0.00942 U	< 0.0139 U	< 0.01 U
2,4-Dichlorophenol				mg/kg	< 0.0152 U	< 0.0224 U	< 0.0161 U
2,4-Dimethylphenol				mg/kg	< 0.0148 U	< 0.0219 U	< 0.0158 U
2,4-Dinitrophenol				mg/kg	< 0.0217 U	< 0.0321 U	< 0.0231 U
2,4-Dinitrotoluene				mg/kg	< 0.0161 U	< 0.0238 U	< 0.0171 UJ
2,6-Dinitrotoluene				mg/kg	< 0.036 U	< 0.0532 U	< 0.0383 UJ
2-Chloronaphthalene				mg/kg	< 0.0173 U	< 0.0256 U	< 0.0184 U
2-Chlorophenol				mg/kg	< 0.0199 U	< 0.0295 U	< 0.0212 U
2-Methylnaphthalene				mg/kg	< 0.0361 U	< 0.0534 U	< 0.0384 U
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0298 U	< 0.044 U	< 0.0317 U
2-Nitroaniline				mg/kg	< 0.0121 U	< 0.0179 U	< 0.0129 U
2-Nitrophenol				mg/kg	< 0.0167 U	< 0.0248 U	< 0.0178 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0158 U	< 0.0234 U	< 0.0169 U
3/4-Methylphenol				mg/kg	< 0.0276 U	< 0.0408 U	< 0.0294 U
3-Nitroaniline				mg/kg	< 0.0279 U	< 0.0414 U	< 0.0297 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0284 U	< 0.042 U	< 0.0302 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0215 U	< 0.0318 U	< 0.0229 U
4-Chloro-3-methylphenol				mg/kg	< 0.0238 U	< 0.0352 U	< 0.0253 U
4-Chloroaniline				mg/kg	< 0.00527 U	< 0.0078 U	< 0.00561 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00813 U	< 0.012 U	< 0.00866 U
4-Nitroaniline				mg/kg	< 0.0753 U	< 0.111 U	< 0.0802 U
4-Nitrophenol				mg/kg	< 0.00964 U	< 0.0143 U	< 0.0103 U
Acenaphthene	20	**100**	*500*	mg/kg	< 0.00859 U	0.246	0.0562 J
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00524 U	1.57	0.0814 J
Acetophenone				mg/kg	< 0.0149 U	< 0.0221 U	< 0.0159 U
Anthracene	100	**100**	*500*	mg/kg	0.027 J	1.36	0.232
Atrazine				mg/kg	< 0.0141 U	< 0.0209 U	< 0.0151 U
Benzaldehyde				mg/kg	< 0.0463 UJ	< 0.0685 UJ	< 0.0492 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.147 J	**2.61**	0.916
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.173	***3.29***	0.886
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.217	**2.23**	0.867
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.154 J	2.52 J	0.539
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.0724 J	0.806	0.559
Benzyl butyl phthalate				mg/kg	< 0.0137 U	< 0.0203 U	< 0.0146 U
Biphenyl (Diphenyl)				mg/kg	< 0.0132 U	< 0.0196 U	< 0.0141 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0208 U	< 0.0308 U	< 0.0222 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0165 U	< 0.0244 U	< 0.0176 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0542 U	< 0.0802 U	< 0.0577 U
bis(2-Ethylhexyl)phthalate				mg/kg	0.0312 J	< 0.0445 U	< 0.032 U
Caprolactam				mg/kg	< 0.0195 U	< 0.0288 U	< 0.0207 U
Carbazole				mg/kg	< 0.029 U	< 0.0429 U	< 0.0308 U
Chrysene	1	**3.9**	*56*	mg/kg	0.176	2.33	0.912
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.0349 J	**0.376 J**	0.151 J
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.00897 U	< 0.0133 U	0.0315 J
Diethyl phthalate				mg/kg	< 0.0292 U	< 0.0432 U	< 0.0311 U
Dimethyl phthalate				mg/kg	< 0.00934 U	< 0.0138 U	< 0.00995 U
dI-n-Butyl phthalate				mg/kg	< 0.0615 U	< 0.0911 U	< 0.0655 U
dI-n-Octyl phthalate				mg/kg	< 0.0309 U	< 0.0457 U	< 0.0329 U
Fluoranthene	100	**100**	*500*	mg/kg	0.281	5.03	1.61
Fluorene	30	**100**	*500*	mg/kg	< 0.0126 U	0.177 J	0.0891 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0197 U	< 0.0291 U	< 0.021 U
Hexachlorobutadiene				mg/kg	< 0.0723 U	< 0.107 U	< 0.0769 U
Hexachlorocyclopentadiene				mg/kg	< 0.0628 U	< 0.0929 U	< 0.0668 U
Hexachloroethane				mg/kg	< 0.0165 U	< 0.0244 U	< 0.0176 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	0.107 J	**1.39 J**	0.439
Isophorone				mg/kg	< 0.00986 U	< 0.0146 U	< 0.0105 U
Naphthalene	12	**100**	*500*	mg/kg	< 0.0112 U	0.22 J	0.042 J
Nitrobenzene				mg/kg	< 0.0256 U	< 0.0378 U	< 0.0272 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00807 U	< 0.0119 U	< 0.00859 U
N-Nitrosodiphenylamine				mg/kg	< 0.0321 U	< 0.0475 U	< 0.0342 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0207 U	< 0.0306 U	< 0.022 U
Phenanthrene	100	**100**	*500*	mg/kg	0.12 J	0.173 J	1.11
Phenol	0.33	100	500	mg/kg	< 0.0122 U	< 0.0181 U	< 0.013 U
Pyrene	100	**100**	*500*	mg/kg	0.239	8.84	1.81

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-33	OH-SB-34	OH-SB-34
				Sample ID	OH-SB-33-3.5-4-202230513	OH-SB-34-1.0-2.0-20230513	OH-SB-34-2.0-3.0-20230513
				Sample Date	05/13/2023	05/13/2023	05/13/2023
				Depth (ft.)	3.5-4	1-2	2-3
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00488 U	< 0.00466 U	< 0.00471 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0266 U	< 0.0254 U	< 0.0257 U
2,4,5-Trichlorophenol				mg/kg	< 0.0235 U	< 0.0225 U	< 0.0227 U
2,4,6-Trichlorophenol				mg/kg	< 0.0108 U	< 0.0103 U	< 0.0104 U
2,4-Dichlorophenol				mg/kg	< 0.0174 U	< 0.0166 U	< 0.0168 U
2,4-Dimethylphenol				mg/kg	< 0.017 U	< 0.0163 U	< 0.0164 U
2,4-Dinitrophenol				mg/kg	< 0.0249 U	< 0.0238 U	< 0.0241 U
2,4-Dinitrotoluene				mg/kg	< 0.0184 UJ	< 0.0176 UJ	< 0.0178 UJ
2,6-Dinitrotoluene				mg/kg	< 0.0413 UJ	< 0.0395 UJ	< 0.0398 UJ
2-Chloronaphthalene				mg/kg	< 0.0199 U	< 0.019 U	< 0.0192 U
2-Chlorophenol				mg/kg	< 0.0228 U	< 0.0218 U	< 0.022 U
2-Methylnaphthalene				mg/kg	0.283	0.0473 J	0.242 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0341 U	< 0.0326 U	< 0.0329 U
2-Nitroaniline				mg/kg	< 0.0139 U	< 0.0133 U	< 0.0134 U
2-Nitrophenol				mg/kg	< 0.0192 U	< 0.0184 U	< 0.0185 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0182 U	< 0.0174 U	< 0.0175 U
3/4-Methylphenol				mg/kg	< 0.0317 U	0.0954 J	< 0.0306 U
3-Nitroaniline				mg/kg	< 0.0321 U	< 0.0306 U	< 0.0309 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0326 U	< 0.0311 U	< 0.0314 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0247 U	< 0.0236 U	< 0.0238 U
4-Chloro-3-methylphenol				mg/kg	< 0.0273 U	< 0.0261 U	< 0.0263 U
4-Chloroaniline				mg/kg	< 0.00605 U	< 0.00578 U	< 0.00584 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00933 U	< 0.00892 U	< 0.00901 U
4-Nitroaniline				mg/kg	< 0.0864 U	< 0.0826 U	< 0.0834 U
4-Nitrophenol				mg/kg	< 0.0111 U	< 0.0106 U	< 0.0107 U
Acenaphthene	20	**100**	*500*	mg/kg	0.159 J	0.0576 J	0.784
Acenaphthylene	100	**100**	*500*	mg/kg	0.0817 J	2.75	0.673
Acetophenone				mg/kg	< 0.0171 U	< 0.0164 U	< 0.0165 U
Anthracene	100	**100**	*500*	mg/kg	0.316	1.2	1.53
Atrazine				mg/kg	< 0.0162 U	< 0.0155 U	< 0.0157 U
Benzaldehyde				mg/kg	< 0.0531 U	< 0.0507 U	< 0.0512 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.37**	***7.25***	**3.65**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.31***	***8.16***	***4.11***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.45**	***9.63***	**4.71**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.843	5.06	2.59
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.449	3.81	1.62
Benzyl butyl phthalate				mg/kg	< 0.0157 U	< 0.015 U	< 0.0152 U
Biphenyl (Diphenyl)				mg/kg	< 0.0152 U	< 0.0145 U	0.0911 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0239 U	< 0.0228 U	< 0.0231 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0189 U	< 0.0181 U	< 0.0183 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0622 U	< 0.0594 U	< 0.06 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0345 U	< 0.033 U	< 0.0333 U
Caprolactam				mg/kg	< 0.0223 U	< 0.0213 U	< 0.0215 U
Carbazole				mg/kg	< 0.0332 U	0.266 J	0.586
Chrysene	1	**3.9**	*56*	mg/kg	1.48	**7.12**	3.9
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.251	***1.7***	***0.727***
Dibenzofuran	7	**59**	*350*	mg/kg	0.123 J	0.147 J	0.395
Diethyl phthalate				mg/kg	< 0.0335 U	< 0.032 U	< 0.0323 U
Dimethyl phthalate				mg/kg	< 0.0107 U	< 0.0102 U	< 0.0103 U
dI-n-Butyl phthalate				mg/kg	< 0.0706 U	< 0.0675 U	< 0.0681 U
dI-n-Octyl phthalate				mg/kg	< 0.0354 U	< 0.0339 U	< 0.0342 U
Fluoranthene	100	**100**	*500*	mg/kg	1.99	9.81	7.73
Fluorene	30	**100**	*500*	mg/kg	0.122 J	0.134 J	0.643
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0226 U	< 0.0216 U	< 0.0218 U
Hexachlorobutadiene				mg/kg	< 0.0829 U	< 0.0793 U	< 0.08 U
Hexachlorocyclopentadiene				mg/kg	< 0.072 U	< 0.0689 U	< 0.0695 U
Hexachloroethane				mg/kg	< 0.0189 U	< 0.0181 U	< 0.0183 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.658**	**4.47**	**2.17**
Isophorone				mg/kg	< 0.0113 U	< 0.0108 U	< 0.0109 U
Naphthalene	12	**100**	*500*	mg/kg	0.241	0.282	0.297
Nitrobenzene				mg/kg	< 0.0293 U	< 0.028 U	< 0.0283 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00925 U	< 0.00885 U	< 0.00893 U
N-Nitrosodiphenylamine				mg/kg	< 0.0369 U	< 0.0352 U	< 0.0356 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0237 U	< 0.0227 U	< 0.0229 U
Phenanthrene	100	**100**	*500*	mg/kg	1.87	1.54	5.69
Phenol	0.33	100	500	mg/kg	< 0.014 U	< 0.0134 U	< 0.0135 U
Pyrene	100	**100**	*500*	mg/kg	2.74	10	7.58

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-39	OH-SB-39	OH-SB-40
				Sample ID	OH-SB-39_1.0-2.0_20230510	OH-SB-39_2.0-3.0_20230510	OH-SB-40-1.0-2.0_20230509
				Sample Date	05/10/2023	05/10/2023	05/09/2023
				Depth (ft.)	1-2	2-3	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00427 U	< 0.00428 U	< 0.00418 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0233 U	< 0.0233 U	< 0.0228 U
2,4,5-Trichlorophenol				mg/kg	< 0.0205 U	< 0.0206 U	< 0.0201 U
2,4,6-Trichlorophenol				mg/kg	< 0.00945 U	< 0.00948 U	< 0.00927 U
2,4-Dichlorophenol				mg/kg	< 0.0152 U	< 0.0152 U	< 0.0149 U
2,4-Dimethylphenol				mg/kg	< 0.0149 U	< 0.0149 U	< 0.0146 U
2,4-Dinitrophenol				mg/kg	< 0.0218 U	< 0.0218 U	< 0.0214 U
2,4-Dinitrotoluene				mg/kg	< 0.0161 U	< 0.0162 U	< 0.0158 U
2,6-Dinitrotoluene				mg/kg	< 0.0361 U	< 0.0362 U	< 0.0354 U
2-Chloronaphthalene				mg/kg	< 0.0174 U	< 0.0174 U	< 0.017 U
2-Chlorophenol				mg/kg	< 0.02 U	< 0.02 U	< 0.0196 U
2-Methylnaphthalene				mg/kg	0.181 J	0.344	< 0.0355 U
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0298 U	< 0.0299 U	< 0.0293 U
2-Nitroaniline				mg/kg	< 0.0121 U	< 0.0122 U	< 0.0119 U
2-Nitrophenol				mg/kg	< 0.0168 U	< 0.0168 U	< 0.0165 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0159 U	< 0.0159 U	< 0.0156 U
3/4-Methylphenol				mg/kg	< 0.0277 U	< 0.0278 U	< 0.0272 U
3-Nitroaniline				mg/kg	< 0.028 U	< 0.0281 U	< 0.0275 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0285 U	< 0.0286 U	< 0.0279 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0216 U	< 0.0216 U	< 0.0211 U
4-Chloro-3-methylphenol				mg/kg	< 0.0238 U	< 0.0239 U	< 0.0234 U
4-Chloroaniline				mg/kg	< 0.00529 U	< 0.0053 U	< 0.00519 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00816 U	< 0.00818 U	< 0.008 U
4-Nitroaniline				mg/kg	< 0.0756 U	< 0.0758 U	< 0.0741 U
4-Nitrophenol				mg/kg	< 0.00967 U	< 0.00969 U	< 0.00948 U
Acenaphthene	20	**100**	*500*	mg/kg	0.653	0.325	< 0.00845 U
Acenaphthylene	100	**100**	*500*	mg/kg	0.231	0.268	< 0.00515 U
Acetophenone				mg/kg	< 0.015 U	< 0.015 U	< 0.0147 U
Anthracene	100	**100**	*500*	mg/kg	1.33	0.931	0.0272 J
Atrazine				mg/kg	< 0.0142 U	< 0.0142 U	< 0.0139 U
Benzaldehyde				mg/kg	< 0.0464 UJ	< 0.0465 UJ	< 0.0455 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**2.37**	**1.85**	0.0881 J
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***2.41***	***2.12***	0.0883 J
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**2.69**	**2.4**	0.14 J
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	1.59	1.45	0.0644 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.97	0.813	< 0.017 U
Benzyl butyl phthalate				mg/kg	< 0.0137 U	< 0.0138 U	< 0.0135 U
Biphenyl (Diphenyl)				mg/kg	0.0762 J	0.069 J	< 0.013 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0209 U	< 0.0209 U	< 0.0205 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0166 U	< 0.0166 U	< 0.0162 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0544 UJ	< 0.0545 UJ	< 0.0533 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0302 U	< 0.0303 U	< 0.0296 U
Caprolactam				mg/kg	< 0.0195 U	< 0.0196 U	< 0.0191 U
Carbazole				mg/kg	0.413	0.256 J	< 0.0285 U
Chrysene	1	**3.9**	*56*	mg/kg	2.34	2.09	0.105 J
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	**0.463**	**0.388**	< 0.0147 U
Dibenzofuran	7	**59**	*350*	mg/kg	0.306	0.204	< 0.00882 U
Diethyl phthalate				mg/kg	< 0.0293 U	< 0.0294 U	< 0.0287 U
Dimethyl phthalate				mg/kg	< 0.00937 U	< 0.0094 U	< 0.00919 U
dl-n-Butyl phthalate				mg/kg	< 0.0617 U	< 0.0619 U	< 0.0605 U
dl-n-Octyl phthalate				mg/kg	< 0.031 U	< 0.0311 U	< 0.0304 U
Fluoranthene	100	**100**	*500*	mg/kg	5.27	4.22	0.194
Fluorene	30	**100**	*500*	mg/kg	0.636	0.35	< 0.0124 U
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0197 U	< 0.0198 U	< 0.0194 U
Hexachlorobutadiene				mg/kg	< 0.0725 U	< 0.0727 U	< 0.0711 U
Hexachlorocyclopentadiene				mg/kg	< 0.063 U	< 0.0631 U	< 0.0618 U
Hexachloroethane				mg/kg	< 0.0166 U	< 0.0166 U	< 0.0162 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**1.3**	**1.25**	0.0439 J
Isophorone				mg/kg	< 0.0099 U	< 0.00992 U	< 0.0097 U
Naphthalene	12	**100**	*500*	mg/kg	0.201	0.38	< 0.011 U
Nitrobenzene				mg/kg	< 0.0257 U	< 0.0257 U	< 0.0251 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00809 U	< 0.00811 U	< 0.00793 U
N-Nitrosodiphenylamine				mg/kg	< 0.0322 U	< 0.0323 U	< 0.0316 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0208 U	< 0.0208 U	< 0.0204 U
Phenanthrene	100	**100**	*500*	mg/kg	5.18	3.48	0.135 J
Phenol	0.33	100	500	mg/kg	< 0.0123 U	< 0.0123 U	< 0.012 U
Pyrene	100	**100**	*500*	mg/kg	4.84	3.56	0.147 J

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
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TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-40	OH-SB-41	OH-SB-41
				Sample ID	OH-SB-40-2.0-3.0_20230509	OH-SB-41-1.0-2.0_20230509	OH-SB-41-3.0-4.0_20230509
				Sample Date	05/09/2023	05/09/2023	05/09/2023
				Depth (ft.)	2-3	1-2	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00447 U	< 0.00417 U	< 0.00471 UJ
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0244 U	< 0.0228 U	< 0.0257 U
2,4,5-Trichlorophenol				mg/kg	< 0.0215 U	< 0.0201 U	< 0.0227 U
2,4,6-Trichlorophenol				mg/kg	< 0.0099 U	< 0.00925 U	< 0.0104 U
2,4-Dichlorophenol				mg/kg	< 0.0159 U	< 0.0149 U	< 0.0168 U
2,4-Dimethylphenol				mg/kg	< 0.0156 U	< 0.0145 U	< 0.0164 U
2,4-Dinitrophenol				mg/kg	< 0.0228 U	< 0.0213 U	< 0.024 U
2,4-Dinitrotoluene				mg/kg	< 0.0169 U	< 0.0158 U	< 0.0178 U
2,6-Dinitrotoluene				mg/kg	< 0.0378 U	< 0.0353 U	< 0.0398 U
2-Chloronaphthalene				mg/kg	< 0.0182 U	< 0.017 U	< 0.0192 U
2-Chlorophenol				mg/kg	< 0.0209 U	< 0.0195 U	< 0.022 U
2-Methylnaphthalene				mg/kg	3.34	< 0.0354 U	2.59
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0313 U	< 0.0292 U	< 0.0329 U
2-Nitroaniline				mg/kg	< 0.0127 U	< 0.0119 U	< 0.0134 U
2-Nitrophenol				mg/kg	< 0.0176 U	< 0.0164 U	< 0.0185 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0166 U	< 0.0155 U	< 0.0175 U
3/4-Methylphenol				mg/kg	0.293	< 0.0271 U	< 0.0305 U
3-Nitroaniline				mg/kg	< 0.0294 U	< 0.0274 U	< 0.0309 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0298 U	< 0.0279 U	< 0.0314 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0226 U	< 0.0211 U	< 0.0238 U
4-Chloro-3-methylphenol				mg/kg	< 0.025 U	< 0.0233 U	< 0.0263 U
4-Chloroaniline				mg/kg	< 0.00554 U	< 0.00517 U	< 0.00583 UJ
4-Chlorophenyl phenyl ether				mg/kg	< 0.00855 U	< 0.00798 U	< 0.009 U
4-Nitroaniline				mg/kg	< 0.0792 U	< 0.0739 U	< 0.0834 U
4-Nitrophenol				mg/kg	< 0.0101 U	< 0.00946 U	< 0.0107 U
Acenaphthene	20	**100**	*500*	mg/kg	8.18	< 0.00843 U	1.83
Acenaphthylene	100	**100**	*500*	mg/kg	9.03	0.0586 J	2.08
Acetophenone				mg/kg	< 0.0157 U	< 0.0147 U	1.2
Anthracene	100	**100**	*500*	mg/kg	14.5	0.0374 J	5.8
Atrazine				mg/kg	< 0.0149 U	< 0.0139 U	< 0.0156 U
Benzaldehyde				mg/kg	< 0.0486 UJ	< 0.0454 UJ	0.573 J
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***29.3***	0.0845 J	***6.27***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***32.6***	0.0942 J	***7.02***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***34.6***	0.134 J	***8.46***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	29.9	0.0913 J	3.73
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	**14.3**	0.0733 J	3.11
Benzyl butyl phthalate				mg/kg	< 0.0144 U	< 0.0134 U	< 0.0151 U
Biphenyl (Diphenyl)				mg/kg	1.06	< 0.013 U	0.685
bis(2-Chloroethoxy)methane				mg/kg	< 0.0219 U	< 0.0204 U	< 0.023 UJ
bis(2-Chloroethyl)ether				mg/kg	< 0.0174 U	< 0.0162 U	< 0.0183 UJ
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0569 U	< 0.0532 UJ	< 0.06 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0316 U	< 0.0295 U	< 0.0333 U
Caprolactam				mg/kg	< 0.0204 U	< 0.0191 U	< 0.0215 U
Carbazole				mg/kg	5.82	< 0.0284 U	0.868
Chrysene	1	**3.9**	*56*	mg/kg	**28.9**	0.0996 J	**6.4**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***4.49***	< 0.0147 U	***1.14***
Dibenzofuran	7	**59**	*350*	mg/kg	3.89	< 0.0088 U	1.03
Diethyl phthalate				mg/kg	< 0.0307 U	< 0.0286 U	< 0.0323 U
Dimethyl phthalate				mg/kg	< 0.00982 U	< 0.00917 U	< 0.0103 U
dl-n-Butyl phthalate				mg/kg	< 0.0647 U	< 0.0604 U	< 0.0681 U
dl-n-Octyl phthalate				mg/kg	< 0.0324 U	< 0.0303 U	< 0.0342 U
Fluoranthene	100	**100**	*500*	mg/kg	59.5	0.218	16.1
Fluorene	30	**100**	*500*	mg/kg	6.36	< 0.0123 U	2.54
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0207 U	< 0.0193 U	< 0.0218 U
Hexachlorobutadiene				mg/kg	< 0.0759 U	< 0.0709 U	< 0.08 U
Hexachlorocyclopentadiene				mg/kg	< 0.066 U	< 0.0616 U	< 0.0695 UJ
Hexachloroethane				mg/kg	< 0.0174 U	< 0.0162 U	< 0.0183 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	***21.9***	0.0611 J	**3.44**
Isophorone				mg/kg	< 0.0104 U	< 0.00968 U	< 0.0109 U
Naphthalene	12	**100**	*500*	mg/kg	7.2	< 0.0109 U	1.57
Nitrobenzene				mg/kg	< 0.0269 U	< 0.0251 U	< 0.0283 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00847 U	< 0.00791 U	< 0.00893 U
N-Nitrosodiphenylamine				mg/kg	< 0.0338 U	< 0.0315 U	< 0.0356 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0218 U	< 0.0203 U	< 0.0229 UJ
Phenanthrene	100	**100**	*500*	mg/kg	55.9	0.119 J	31.4
Phenol	0.33	100	500	mg/kg	< 0.0128 U	< 0.012 U	< 0.0135 UJ
Pyrene	100	**100**	*500*	mg/kg	47.5	0.142 J	14.5

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-42	OH-SB-42	OH-SB-45
				Sample ID	OH-SB-42-1.0-2.0_20230508	OH-SB-42-3.0-4.0_20230508	OH-SB-45-1.0-2.0-20230511
				Sample Date	05/08/2023	05/08/2023	05/11/2023
				Depth (ft.)	1-2	3-4	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00417 U	< 0.0042 U	< 0.00431 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0227 U	< 0.0229 U	< 0.0235 U
2,4,5-Trichlorophenol				mg/kg	< 0.0201 U	< 0.0202 U	< 0.0207 U
2,4,6-Trichlorophenol				mg/kg	< 0.00923 U	< 0.00931 U	< 0.00955 U
2,4-Dichlorophenol				mg/kg	< 0.0149 U	< 0.015 U	< 0.0154 U
2,4-Dimethylphenol				mg/kg	< 0.0145 U	< 0.0146 U	< 0.015 U
2,4-Dinitrophenol				mg/kg	< 0.0213 U	< 0.0215 U	< 0.022 U
2,4-Dinitrotoluene				mg/kg	< 0.0157 U	< 0.0159 U	< 0.0163 U
2,6-Dinitrotoluene				mg/kg	< 0.0352 U	< 0.0355 U	< 0.0364 U
2-Chloronaphthalene				mg/kg	< 0.017 U	< 0.0171 U	< 0.0175 U
2-Chlorophenol				mg/kg	< 0.0195 U	< 0.0197 U	< 0.0202 U
2-Methylnaphthalene				mg/kg	< 0.0354 U	0.423	0.415
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0292 U	< 0.0294 U	< 0.0301 U
2-Nitroaniline				mg/kg	< 0.0119 U	< 0.012 U	< 0.0123 U
2-Nitrophenol				mg/kg	< 0.0164 U	< 0.0165 U	< 0.017 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0155 U	< 0.0156 U	< 0.016 U
3/4-Methylphenol				mg/kg	< 0.027 U	< 0.0273 U	< 0.028 U
3-Nitroaniline				mg/kg	< 0.0274 U	< 0.0276 U	< 0.0283 UJ
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0278 U	< 0.028 U	< 0.0288 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0211 U	< 0.0212 U	< 0.0218 U
4-Chloro-3-methylphenol				mg/kg	< 0.0233 U	< 0.0235 U	< 0.0241 U
4-Chloroaniline				mg/kg	< 0.00517 U	< 0.00521 U	< 0.00534 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00797 U	< 0.00803 U	< 0.00824 U
4-Nitroaniline				mg/kg	< 0.0738 U	< 0.0744 U	< 0.0763 U
4-Nitrophenol				mg/kg	< 0.00944 U	< 0.00952 U	< 0.00976 UJ
Acenaphthene	20	**100**	*500*	mg/kg	< 0.00841 U	0.719	0.945
Acenaphthylene	100	**100**	*500*	mg/kg	< 0.00513 U	0.743	0.813
Acetophenone				mg/kg	< 0.0146 U	0.133 J	0.167
Anthracene	100	**100**	*500*	mg/kg	< 0.0214 U	1.78	1.88
Atrazine				mg/kg	< 0.0139 U	< 0.014 U	< 0.0143 U
Benzaldehyde				mg/kg	< 0.0453 UJ	0.119 J	< 0.0469 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.0501 J	**4.06**	**4.36**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.0551 J	***4.25***	***4.3***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.0489 J	**4.23**	**4.46**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	< 0.012 U	2.26	3.47 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	< 0.017 U	2.39	2.48
Benzyl butyl phthalate				mg/kg	< 0.0134 U	< 0.0135 U	< 0.0139 U
Biphenyl (Diphenyl)				mg/kg	< 0.013 U	0.122 J	0.0975 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0204 U	< 0.0206 U	< 0.0211 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0162 U	< 0.0163 U	< 0.0167 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0531 U	< 0.0535 U	< 0.0549 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0295 U	0.308	< 0.0305 U
Caprolactam				mg/kg	< 0.0191 U	< 0.0192 U	< 0.0197 U
Carbazole				mg/kg	< 0.0284 U	0.583	0.927
Chrysene	1	**3.9**	*56*	mg/kg	0.0332 J	**4.03**	**4.35**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	< 0.0146 U	***0.63***	***1.09 J***
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.00879 U	0.523	< 0.00909 U
Diethyl phthalate				mg/kg	< 0.0286 U	< 0.0288 U	< 0.0296 U
Dimethyl phthalate				mg/kg	< 0.00916 U	< 0.00923 U	< 0.00947 U
dI-n-Butyl phthalate				mg/kg	< 0.0603 U	< 0.0608 U	< 0.0623 U
dI-n-Octyl phthalate				mg/kg	< 0.0303 U	< 0.0305 U	< 0.0313 U
Fluoranthene	100	**100**	*500*	mg/kg	0.0576 J	7.94	9.39
Fluorene	30	**100**	*500*	mg/kg	< 0.0123 U	0.707	0.932
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0193 U	< 0.0194 U	< 0.0199 U
Hexachlorobutadiene				mg/kg	< 0.0708 U	< 0.0714 U	< 0.0732 U
Hexachlorocyclopentadiene				mg/kg	< 0.0615 U	< 0.062 U	< 0.0636 U
Hexachloroethane				mg/kg	< 0.0162 U	< 0.0163 U	< 0.0167 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	< 0.0159 U	**1.84**	**2.79**
Isophorone				mg/kg	< 0.00967 U	< 0.00974 U	< 0.00999 U
Naphthalene	12	**100**	*500*	mg/kg	< 0.0109 U	0.547	0.565
Nitrobenzene				mg/kg	< 0.0251 U	< 0.0253 U	< 0.0259 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0079 U	< 0.00797 U	< 0.00817 U
N-Nitrosodiphenylamine				mg/kg	< 0.0315 U	< 0.0317 U	< 0.0325 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0203 U	< 0.0204 U	< 0.021 U
Phenanthrene	100	**100**	*500*	mg/kg	0.0345 J	6.38	8.36
Phenol	0.33	100	500	mg/kg	< 0.012 U	< 0.0121 U	< 0.0124 U
Pyrene	100	**100**	*500*	mg/kg	0.0626 J	7.23	7.64

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-45	OH-SB-46	OH-SB-46
				Sample ID	OH-SB-45-4.0-5.0-20230511	OH-SB_46_1.0-2.0_20230512	OH-SB_46_3.0-4.0_20230512
				Sample Date	05/11/2023	05/12/2023	05/12/2023
				Depth (ft.)	4-5	1-2	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00443 U	< 0.00475 U	< 0.00459 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0242 U	< 0.0259 U	< 0.0250 U
2,4,5-Trichlorophenol				mg/kg	< 0.0213 U	< 0.0229 U	< 0.0221 U
2,4,6-Trichlorophenol				mg/kg	< 0.00982 U	< 0.0105 U	< 0.0102 U
2,4-Dichlorophenol				mg/kg	< 0.0158 U	< 0.0169 U	< 0.0163 U
2,4-Dimethylphenol				mg/kg	< 0.0154 U	< 0.0166 U	< 0.0160 U
2,4-Dinitrophenol				mg/kg	< 0.0226 U	< 0.0243 U	< 0.0234 U
2,4-Dinitrotoluene				mg/kg	< 0.0167 U	< 0.0180 U	< 0.0173 U
2,6-Dinitrotoluene				mg/kg	< 0.0375 U	< 0.0402 U	< 0.0388 U
2-Chloronaphthalene				mg/kg	< 0.018 U	< 0.0193 U	< 0.0187 U
2-Chlorophenol				mg/kg	< 0.0207 U	< 0.0223 U	< 0.0215 U
2-Methylnaphthalene				mg/kg	0.361	1.98	1.59
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.031 U	< 0.0333 U	< 0.0321 U
2-Nitroaniline				mg/kg	< 0.0126 U	< 0.0135 U	< 0.0130 U
2-Nitrophenol				mg/kg	< 0.0174 U	< 0.0187 U	< 0.0180 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0165 U	< 0.0177 U	< 0.0171 U
3/4-Methylphenol				mg/kg	< 0.0288 U	< 0.0309 U	< 0.0298 U
3-Nitroaniline				mg/kg	< 0.0291 UJ	< 0.0312 U	< 0.0301 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0296 U	< 0.0317 U	< 0.0306 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0224 U	< 0.0240 U	< 0.0232 U
4-Chloro-3-methylphenol				mg/kg	< 0.0248 U	< 0.0266 U	< 0.0256 U
4-Chloroaniline				mg/kg	< 0.00549 U	< 0.00589 U	< 0.00568 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00847 U	< 0.00909 U	< 0.00877 U
4-Nitroaniline				mg/kg	< 0.0785 U	< 0.0842 U	< 0.0812 U
4-Nitrophenol				mg/kg	< 0.01 UJ	< 0.0108 U	< 0.0104 U
Acenaphthene	20	**100**	*500*	mg/kg	0.185	1.59	3.22
Acenaphthylene	100	**100**	*500*	mg/kg	1.24	1.08	4.31
Acetophenone				mg/kg	0.154 J	< 0.0167 U	< 0.0161 U
Anthracene	100	**100**	*500*	mg/kg	0.465	3.05	4.99
Atrazine				mg/kg	< 0.0147 U	< 0.0158 U	< 0.0152 U
Benzaldehyde				mg/kg	< 0.0482 UJ	< 0.0517 UJ	< 0.0499 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	0.648	**4.37**	***6.58***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	0.818	***4.23***	***9.36***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	0.882	**4.51**	***7.49***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	1.61 J	3.44 J	12.9 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.409	1.89	2.44
Benzyl butyl phthalate				mg/kg	< 0.0143 U	< 0.0153 U	< 0.0148 U
Biphenyl (Diphenyl)				mg/kg	< 0.0138 U	0.324	< 0.0143 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0217 U	< 0.0233 U	< 0.0224 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0172 U	< 0.0185 U	< 0.0178 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0565 U	< 0.0606 U	< 0.0584 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0314 U	< 0.0336 U	< 0.0324 U
Caprolactam				mg/kg	< 0.0203 U	< 0.0217 U	< 0.0210 U
Carbazole				mg/kg	< 0.0302 U	0.442	< 0.0312 U
Chrysene	1	**3.9**	*56*	mg/kg	0.621	**5.36**	**7.24**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.287 J	***0.965 J***	***1.88 J***
Dibenzofuran	7	**59**	*350*	mg/kg	< 0.00935 U	0.637	< 0.00967 U
Diethyl phthalate				mg/kg	< 0.0304 U	< 0.0326 U	< 0.0315 U
Dimethyl phthalate				mg/kg	< 0.00974 U	< 0.0104 U	< 0.0101 U
dI-n-Butyl phthalate				mg/kg	< 0.0641 U	< 0.0688 U	< 0.0663 U
dI-n-Octyl phthalate				mg/kg	< 0.0322 U	< 0.0345 U	< 0.0333 U
Fluoranthene	100	**100**	*500*	mg/kg	0.937	8.30	14.7
Fluorene	30	**100**	*500*	mg/kg	0.194	2.06	2.95
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0205 U	< 0.0220 U	< 0.0212 U
Hexachlorobutadiene				mg/kg	< 0.0753 U	< 0.0808 U	< 0.0779 U
Hexachlorocyclopentadiene				mg/kg	< 0.0654 U	< 0.0702 U	< 0.0677 U
Hexachloroethane				mg/kg	< 0.0172 U	< 0.0185 U	< 0.0178 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.896**	**2.72**	***6.22***
Isophorone				mg/kg	< 0.0103 U	< 0.0110 U	< 0.0106 U
Naphthalene	12	**100**	*500*	mg/kg	0.321	2.10	2.07
Nitrobenzene				mg/kg	< 0.0266 U	< 0.0286 U	< 0.0276 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0084 U	< 0.00901 U	< 0.00869 U
N-Nitrosodiphenylamine				mg/kg	< 0.0335 U	< 0.0359 U	< 0.0346 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0216 U	< 0.0231 U	< 0.0223 U
Phenanthrene	100	**100**	*500*	mg/kg	1.27	13.1	12.0
Phenol	0.33	100	500	mg/kg	< 0.0127 U	< 0.0137 U	< 0.0132 U
Pyrene	100	**100**	*500*	mg/kg	1.27	9.59	27.5

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-50	OH-SB-51	OH-SB-52
				Sample ID	OH-SB-50-1.0-2.0-05012023	OH-SB-51_1.0-2.0_20230503	OH-SB-52-1.0-2.0-20230502
				Sample Date	05/01/2023	05/03/2023	05/02/2023
				Depth (ft.)	1-2	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00834 UJ	< 0.00413 UJ	< 0.00418 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0455 U	< 0.0225 U	< 0.0228 U
2,4,5-Trichlorophenol				mg/kg	< 0.0402 U	< 0.0199 U	< 0.0201 U
2,4,6-Trichlorophenol				mg/kg	< 0.0185 U	< 0.00915 U	< 0.00925 U
2,4-Dichlorophenol				mg/kg	< 0.0297 U	< 0.0147 U	< 0.0149 U
2,4-Dimethylphenol				mg/kg	< 0.0291 U	< 0.0144 U	< 0.0146 U
2,4-Dinitrophenol				mg/kg	< 0.0426 UR	< 0.0211 UR	< 0.0213 U
2,4-Dinitrotoluene				mg/kg	< 0.0315 U	< 0.0156 U	< 0.0158 U
2,6-Dinitrotoluene				mg/kg	< 0.0706 U	< 0.0349 U	< 0.0353 U
2-Chloronaphthalene				mg/kg	< 0.034 U	< 0.0168 U	< 0.017 U
2-Chlorophenol				mg/kg	< 0.0391 U	< 0.0193 U	< 0.0196 U
2-Methylnaphthalene				mg/kg	0.468	0.252	0.26
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0584 U	< 0.0289 U	< 0.0292 U
2-Nitroaniline				mg/kg	< 0.0237 U	< 0.0117 U	< 0.0119 U
2-Nitrophenol				mg/kg	< 0.0328 U	< 0.0162 U	< 0.0164 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0311 UR	< 0.0154 UR	< 0.0156 U
3/4-Methylphenol				mg/kg	< 0.0541 U	< 0.0268 U	< 0.0271 U
3-Nitroaniline				mg/kg	< 0.0548 U	< 0.0271 U	< 0.0274 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0557 UR	< 0.0276 UR	< 0.0279 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0422 U	< 0.0209 U	< 0.0211 U
4-Chloro-3-methylphenol				mg/kg	< 0.0466 U	< 0.0231 U	< 0.0233 U
4-Chloroaniline				mg/kg	< 0.0103 U	< 0.00512 UJ	< 0.00518 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.016 U	< 0.00789 U	< 0.00799 U
4-Nitroaniline				mg/kg	< 0.148 UJ	< 0.0731 U	< 0.074 U
4-Nitrophenol				mg/kg	< 0.0189 U	< 0.00935 U	< 0.00946 UJ
Acenaphthene	20	**100**	*500*	mg/kg	1.99	0.854 J	0.376
Acenaphthylene	100	**100**	*500*	mg/kg	0.638	0.514	2.2
Acetophenone				mg/kg	< 0.0293 U	< 0.0145 U	0.181
Anthracene	100	**100**	*500*	mg/kg	3.95	1.73 J	1.27
Atrazine				mg/kg	< 0.0277 U	< 0.0137 U	< 0.0139 U
Benzaldehyde				mg/kg	< 0.0908 UJ	< 0.0449 UJ	< 0.0454 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	***9.39 J***	**4.24 J**	***6.44***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***10 J***	***4.3 J***	***6.03***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***12.9***	***5.95 J***	***7.96***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	4.24	2.01 J	4.56
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	3.61	1.65	2.97
Benzyl butyl phthalate				mg/kg	< 0.0269 U	< 0.0133 U	< 0.0134 U
Biphenyl (Diphenyl)				mg/kg	0.157 J	0.0798 J	< 0.013 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0408 U	< 0.0202 UJ	< 0.0204 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0324 U	< 0.016 U	< 0.0162 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.106 UJ	< 0.0526 U	< 0.0532 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.059 U	< 0.0292 U	< 0.0295 U
Caprolactam				mg/kg	< 0.0382 U	< 0.0189 U	< 0.0191 U
Carbazole				mg/kg	1.42	0.679 J	0.172 J
Chrysene	1	**3.9**	*56*	mg/kg	**9.3 J**	**4.18 J**	**6.89**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***1.12***	**0.505**	***1.21***
Dibenzofuran	7	**59**	*350*	mg/kg	1.22	0.505 J	0.213
Diethyl phthalate				mg/kg	< 0.0573 U	< 0.0283 U	< 0.0287 U
Dimethyl phthalate				mg/kg	< 0.0183 U	< 0.00907 U	< 0.00918 U
dI-n-Butyl phthalate				mg/kg	< 0.121 U	< 0.0597 U	< 0.0604 U
dI-n-Octyl phthalate				mg/kg	< 0.0606 U	< 0.03 U	< 0.0303 U
Fluoranthene	100	**100**	*500*	mg/kg	26.3	10.1 J	8.62
Fluorene	30	**100**	*500*	mg/kg	1.52	0.667 J	< 0.0123 U
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0386 U	< 0.0191 U	< 0.0193 U
Hexachlorobutadiene				mg/kg	< 0.142 U	< 0.0702 U	< 0.071 U
Hexachlorocyclopentadiene				mg/kg	< 0.123 UJ	< 0.0609 UR	< 0.0617 UJ
Hexachloroethane				mg/kg	< 0.0324 U	< 0.016 U	< 0.0162 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**3.58**	**1.75**	**3.67**
Isophorone				mg/kg	< 0.0194 U	< 0.00957 U	< 0.00969 U
Naphthalene	12	**100**	*500*	mg/kg	0.666	0.4 J	0.499
Nitrobenzene				mg/kg	< 0.0502 U	< 0.0248 U	< 0.0251 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0158 U	< 0.00783 U	< 0.00792 U
N-Nitrosodiphenylamine				mg/kg	< 0.063 U	< 0.0312 U	< 0.0315 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0406 UJ	< 0.0201 U	< 0.0203 UJ
Phenanthrene	100	**100**	*500*	mg/kg	21.3	7.63 J	4.99
Phenol	0.33	100	500	mg/kg	< 0.024 U	< 0.0119 U	< 0.012 U
Pyrene	100	**100**	*500*	mg/kg	21.2	7.73 J	11.2

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-53	OH-SB-53	OH-SB-56
				Sample ID	OH-SB-53_1.0-2.0-20230504	OH-SB-53_3.0-4.0-20230504	OH-SB-56-1.0-2.0-20230504
				Sample Date	05/04/2023	05/04/2023	05/04/2023
				Depth (ft.)	1-2	3-4	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00433 U	< 0.00412 U	< 0.00426 UJ
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0236 U	< 0.0225 U	< 0.0232 U
2,4,5-Trichlorophenol				mg/kg	< 0.0209 U	< 0.0199 U	< 0.0205 U
2,4,6-Trichlorophenol				mg/kg	< 0.0096 U	< 0.00914 U	< 0.00945 U
2,4-Dichlorophenol				mg/kg	< 0.0154 U	< 0.0147 U	< 0.0152 U
2,4-Dimethylphenol				mg/kg	< 0.0151 U	< 0.0144 U	< 0.0149 U
2,4-Dinitrophenol				mg/kg	< 0.0221 U	< 0.0211 U	< 0.0218 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0164 U	< 0.0156 U	< 0.0161 U
2,6-Dinitrotoluene				mg/kg	< 0.0366 U	< 0.0349 U	< 0.0361 U
2-Chloronaphthalene				mg/kg	< 0.0176 U	< 0.0168 U	< 0.0174 U
2-Chlorophenol				mg/kg	< 0.0203 U	< 0.0193 U	< 0.02 U
2-Methylnaphthalene				mg/kg	0.113 J	0.257	0.215 J
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0303 U	< 0.0288 U	< 0.0298 U
2-Nitroaniline				mg/kg	< 0.0123 U	< 0.0117 U	< 0.0121 U
2-Nitrophenol				mg/kg	< 0.0171 U	< 0.0162 U	< 0.0168 UJ
3,3'-Dichlorobenzidine				mg/kg	< 0.0161 U	< 0.0154 U	< 0.0159 U
3/4-Methylphenol				mg/kg	< 0.0281 U	< 0.0268 U	< 0.0277 U
3-Nitroaniline				mg/kg	< 0.0285 U	< 0.0271 U	< 0.028 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0289 U	< 0.0275 U	< 0.0285 UJ
4-Bromophenyl phenyl ether				mg/kg	< 0.0219 U	< 0.0208 U	< 0.0215 U
4-Chloro-3-methylphenol				mg/kg	< 0.0242 U	< 0.023 U	< 0.0238 U
4-Chloroaniline				mg/kg	< 0.00537 U	< 0.00511 U	< 0.00528 UJ
4-Chlorophenyl phenyl ether				mg/kg	< 0.00829 U	< 0.00789 U	< 0.00815 U
4-Nitroaniline				mg/kg	< 0.0767 U	< 0.073 U	< 0.0755 U
4-Nitrophenol				mg/kg	< 0.00982 U	< 0.00934 U	< 0.00966 U
Acenaphthene	20	**100**	*500*	mg/kg	0.347	0.895	0.116 J
Acenaphthylene	100	**100**	*500*	mg/kg	0.611	0.238	0.071 J
Acetophenone				mg/kg	< 0.0152 U	< 0.0145 U	< 0.015 U
Anthracene	100	**100**	*500*	mg/kg	1.08	1.8	0.383
Atrazine				mg/kg	< 0.0144 U	< 0.0137 U	< 0.0142 U
Benzaldehyde				mg/kg	< 0.0471 UJ	< 0.0449 UJ	< 0.0464 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**3.66**	**3.97**	**1.11**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***3.15***	***4.01***	0.936
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**4.32**	**4.27**	**1.3**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	2.97	2.81	0.553
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	1.74	1.86	0.414
Benzyl butyl phthalate				mg/kg	< 0.0139 U	< 0.0133 U	< 0.0137 U
Biphenyl (Diphenyl)				mg/kg	0.0418 J	0.109 J	0.0533 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0212 U	< 0.0202 U	< 0.0209 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0168 U	< 0.016 U	< 0.0166 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0552 U	< 0.0525 U	< 0.0543 UJ
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0307 U	< 0.0292 U	< 0.0302 U
Caprolactam				mg/kg	< 0.0198 U	< 0.0189 U	< 0.0195 U
Carbazole				mg/kg	0.267 J	0.463	< 0.029 U
Chrysene	1	**3.9**	*56*	mg/kg	**4**	**4.14**	1.26
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***0.791***	***0.733***	0.156
Dibenzofuran	7	**59**	*350*	mg/kg	0.169	0.516	0.0908 J
Diethyl phthalate				mg/kg	< 0.0297 U	< 0.0283 U	< 0.0293 U
Dimethyl phthalate				mg/kg	< 0.00952 U	< 0.00906 U	< 0.00937 U
dI-n-Butyl phthalate				mg/kg	< 0.0627 U	< 0.0597 U	< 0.0617 U
dI-n-Octyl phthalate				mg/kg	< 0.0315 U	< 0.0299 U	< 0.031 U
Fluoranthene	100	**100**	*500*	mg/kg	5.77	8.01	2.62
Fluorene	30	**100**	*500*	mg/kg	0.303	0.772	0.12 J
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0201 U	< 0.0191 U	< 0.0197 U
Hexachlorobutadiene				mg/kg	< 0.0736 U	< 0.0701 U	< 0.0725 U
Hexachlorocyclopentadiene				mg/kg	< 0.064 U	< 0.0609 U	< 0.0629 UJ
Hexachloroethane				mg/kg	< 0.0168 U	< 0.016 U	< 0.0166 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**2.34**	**2.29**	0.425
Isophorone				mg/kg	< 0.01 U	< 0.00956 U	< 0.00989 U
Naphthalene	12	**100**	*500*	mg/kg	0.16	0.307	0.29
Nitrobenzene				mg/kg	< 0.026 U	< 0.0248 U	< 0.0256 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00822 U	< 0.00782 U	< 0.00809 U
N-Nitrosodiphenylamine				mg/kg	< 0.0327 U	< 0.0311 U	< 0.0322 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0211 U	< 0.0201 U	< 0.0208 U
Phenanthrene	100	**100**	*500*	mg/kg	3.33	6.5	2.1
Phenol	0.33	100	500	mg/kg	< 0.0124 U	< 0.0118 U	< 0.0122 U
Pyrene	100	**100**	*500*	mg/kg	5.89	7.88	2.51

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-56	OH-SB-58	OH-SB-58
				Sample ID	OH-SB-56-3.0-4.0-20230504	OH-SB-58_2.0-3.0-20230504	OH-SB-58_3.0-4.0-20230504
				Sample Date	05/04/2023	05/04/2023	05/04/2023
				Depth (ft.)	3-4	2-3	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00424 UJ	< 0.00423 UJ	< 0.00432 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0231 U	< 0.0231 U	< 0.0236 U
2,4,5-Trichlorophenol				mg/kg	< 0.0204 U	< 0.0204 U	< 0.0208 U
2,4,6-Trichlorophenol				mg/kg	< 0.0094 U	< 0.00938 U	< 0.00957 U
2,4-Dichlorophenol				mg/kg	< 0.0151 U	< 0.0151 U	< 0.0154 U
2,4-Dimethylphenol				mg/kg	< 0.0148 U	< 0.0148 U	< 0.0151 U
2,4-Dinitrophenol				mg/kg	< 0.0217 UJ	< 0.0216 U	< 0.0221 U
2,4-Dinitrotoluene				mg/kg	< 0.016 U	< 0.016 U	< 0.0163 U
2,6-Dinitrotoluene				mg/kg	< 0.0359 U	< 0.0358 U	< 0.0366 U
2-Chloronaphthalene				mg/kg	< 0.0173 U	< 0.0172 U	< 0.0176 U
2-Chlorophenol				mg/kg	< 0.0199 U	< 0.0198 U	< 0.0202 U
2-Methylnaphthalene				mg/kg	0.0527 J	0.0401 J	2.34
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0297 U	< 0.0296 U	< 0.0302 U
2-Nitroaniline				mg/kg	< 0.0121 U	< 0.012 U	< 0.0123 U
2-Nitrophenol				mg/kg	< 0.0167 UJ	< 0.0167 U	< 0.017 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0158 U	< 0.0158 U	< 0.0161 U
3/4-Methylphenol				mg/kg	< 0.0275 U	< 0.0275 U	< 0.028 U
3-Nitroaniline				mg/kg	< 0.0279 U	< 0.0278 U	< 0.0284 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0283 UJ	< 0.0283 U	< 0.0289 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0214 U	< 0.0214 U	< 0.0218 U
4-Chloro-3-methylphenol				mg/kg	< 0.0237 U	< 0.0236 U	< 0.0241 U
4-Chloroaniline				mg/kg	< 0.00526 UJ	< 0.00525 UJ	< 0.00536 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00812 U	< 0.0081 U	< 0.00826 U
4-Nitroaniline				mg/kg	< 0.0752 U	< 0.075 U	< 0.0766 U
4-Nitrophenol				mg/kg	< 0.00962 U	< 0.00959 U	< 0.00979 U
Acenaphthene	20	**100**	*500*	mg/kg	0.123 J	0.12 J	3.33
Acenaphthylene	100	**100**	*500*	mg/kg	0.169	0.0461 J	< 0.00532 U
Acetophenone				mg/kg	< 0.0149 U	< 0.0149 U	< 0.0152 U
Anthracene	100	**100**	*500*	mg/kg	0.657	0.256	5
Atrazine				mg/kg	< 0.0141 U	< 0.0141 U	< 0.0144 U
Benzaldehyde				mg/kg	< 0.0462 UJ	< 0.0461 UJ	< 0.047 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.48**	0.73	***8.41***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.43***	0.692	***9.14***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**1.54**	0.837	***9.34***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	0.714	0.401	6.78
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.606	0.22	3.45
Benzyl butyl phthalate				mg/kg	< 0.0137 U	< 0.0136 U	< 0.0139 U
Biphenyl (Diphenyl)				mg/kg	< 0.0132 U	< 0.0132 U	< 0.0134 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0208 U	< 0.0207 U	< 0.0211 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0165 U	< 0.0164 U	< 0.0168 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0541 UJ	< 0.0539 UJ	< 0.0551 U
bis(2-Ethylhexyl)phthalate				mg/kg	0.246	< 0.03 U	< 0.0306 U
Caprolactam				mg/kg	< 0.0194 U	< 0.0194 U	< 0.0198 U
Carbazole				mg/kg	< 0.0289 U	0.0773 J	< 0.0294 U
Chrysene	1	**3.9**	*56*	mg/kg	1.35	0.689	**8.68**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.208	0.11 J	***1.56***
Dibenzofuran	7	**59**	*350*	mg/kg	0.1 J	0.0557 J	1.75
Diethyl phthalate				mg/kg	< 0.0291 U	< 0.0291 U	< 0.0297 U
Dimethyl phthalate				mg/kg	< 0.00932 U	< 0.0093 U	< 0.00949 U
dI-n-Butyl phthalate				mg/kg	< 0.0614 U	< 0.0613 U	< 0.0625 U
dI-n-Octyl phthalate				mg/kg	< 0.0308 U	< 0.0307 U	< 0.0314 U
Fluoranthene	100	**100**	*500*	mg/kg	3.22	1.46	25.6
Fluorene	30	**100**	*500*	mg/kg	0.217	< 0.0125 U	4.12
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0196 U	< 0.0196 U	< 0.02 U
Hexachlorobutadiene				mg/kg	< 0.0721 U	< 0.072 U	< 0.0734 U
Hexachlorocyclopentadiene				mg/kg	< 0.0627 UJ	< 0.0625 UJ	< 0.0638 U
Hexachloroethane				mg/kg	< 0.0165 U	< 0.0164 U	< 0.0168 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.631**	0.32	**4.89**
Isophorone				mg/kg	< 0.00984 U	< 0.00982 U	< 0.01 U
Naphthalene	12	**100**	*500*	mg/kg	0.11 J	0.0336 J	1.41
Nitrobenzene				mg/kg	< 0.0255 U	< 0.0254 U	< 0.026 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00805 U	< 0.00803 U	< 0.0082 U
N-Nitrosodiphenylamine				mg/kg	< 0.0321 U	< 0.032 U	< 0.0326 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0207 U	< 0.0206 UJ	< 0.021 U
Phenanthrene	100	**100**	*500*	mg/kg	2.03	1.14	16.3
Phenol	0.33	100	500	mg/kg	< 0.0122 U	< 0.0122 U	< 0.0124 U
Pyrene	100	**100**	*500*	mg/kg	2.65	1.35	24.5

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-60	OH-SB-61	OH-SB-61
				Sample ID	OH-SB-60-1.0-2.0_20230503	OH-SB-61-1.0-2.0-20230613	OH-SB-61-9.0-10.0-20230613
				Sample Date	05/03/2023	06/13/2023	06/13/2023
				Depth (ft.)	1-2	1-2	9-10
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00463 UJ	< 0.00449 U	< 0.00616 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0253 U	< 0.0245 U	< 0.0336 U
2,4,5-Trichlorophenol				mg/kg	< 0.0223 U	< 0.0216 U	< 0.0296 U
2,4,6-Trichlorophenol				mg/kg	< 0.0103 U	< 0.00995 U	< 0.0136 U
2,4-Dichlorophenol				mg/kg	< 0.0165 U	< 0.016 U	< 0.0219 U
2,4-Dimethylphenol				mg/kg	< 0.0161 U	< 0.0156 U	< 0.0214 U
2,4-Dinitrophenol				mg/kg	< 0.0237 UR	< 0.0229 UJ	< 0.0314 UJ
2,4-Dinitrotoluene				mg/kg	< 0.0175 U	< 0.017 U	< 0.0232 U
2,6-Dinitrotoluene				mg/kg	< 0.0392 U	< 0.038 U	< 0.0521 U
2-Chloronaphthalene				mg/kg	< 0.0188 U	< 0.0183 U	< 0.025 U
2-Chlorophenol				mg/kg	< 0.0217 U	< 0.021 U	< 0.0288 U
2-Methylnaphthalene				mg/kg	0.0767 J	0.329	1.68
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0324 U	< 0.0314 U	0.0859 J
2-Nitroaniline				mg/kg	< 0.0132 U	< 0.0128 UJ	< 0.0175 UJ
2-Nitrophenol				mg/kg	< 0.0182 U	< 0.0177 U	< 0.0242 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0172 U	< 0.0167 U	< 0.0229 U
3/4-Methylphenol				mg/kg	< 0.0301 U	0.0576 J	2.22
3-Nitroaniline				mg/kg	< 0.0304 U	< 0.0295 U	< 0.0404 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0309 U	< 0.03 U	< 0.0411 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0234 U	< 0.0227 U	< 0.0311 U
4-Chloro-3-methylphenol				mg/kg	< 0.0259 U	< 0.0251 U	< 0.0344 U
4-Chloroaniline				mg/kg	< 0.00574 UJ	< 0.00557 U	< 0.00763 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00886 U	< 0.00859 U	< 0.0118 U
4-Nitroaniline				mg/kg	< 0.082 U	< 0.0795 UJ	< 0.109 U
4-Nitrophenol				mg/kg	< 0.0105 U	< 0.0102 UJ	< 0.0139 UJ
Acenaphthene	20	**100**	*500*	mg/kg	0.128 J	0.259	11.6
Acenaphthylene	100	**100**	*500*	mg/kg	0.307	0.575	11.5
Acetophenone				mg/kg	< 0.0163 U	< 0.0158 U	0.959
Anthracene	100	**100**	*500*	mg/kg	0.407	0.671	10.9
Atrazine				mg/kg	< 0.0154 U	< 0.0149 U	< 0.0205 U
Benzaldehyde				mg/kg	< 0.0504 UJ	0.0916 J	< 0.067 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**1.52**	**2.01**	***23.3***
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***1.7***	***2.62***	***34.3***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**2.23**	**2.96**	***33.1***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	1.06	2.21	47.8
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	0.694	1.01	**11.1**
Benzyl butyl phthalate				mg/kg	< 0.0149 U	< 0.0145 U	< 0.0198 U
Biphenyl (Diphenyl)				mg/kg	0.0357 J	0.13 J	0.793
bis(2-Chloroethoxy)methane				mg/kg	< 0.0227 UJ	< 0.022 U	< 0.0301 U
bis(2-Chloroethyl)ether				mg/kg	< 0.018 U	< 0.0174 U	< 0.0239 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.059 UJ	< 0.0572 U	< 0.0784 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0328 U	< 0.0318 U	< 0.0435 U
Caprolactam				mg/kg	< 0.0212 U	< 0.0205 U	< 0.0282 U
Carbazole				mg/kg	0.213 J	0.176 J	< 0.0419 U
Chrysene	1	**3.9**	*56*	mg/kg	1.63	2.24	**30.4**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	0.268	**0.481**	***4.97***
Dibenzofuran	7	**59**	*350*	mg/kg	0.0862 J	0.154 J	0.328
Diethyl phthalate				mg/kg	< 0.0318 U	< 0.0308 U	< 0.0422 U
Dimethyl phthalate				mg/kg	< 0.0102 U	< 0.00987 U	< 0.0135 U
dI-n-Butyl phthalate				mg/kg	< 0.067 U	< 0.065 U	< 0.0891 U
dI-n-Octyl phthalate				mg/kg	< 0.0336 U	< 0.0326 U	< 0.0447 U
Fluoranthene	100	**100**	*500*	mg/kg	3.47	3.88	32.5
Fluorene	30	**100**	*500*	mg/kg	0.112 J	0.258	7.06
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0214 U	< 0.0208 U	< 0.0285 U
Hexachlorobutadiene				mg/kg	< 0.0787 U	< 0.0763 U	< 0.105 U
Hexachlorocyclopentadiene				mg/kg	< 0.0684 UJ	< 0.0663 U	< 0.0909 U
Hexachloroethane				mg/kg	< 0.018 U	< 0.0174 U	< 0.0239 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**0.836**	**1.64**	***24.2***
Isophorone				mg/kg	< 0.0107 U	< 0.0104 U	< 0.0143 U
Naphthalene	12	**100**	*500*	mg/kg	0.0933 J	0.4	3.74
Nitrobenzene				mg/kg	< 0.0278 U	< 0.027 U	< 0.037 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00878 U	< 0.00852 U	< 0.0117 U
N-Nitrosodiphenylamine				mg/kg	< 0.035 U	< 0.0339 U	< 0.0465 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0225 U	< 0.0219 U	< 0.03 U
Phenanthrene	100	**100**	*500*	mg/kg	2.01	2.45	18.7
Phenol	0.33	100	500	mg/kg	< 0.0133 UJ	< 0.0129 U	0.206 J
Pyrene	100	**100**	*500*	mg/kg	2.81	3.59	63.2

Notes:
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TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-62	OH-SB-62	OH-SB-66
				Sample ID	OH-SB-62-1.0-2.0-20230612	OH-SB-62-9.0-10.0-20230612	OH-SB-66-1.0-2.0-20230515
				Sample Date	06/12/2023	06/12/2023	05/15/2023
				Depth (ft.)	1-2	9-10	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units			
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00416 U	< 0.00469 U	< 0.0396 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.0227 U	< 0.0255 U	< 0.216 U
2,4,5-Trichlorophenol				mg/kg	< 0.02 U	< 0.0226 U	< 0.191 U
2,4,6-Trichlorophenol				mg/kg	< 0.00923 U	< 0.0104 U	< 0.0877 U
2,4-Dichlorophenol				mg/kg	< 0.0148 U	< 0.0167 U	< 0.141 U
2,4-Dimethylphenol				mg/kg	< 0.0145 U	< 0.0163 U	< 0.138 U
2,4-Dinitrophenol				mg/kg	< 0.0213 UJ	< 0.0239 UJ	< 0.202 U
2,4-Dinitrotoluene				mg/kg	< 0.0157 U	< 0.0177 U	< 0.15 UJ
2,6-Dinitrotoluene				mg/kg	< 0.0352 U	< 0.0396 U	< 0.335 UJ
2-Chloronaphthalene				mg/kg	< 0.0169 U	< 0.0191 U	< 0.161 U
2-Chlorophenol				mg/kg	< 0.0195 U	< 0.0219 U	< 0.185 U
2-Methylnaphthalene				mg/kg	0.338	0.148 J	< 0.336 U
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0291 U	< 0.0328 U	< 0.277 U
2-Nitroaniline				mg/kg	< 0.0119 UJ	< 0.0133 UJ	< 0.113 U
2-Nitrophenol				mg/kg	< 0.0164 U	< 0.0184 U	< 0.156 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0155 U	< 0.0174 U	< 0.147 U
3/4-Methylphenol				mg/kg	< 0.027 U	< 0.0304 U	< 0.257 U
3-Nitroaniline				mg/kg	< 0.0274 U	< 0.0308 U	< 0.26 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0278 U	< 0.0313 U	< 0.264 U
4-Bromophenyl phenyl ether				mg/kg	< 0.021 U	< 0.0237 U	< 0.2 U
4-Chloro-3-methylphenol				mg/kg	< 0.0233 U	< 0.0262 U	< 0.221 U
4-Chloroaniline				mg/kg	< 0.00516 U	< 0.00581 U	< 0.0491 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00796 U	< 0.00896 U	< 0.0757 U
4-Nitroaniline				mg/kg	< 0.0738 U	< 0.083 U	< 0.701 U
4-Nitrophenol				mg/kg	< 0.00944 UJ	< 0.0106 UJ	< 0.0897 U
Acenaphthene	20	**100**	*500*	mg/kg	0.526	0.718	< 0.0799 U
Acenaphthylene	100	**100**	*500*	mg/kg	0.519	0.407	< 0.0488 U
Acetophenone				mg/kg	0.107 J	< 0.0165 U	< 0.139 U
Anthracene	100	**100**	*500*	mg/kg	1.07	0.928	< 0.203 U
Atrazine				mg/kg	< 0.0138 U	< 0.0156 U	< 0.132 U
Benzaldehyde				mg/kg	0.0775 J	< 0.051 UJ	< 0.431 U
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**2.54**	**1.51**	0.798 J
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***2.95***	***1.37***	***1.42***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	**3.36**	**1.12**	**1.59**
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	2.65	1.15	1.21 J
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	1.03	0.506	0.946 J
Benzyl butyl phthalate				mg/kg	< 0.0134 U	< 0.0151 U	< 0.127 U
Biphenyl (Diphenyl)				mg/kg	0.118 J	0.0398 J	< 0.123 U
bis(2-Chloroethoxy)methane				mg/kg	< 0.0204 U	< 0.0229 U	< 0.194 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0162 U	< 0.0182 U	< 0.154 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0531 U	< 0.0597 U	< 0.504 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0295 U	0.0485 J	2.19
Caprolactam				mg/kg	< 0.0191 U	< 0.0214 U	< 0.181 U
Carbazole				mg/kg	0.389	< 0.0319 U	< 0.27 U
Chrysene	1	**3.9**	*56*	mg/kg	2.7	1.56	0.83 J
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***0.6***	0.217	< 0.139 U
Dibenzofuran	7	**59**	*350*	mg/kg	0.349	0.0324 J	< 0.0835 U
Diethyl phthalate				mg/kg	< 0.0286 U	< 0.0322 U	< 0.272 U
Dimethyl phthalate				mg/kg	< 0.00915 U	< 0.0103 U	< 0.087 U
dI-n-Butyl phthalate				mg/kg	< 0.0603 U	0.0952 J	< 0.573 U
dI-n-Octyl phthalate				mg/kg	< 0.0302 U	< 0.034 U	< 0.288 U
Fluoranthene	100	**100**	*500*	mg/kg	5.53	2.76	0.931 J
Fluorene	30	**100**	*500*	mg/kg	0.488	0.147 J	< 0.117 U
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0193 U	< 0.0217 U	< 0.183 U
Hexachlorobutadiene				mg/kg	< 0.0708 U	< 0.0796 U	< 0.673 U
Hexachlorocyclopentadiene				mg/kg	< 0.0615 U	< 0.0692 U	< 0.585 U
Hexachloroethane				mg/kg	< 0.0162 U	< 0.0182 U	< 0.154 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**1.8**	**0.646**	**0.929 J**
Isophorone				mg/kg	< 0.00966 U	< 0.0109 U	< 0.0918 U
Naphthalene	12	**100**	*500*	mg/kg	0.414	0.29	< 0.104 U
Nitrobenzene				mg/kg	< 0.025 U	< 0.0282 U	< 0.238 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.0079 U	< 0.00889 U	< 0.0751 U
N-Nitrosodiphenylamine				mg/kg	< 0.0315 U	< 0.0354 U	< 0.299 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0203 U	< 0.0228 U	< 0.193 U
Phenanthrene	100	**100**	*500*	mg/kg	4.44	0.506	< 0.184 U
Phenol	0.33	100	500	mg/kg	< 0.012 U	< 0.0135 U	< 0.114 U
Pyrene	100	**100**	*500*	mg/kg	4.73	4.64	1.33 J

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
N = Normal sample
FD = Field Duplicate
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4B
SOIL QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-66
				Sample ID	OH-SB-66-6.0-7.0-20230515
				Sample Date	05/15/2023
				Depth (ft.)	6-7
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units	
1,4-Dioxane	0.1	13	130	mg/kg	< 0.00477 U
2,3,4,6-Tetrachlorophenol				mg/kg	< 0.026 U
2,4,5-Trichlorophenol				mg/kg	< 0.023 U
2,4,6-Trichlorophenol				mg/kg	< 0.0106 U
2,4-Dichlorophenol				mg/kg	< 0.017 U
2,4-Dimethylphenol				mg/kg	< 0.0166 U
2,4-Dinitrophenol				mg/kg	< 0.0243 U
2,4-Dinitrotoluene				mg/kg	< 0.018 U
2,6-Dinitrotoluene				mg/kg	< 0.0403 U
2-Chloronaphthalene				mg/kg	< 0.0194 U
2-Chlorophenol				mg/kg	< 0.0223 U
2-Methylnaphthalene				mg/kg	0.377
2-Methylphenol (o-cresol)	0.33	100	500	mg/kg	< 0.0334 U
2-Nitroaniline				mg/kg	< 0.0136 U
2-Nitrophenol				mg/kg	< 0.0188 U
3,3'-Dichlorobenzidine				mg/kg	< 0.0178 U
3/4-Methylphenol				mg/kg	0.0889 J
3-Nitroaniline				mg/kg	< 0.0313 U
4,6-Dinitro-2-methylphenol				mg/kg	< 0.0318 U
4-Bromophenyl phenyl ether				mg/kg	< 0.0241 U
4-Chloro-3-methylphenol				mg/kg	< 0.0266 U
4-Chloroaniline				mg/kg	< 0.00591 U
4-Chlorophenyl phenyl ether				mg/kg	< 0.00912 U
4-Nitroaniline				mg/kg	< 0.0845 U
4-Nitrophenol				mg/kg	< 0.0108 U
Acenaphthene	20	**100**	*500*	mg/kg	1.56
Acenaphthylene	100	**100**	*500*	mg/kg	0.424
Acetophenone				mg/kg	< 0.0167 U
Anthracene	100	**100**	*500*	mg/kg	2.04
Atrazine				mg/kg	< 0.0159 U
Benzaldehyde				mg/kg	< 0.0519 UJ
Benzo(a)anthracene	1	**1**	*5.6*	mg/kg	**4.81**
Benzo(a)pyrene	1	**1**	*1*	mg/kg	***5.42***
Benzo(b)fluoranthene	1	**1**	*5.6*	mg/kg	***5.69***
Benzo(g,h,i)perylene	100	**100**	500	mg/kg	3.52
Benzo(k)fluoranthene	0.8	**3.9**	*56*	mg/kg	2.22
Benzyl butyl phthalate				mg/kg	< 0.0153 U
Biphenyl (Diphenyl)				mg/kg	0.113 J
bis(2-Chloroethoxy)methane				mg/kg	< 0.0233 U
bis(2-Chloroethyl)ether				mg/kg	< 0.0185 U
bis(2-Chloroisopropyl)ether				mg/kg	< 0.0607 U
bis(2-Ethylhexyl)phthalate				mg/kg	< 0.0337 U
Caprolactam				mg/kg	< 0.0218 U
Carbazole				mg/kg	0.629
Chrysene	1	**3.9**	*56*	mg/kg	**4.74**
Dibenz(a,h)anthracene	0.33	**0.33**	*0.56*	mg/kg	***0.855 J***
Dibenzofuran	7	**59**	*350*	mg/kg	0.774
Diethyl phthalate				mg/kg	< 0.0327 U
Dimethyl phthalate				mg/kg	< 0.0105 U
dI-n-Butyl phthalate				mg/kg	< 0.069 U
dI-n-Octyl phthalate				mg/kg	< 0.0346 U
Fluoranthene	100	**100**	*500*	mg/kg	10.5
Fluorene	30	**100**	*500*	mg/kg	1.23
Hexachlorobenzene	0.33	1.2	6	mg/kg	< 0.0221 U
Hexachlorobutadiene				mg/kg	< 0.081 U
Hexachlorocyclopentadiene				mg/kg	< 0.0704 U
Hexachloroethane				mg/kg	< 0.0185 U
Indeno(1,2,3-c,d)pyrene	0.5	**0.5**	*5.6*	mg/kg	**2.82**
Isophorone				mg/kg	< 0.0111 U
Naphthalene	12	**100**	*500*	mg/kg	0.974
Nitrobenzene				mg/kg	< 0.0287 U
N-Nitroso-di-n-propylamine				mg/kg	< 0.00904 U
N-Nitrosodiphenylamine				mg/kg	< 0.036 U
Pentachlorophenol	0.8	6.7	6.7	mg/kg	< 0.0232 U
Phenanthrene	100	**100**	*500*	mg/kg	7.98
Phenol	0.33	100	500	mg/kg	< 0.0137 U
Pyrene	100	**100**	*500*	mg/kg	8.56

Notes:
Concentrations above NYSPART375UU are shaded gray
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< = method detection limit
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U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.
UR = The sample non-detection results is rejected due to serious deficiencies. The presence
analyte cannot be verified.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04	MW-04
				Sample ID	MW-04-1.5-2.5-20230607	DUP-20230607	MW-04-1.5-2.5-20230607MS	MW-04-1.5-2.5-20230607MSD
				Sample Date	06/07/2023	06/07/2023	06/07/2023	06/07/2023
				Depth (ft.)	1.5-2.5	1.5-2.5	1.5-2.5	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00513 U	< 0.00499 U	< 0.00504 U	< 0.00508 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.0101 U	< 0.00981 U	< 0.00992 U	< 0.01 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0128 U	< 0.0125 U	< 0.0126 U	< 0.0127 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.00752 U	< 0.00731 U	< 0.00739 U	< 0.00745 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00786 U	< 0.00764 U	< 0.00773 U	< 0.00779 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00617 U	< 0.006 U	< 0.00607 U	< 0.00612 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00479 U	< 0.00466 U	< 0.00471 U	< 0.00475 UJ
Aroclor 1262	0.1	1	1	mg/kg	< 0.0103 U	< 0.01 U	< 0.0101 U	< 0.0102 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.00463 U	< 0.0045 U	< 0.00455 U	< 0.00458 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00357 U	< 0.00347 U	< 0.00351 U	< 0.00354 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04	MW-05
				Sample ID	MW-04-5.5-6.5-20230607	MW-04-41.5-42.5-20230607	MW-04-67.0-68.0-20230609	MW-05-1.0-2.0-20230605
				Sample Date	06/07/2023	06/07/2023	06/09/2023	06/05/2023
				Depth (ft.)	5.5-6.5	41.5-42.5	67-68	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00581 U	< 0.00534 U	< 0.00508 U	< 0.00493 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.0114 U	< 0.0105 U	< 0.0100 U	< 0.00969 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0145 U	< 0.0134 U	< 0.0127 U	< 0.0123 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00852 U	< 0.00783 U	< 0.00745 U	< 0.00722 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00891 U	< 0.00819 U	< 0.00779 U	< 0.00755 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.007 U	< 0.00643 U	< 0.00612 U	< 0.00593 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00543 U	< 0.00499 U	< 0.00475 U	0.404
Aroclor 1262	0.1	1	1	mg/kg	< 0.0117 U	< 0.0107 U	< 0.0102 U	< 0.00988 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00524 U	< 0.00482 U	< 0.00458 U	< 0.00444 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00405 U	< 0.00372 U	< 0.00354 U	0.404

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-05	MW-05	MW-05	MW-06
				Sample ID	MW-05-5.0-6.0-20230605	MW-05-32.5-33.5-20230606	MW-05-66.0-67.0-20230606	MW-06-5.0-6.0-20230601
				Sample Date	06/05/2023	06/06/2023	06/06/2023	06/01/2023
				Depth (ft.)	5-6	32.5-33.5	66-67	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00563 UJ	< 0.00486 U	< 0.00515 UJ	< 0.00553 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.0111 U	< 0.00956 U	< 0.0101 UJ	< 0.0109 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0141 U	< 0.0122 U	< 0.0129 UJ	< 0.0138 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.00826 U	< 0.00712 U	< 0.00754 UJ	< 0.00811 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00863 U	< 0.00745 U	< 0.00789 UJ	< 0.00848 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00678 U	< 0.00585 U	< 0.00619 UJ	< 0.00666 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00526 U	< 0.00454 U	< 0.00481 UJ	< 0.00517 UJ
Aroclor 1262	0.1	1	1	mg/kg	< 0.0113 U	< 0.00975 U	< 0.0103 UJ	< 0.0111 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.00508 U	< 0.00438 U	< 0.00464 UJ	< 0.00499 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00392 U	< 0.00338 U	< 0.00358 UJ	< 0.00385 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-06	MW-06	MW-07	MW-07
				Sample ID	MW-06-41.0-42.0-20230601	MW-06-66.0-67.0-20230601	MW-07-1.0-2.0-20230602	MW-07-6.6-7.6-20230602
				Sample Date	06/01/2023	06/01/2023	06/02/2023	06/02/2023
				Depth (ft.)	41-42	66-67	1-2	6.6-7.6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00482 U	< 0.00529 UJ	< 0.102 UJ	< 0.00523 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.00949 U	< 0.0104 UJ	< 0.202 UJ	< 0.0103 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0121 U	< 0.0132 UJ	< 0.256 UJ	< 0.0131 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.00707 U	< 0.00775 UJ	< 0.15 UJ	< 0.00767 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00739 U	< 0.00811 UJ	< 0.157 UJ	< 0.00802 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.0058 U	< 0.00637 UJ	< 0.123 UJ	< 0.0063 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.0045 U	< 0.00494 UJ	***8.38 J***	< 0.00489 UJ
Aroclor 1262	0.1	1	1	mg/kg	< 0.00968 U	< 0.0106 UJ	< 0.206 UJ	< 0.0105 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.00435 U	< 0.00477 UJ	< 0.0924 UJ	< 0.00472 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00336 U	< 0.00368 UJ	***8.38 J***	< 0.00364 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-07	MW-07	OH-SB-12	OH-SB-12
				Sample ID	MW-07-35.0-36.0-20230602	MW-07-66.5-67.5-20230605	OH-SB-12-0.5-1.5-20230531	DUP-20230531
				Sample Date	06/02/2023	06/05/2023	05/31/2023	05/31/2023
				Depth (ft.)	35-36	66.5-67.5	0.5-1.5	0.5-1.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00493 UJ	< 0.00495 UJ	< 0.0047 UJ	< 0.00468 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.0097 UJ	< 0.00974 U	< 0.00924 UJ	< 0.0092 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0123 UJ	< 0.0124 U	< 0.0118 UJ	< 0.0117 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.00723 UJ	< 0.00726 U	< 0.00688 UJ	< 0.00685 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00756 UJ	< 0.00759 U	< 0.0072 UJ	< 0.00717 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00594 UJ	< 0.00596 U	< 0.00565 UJ	< 0.00563 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00461 UJ	< 0.00462 U	0.141 J	0.139 J
Aroclor 1262	0.1	1	1	mg/kg	< 0.0099 UJ	< 0.00994 U	< 0.00942 UJ	< 0.00939 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.00445 UJ	< 0.00447 U	< 0.00424 J	< 0.00422 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00343 UJ	< 0.00345 U	0.141 J	0.139 J

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-12A	OH-SB-12A	OH-SB-13	OH-SB-13
				Sample ID	OH-SB-12A-1.5-2.5-20230531	OH-SB-12A-5.0-6.0-20230531	OH-SB-13-3.0-4.0-20230516	OH-SB-13-5-6-20230516
				Sample Date	05/31/2023	05/31/2023	05/16/2023	05/16/2023
				Depth (ft.)	1.5-2.5	5-6	3-4	5-6
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.0047 UJ	< 0.00538 UJ	< 0.00492 U	< 0.00809 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.00925 UJ	< 0.0106 UJ	< 0.00967 U	< 0.0159 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0118 UJ	< 0.0135 UJ	< 0.0123 U	< 0.0202 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00689 UJ	< 0.00788 UJ	< 0.0072 U	< 0.0119 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00721 UJ	< 0.00824 UJ	< 0.00753 U	< 0.0124 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00566 UJ	< 0.00647 UJ	< 0.00592 U	< 0.00973 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00439 UJ	< 0.00502 UJ	< 0.00459 U	< 0.00755 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.00944 UJ	< 0.0108 UJ	< 0.00986 U	< 0.0162 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00424 UJ	< 0.00485 UJ	< 0.00443 U	< 0.0073 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00327 UJ	< 0.00374 UJ	< 0.00342 U	< 0.00563 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-13	OH-SB-14	OH-SB-14	OH-SB-15
				Sample ID	OH-SB-13-15-16-20230516	OH-SB-14-1.0-2.0-20230517	OH-SB-14-7.7-8.7-20230517	OH-SB-15-3.5-4.5-20230515
				Sample Date	05/16/2023	05/17/2023	05/17/2023	05/15/2023
				Depth (ft.)	15-16	1-2	7.7-8.7	3.5-4.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00651 UJ	< 0.00513 U	< 0.00765 U	< 0.00542 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0128 UJ	< 0.0101 U	< 0.015 U	< 0.0107 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0163 UJ	< 0.0128 U	< 0.0191 U	< 0.0136 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00954 UJ	< 0.00752 U	< 0.0112 U	< 0.00794 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00998 UJ	< 0.00786 U	< 0.0117 U	< 0.0083 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00784 UJ	< 0.00617 U	< 0.0092 U	< 0.00652 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00608 UJ	< 0.00479 U	< 0.00714 U	< 0.00506 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0131 UJ	< 0.0103 U	< 0.0153 U	< 0.0109 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00588 UJ	< 0.00463 U	< 0.0069 U	< 0.00489 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00453 UJ	< 0.00357 U	< 0.00532 U	< 0.00377 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-15	OH-SB-16	OH-SB-16A	OH-SB-16A
				Sample ID	OH-SB-15-6.0-7.0-20230515	OH-SB-16-3.0-4.0-20230524	OH-SB-16A-1.0-2.0-20230525	OH-SB-16A-9.5-10.5-20230525
				Sample Date	05/15/2023	05/24/2023	05/25/2023	05/25/2023
				Depth (ft.)	6-7	3-4	1-2	9.5-10.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00551 U	< 0.00526 U	< 0.098 U	< 0.00553 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0108 U	< 0.0104 U	< 0.193 U	< 0.0109 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0138 U	< 0.0132 U	< 0.245 U	< 0.0138 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00807 U	< 0.00771 U	< 0.144 U	< 0.0081 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00844 U	< 0.00807 U	< 0.15 U	< 0.00847 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00663 U	< 0.00633 U	< 0.118 U	< 0.00665 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00514 U	< 0.00491 U	***12.9 J***	< 0.00516 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0111 U	< 0.0106 U	< 0.197 U	< 0.0111 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00497 U	< 0.00475 U	< 0.0884 U	< 0.00499 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00384 U	< 0.00366 U	***12.9 J***	< 0.00385 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-16A	OH-SB-17	OH-SB-17	OH-SB-18
				Sample ID	OH-SB-16A-46.0-47.0-20230525	OH-SB-17-1.5-2.5-20230518	OH-SB-17-10.8-11.8-20230518	OH-SB-18-3.5-4.5-20230517
				Sample Date	05/25/2023	05/18/2023	05/18/2023	05/17/2023
				Depth (ft.)	46-47	1.5-2.5	10.8-11.8	3.5-4.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00525 U	< 0.00487 U	< 0.00686 U	< 0.00578 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0103 U	< 0.00958 U	< 0.0135 U	< 0.0114 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0131 U	< 0.0122 U	< 0.0172 U	< 0.0145 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00769 U	< 0.00714 U	< 0.0101 U	< 0.00846 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00804 U	< 0.00747 U	< 0.0105 U	< 0.00885 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00631 U	< 0.00586 U	< 0.00826 U	< 0.00695 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.0049 U	1	< 0.00641 U	< 0.00539 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0105 U	< 0.00978 U	< 0.0138 U	< 0.0116 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00473 U	< 0.0044 U	< 0.00619 U	< 0.00521 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00365 U	1	< 0.00478 U	< 0.00402 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-18	OH-SB-19	OH-SB-19	OH-SB-20
				Sample ID	OH-SB-18-5.0-6.0-20230518	OH-SB-19-3.5-4.5-20230517	OH-SB-19-5.5-6.5-20230517	OH-SB-20-1.0-2.0-20230515
				Sample Date	05/18/2023	05/17/2023	05/17/2023	05/15/2023
				Depth (ft.)	5-6	3.5-4.5	5.5-6.5	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.0626 U	< 0.00546 U	< 0.00609 U	< 0.00482 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.123 U	< 0.0107 U	< 0.012 U	< 0.00948 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.157 U	< 0.0137 U	< 0.0152 U	< 0.0121 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.0917 U	< 0.00801 U	< 0.00892 U	< 0.00706 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.0959 U	< 0.00837 U	< 0.00933 U	< 0.00739 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.0753 U	< 0.00657 U	< 0.00733 U	< 0.0058 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	***5.94***	< 0.0051 U	< 0.00569 U	< 0.0045 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.126 U	< 0.011 U	< 0.0122 U	< 0.00967 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.0565 U	< 0.00493 U	< 0.00549 U	< 0.00435 U
Total PCBs	0.1	**1**	*1*	mg/kg	***5.94***	< 0.0038 U	< 0.00424 U	< 0.00336 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-20	OH-SB-21	OH-SB-21	OH-SB-22
				Sample ID	OH-SB-20-4.0-5.0-20230515	OH-SB-21-0.5-1.5-20230522	OH-SB-21-6.0-7.0-20230523	OH-SB-22-2.0-3.0-20230523
				Sample Date	05/15/2023	05/22/2023	05/23/2023	05/23/2023
				Depth (ft.)	4-5	0.5-1.5	6-7	2-3
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00686 U	< 0.0049 UJ	< 0.00549 U	< 0.0986 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0135 U	< 0.00964 UJ	< 0.0108 U	< 0.194 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0172 U	< 0.0123 UJ	< 0.0137 U	< 0.247 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.01 U	< 0.00718 UJ	< 0.00804 U	< 0.144 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.0105 U	< 0.00751 UJ	< 0.00841 U	< 0.151 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00825 U	0.336	< 0.0066 U	< 0.119 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.0064 U	< 0.00458 UJ	< 0.00512 U	***18.1***
Aroclor 1262	0.1	1	1	mg/kg	< 0.0138 U	< 0.00983 UJ	< 0.011 U	< 0.198 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00618 U	< 0.00442 UJ	< 0.00495 U	< 0.0889 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00477 U	0.336	< 0.00382 U	***18.1***

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-22	OH-SB-22	OH-SB-23	OH-SB-23
				Sample ID	OH-SB-22-6.4-7.4-20230523	OH-SB-22-46.0-47.0-20230524	OH-SB-23-1.0-2.0-20230518	DUP-20230518
				Sample Date	05/23/2023	05/24/2023	05/18/2023	05/18/2023
				Depth (ft.)	6.4-7.4	46-47	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00557 U	< 0.0514 U	< 0.239 U	< 0.0242 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.011 U	< 0.101 U	< 0.47 U	< 0.0475 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0139 U	< 0.129 U	< 0.598 U	< 0.0605 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00816 U	< 0.0753 U	< 0.35 U	< 0.0354 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00853 U	< 0.0788 U	< 0.366 U	< 0.0371 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.0067 U	< 0.0618 U	< 0.288 U	< 0.0291 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.0052 U	***14.3***	***5.85***	***4.45***
Aroclor 1262	0.1	1	1	mg/kg	< 0.0112 U	< 0.103 U	< 0.479 U	< 0.0485 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00502 U	< 0.0464 U	< 0.216 U	< 0.0218 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00388 U	***14.3***	***5.85***	***4.45***

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-23	OH-SB-23	OH-SB-24	OH-SB-24
				Sample ID	OH-SB-23-7.3-8.3-20230518	OH-SB-23-14.8-15.8-20230518	OH-SB-24-2.5-3.5-20230526	OH-SB-24-5.5-6.5-20230526
				Sample Date	05/18/2023	05/18/2023	05/26/2023	05/26/2023
				Depth (ft.)	7.5-8.3	14.8-15.8	2.5-3.5	5.5-6.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00571 U	< 0.00687 U	< 0.00524 U	< 0.00567 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0112 U	< 0.0135 U	< 0.0103 U	< 0.0111 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0143 U	< 0.0172 U	< 0.0131 U	< 0.0142 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00837 U	< 0.0101 U	< 0.00767 U	< 0.0083 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00875 U	< 0.0105 U	< 0.00802 U	< 0.00869 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00687 U	< 0.00827 U	< 0.0063 U	< 0.00682 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00533 U	< 0.00642 U	< 0.00489 U	< 0.00529 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0115 U	< 0.0138 U	< 0.0105 U	< 0.0114 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00515 U	< 0.0062 U	< 0.00472 U	< 0.00511 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00398 U	< 0.00478 U	< 0.00364 U	< 0.00395 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-24	OH-SB-25	OH-SB-25	OH-SB-27
				Sample ID	OH-SB-24-34.5-35.5-20230526	OH-SB-25-1.0-2.0-20230522	OH-SB-25-5.7-6.7-20230522	OH-SB-27-1.0-2.0-20230519
				Sample Date	05/26/2023	05/22/2023	05/22/2023	05/19/2023
				Depth (ft.)	34.5-35.5	1-2	5.7-6.7	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00505 U	< 0.0244 U	< 0.00654 U	< 0.00482 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.00994 U	< 0.048 U	< 0.0129 U	< 0.00947 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0126 U	< 0.0611 U	< 0.0164 U	< 0.0121 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00741 U	< 0.0358 U	< 0.00958 U	< 0.00706 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00775 U	< 0.0374 U	< 0.01 U	< 0.00738 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00608 U	***3.18***	< 0.00787 U	< 0.0058 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00472 U	< 0.0228 U	< 0.00611 U	< 0.0045 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0101 U	< 0.049 U	< 0.0131 U	< 0.00966 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00456 U	< 0.022 U	< 0.0059 U	< 0.00434 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00352 U	***3.18***	< 0.00455 U	< 0.00335 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-27	OH-SB-28	OH-SB-28	OH-SB-29
				Sample ID	OH-SB-27-10.0-11.0-20230519	OH-SB-28-0.5-1.5-20230519	OH-SB-28-15.0-16.0-20230519	OH-SB-29-1.5-2.5-20230518
				Sample Date	05/19/2023	05/19/2023	05/19/2023	05/18/2023
				Depth (ft.)	10-11	0.5-1.5	15-16	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00569 U	< 0.00487 U	< 0.00527 U	< 0.00513 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0112 U	< 0.00957 U	< 0.0104 U	< 0.0101 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0142 U	< 0.0122 U	< 0.0132 U	< 0.0128 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00834 U	< 0.00713 U	< 0.00772 U	< 0.00752 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00873 U	< 0.00746 U	< 0.00807 U	< 0.00787 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00685 U	< 0.00586 U	< 0.00634 U	< 0.00618 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00532 U	< 0.00454 U	< 0.00492 U	< 0.00479 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0114 U	< 0.00977 U	< 0.0106 U	< 0.0103 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00514 U	< 0.00439 U	< 0.00475 U	< 0.00463 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00396 U	< 0.00339 U	< 0.00367 U	< 0.00357 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-29	OH-SB-30	OH-SB-30	OH-SB-31
				Sample ID	OH-SB-29-10-0-11.0-20230519	OH-SB-30-3.0-4.0-20230516	OH-SB-30-6.5-7.5-20230516	OH-SB-31-2.5-3.5-20230522
				Sample Date	05/19/2023	05/16/2023	05/16/2023	05/22/2023
				Depth (ft.)	10-11	4-4	6.5-7.5	2.5-3.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00551 U	< 0.00536 UJ	< 0.00523 U	< 0.00501 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0108 U	< 0.0105 UJ	< 0.0103 U	< 0.00985 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0138 U	< 0.0134 UJ	< 0.0131 U	< 0.0125 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00808 U	< 0.00785 UJ	< 0.00766 U	< 0.00734 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00845 U	< 0.00821 UJ	< 0.00801 U	< 0.00767 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00663 U	< 0.00645 UJ	< 0.00629 U	< 0.00603 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00515 U	< 0.005 UJ	< 0.00488 U	< 0.00467 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0111 U	< 0.0107 UJ	< 0.0105 U	< 0.01 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00497 U	< 0.00483 UJ	< 0.00472 U	< 0.00452 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00384 U	< 0.00373 UJ	< 0.00364 U	< 0.00349 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-31	OH-SB-33	OH-SB-33	OH-SB-34
				Sample ID	OH-SB-31-6.1-7.1-20230522	OH-SB-33-1.0-2.0-20230513	OH-SB-33-3.5-4-202230513	OH-SB-34-1.0-2.0-20230513
				Sample Date	05/22/2023	05/13/2023	05/13/2023	05/13/2023
				Depth (ft.)	6.1-7.1	1-2	3.5-4	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00741 U	< 0.00533 UJ	< 0.00574 UJ	< 0.00549 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.0146 U	< 0.0105 UJ	< 0.0113 UJ	< 0.0108 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0185 U	< 0.0133 UJ	< 0.0144 UJ	< 0.0137 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.0109 U	< 0.00781 UJ	< 0.00842 UJ	< 0.00805 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.0114 U	< 0.00817 UJ	< 0.0088 UJ	< 0.00842 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00892 U	< 0.00641 UJ	< 0.00691 UJ	< 0.00661 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00692 U	< 0.00498 UJ	< 0.00536 UJ	< 0.00513 UJ
Aroclor 1262	0.1	1	1	mg/kg	< 0.0149 U	< 0.0107 UJ	< 0.0115 UJ	< 0.011 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.00668 U	< 0.00481 UJ	< 0.00518 UJ	< 0.00495 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00516 U	< 0.00371 UJ	< 0.004 UJ	< 0.00382 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-34	OH-SB-39	OH-SB-39	OH-SB-40
				Sample ID	OH-SB-34-2.0-3.0-20230513	OH-SB-39_1.0-2.0_20230510	OH-SB-39_2.0-3.0_20230510	OH-SB-40-1.0-2.0_20230509
				Sample Date	05/13/2023	05/10/2023	05/10/2023	05/09/2023
				Depth (ft.)	2-3	1-2	2-3	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00554 UJ	< 0.00502 U	< 0.00504 U	< 0.00493 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0109 UJ	< 0.00988 U	< 0.0099 U	< 0.00969 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0139 UJ	< 0.0126 U	< 0.0126 U	< 0.0123 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00812 UJ	< 0.00736 U	< 0.00738 U	< 0.00722 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.0085 UJ	< 0.0077 U	< 0.00772 U	< 0.00755 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00667 UJ	< 0.00604 U	< 0.00606 U	0.102
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00518 UJ	< 0.00469 U	< 0.0047 U	< 0.0046 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0111 UJ	< 0.0101 U	< 0.0101 U	< 0.00988 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.005 UJ	< 0.00453 U	< 0.00454 U	< 0.00444 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00386 UJ	< 0.0035 U	< 0.00351 U	0.102

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-40	OH-SB-41	OH-SB-41	OH-SB-42
				Sample ID	OH-SB-40-2.0-3.0_20230509	OH-SB-41-1.0-2.0_20230509	OH-SB-41-3.0-4.0_20230509	OH-SB-42-1.0-2.0_20230508
				Sample Date	05/09/2023	05/09/2023	05/09/2023	05/08/2023
				Depth (ft.)	2-3	1-2	3-4	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00526 U	< 0.00491 U	< 0.00554 UJ	< 0.00491 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0103 U	< 0.00966 U	< 0.0109 UJ	< 0.00965 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0132 U	< 0.0123 U	< 0.0139 UJ	< 0.0123 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00771 U	< 0.0072 U	< 0.00812 UJ	< 0.00719 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00806 U	< 0.00753 U	< 0.00849 UJ	< 0.00752 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00633 U	< 0.00591 U	< 0.00667 UJ	< 0.0059 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00491 U	< 0.00459 U	< 0.00517 UJ	< 0.00458 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0106 U	< 0.00986 U	< 0.0111 UJ	< 0.00984 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00474 U	< 0.00443 U	< 0.005 UJ	< 0.00443 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00366 U	< 0.00342 U	< 0.00386 UJ	< 0.00342 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-42	OH-SB-45	OH-SB-45	OH-SB-46
				Sample ID	OH-SB-42-3.0-4.0_20230508	OH-SB-45-1.0-2.0-20230511	OH-SB-45-4.0-5.0-20230511	OH-SB_46_1.0-2.0_20230512
				Sample Date	05/08/2023	05/11/2023	05/11/2023	05/12/2023
				Depth (ft.)	3-4	1-2	4-5	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00495 U	< 0.00507 U	< 0.00522 U	< 0.00560 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.00972 U	< 0.00998 U	< 0.0103 U	< 0.0110 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0124 U	< 0.0127 U	< 0.0131 U	< 0.0140 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00725 U	< 0.00743 U	< 0.00764 U	< 0.00820 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00758 U	< 0.00777 U	< 0.008 U	< 0.00858 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00595 U	< 0.0061 U	< 0.00628 U	< 0.00673 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00462 U	< 0.00474 U	< 0.00487 U	< 0.00522 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.00992 U	< 0.0102 U	< 0.0105 U	< 0.0112 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00446 U	< 0.00458 U	< 0.00471 U	< 0.00505 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00344 U	< 0.00353 U	< 0.00363 U	< 0.00390 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-46	OH-SB-50	OH-SB-51	OH-SB-52
				Sample ID	OH-SB_46_3.0-4.0_20230512	OH-SB-50-1.0-2.0-05012023	OH-SB-51_1.0-2.0_20230503	OH-SB-52-1.0-2.0-20230502
				Sample Date	05/12/2023	05/01/2023	05/03/2023	05/02/2023
				Depth (ft.)	3-4	1-2	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00540 U	< 0.00491 U	< 0.00486 UJ	< 0.00492 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0106 U	< 0.00966 U	< 0.00956 UJ	< 0.00967 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0135 U	< 0.0123 U	< 0.0122 UJ	< 0.0123 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00791 U	< 0.0072 U	< 0.00712 UJ	< 0.0072 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00827 U	***1.85 J***	< 0.00745 UJ	< 0.00753 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00649 U	< 0.00591 U	< 0.00585 UJ	< 0.00592 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00504 U	< 0.00458 U	< 0.00454 UJ	< 0.00459 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0108 U	< 0.00985 U	< 0.00975 UJ	< 0.00986 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00487 U	< 0.00443 U	< 0.00438 UJ	< 0.00443 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00376 U	***1.85 J***	< 0.00338 UJ	< 0.00342 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-53	OH-SB-53	OH-SB-56	OH-SB-56
				Sample ID	OH-SB-53_1.0-2.0-20230504	OH-SB-53_3.0-4.0-20230504	OH-SB-56-1.0-2.0-20230504	OH-SB-56-3.0-4.0-20230504
				Sample Date	05/04/2023	05/04/2023	05/04/2023	05/04/2023
				Depth (ft.)	1-2	3-4	1-2	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.0051 U	< 0.00485 U	< 0.00502 UJ	< 0.005 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.01 U	< 0.00955 U	< 0.00987 UJ	< 0.00983 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0128 U	< 0.0121 U	< 0.0126 UJ	< 0.0125 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.00747 U	< 0.00711 U	< 0.00735 UJ	< 0.00732 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00782 U	< 0.00744 U	< 0.00769 UJ	< 0.00766 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00614 U	< 0.00584 U	< 0.00604 UJ	< 0.00601 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00476 U	< 0.00453 U	< 0.00469 UJ	< 0.00466 UJ
Aroclor 1262	0.1	1	1	mg/kg	< 0.0102 U	< 0.00974 U	< 0.0101 UJ	< 0.01 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.0046 U	< 0.00438 U	< 0.00453 UJ	< 0.00451 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00355 U	< 0.00338 U	< 0.00349 UJ	< 0.00348 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-58	OH-SB-58	OH-SB-60	OH-SB-61
				Sample ID	OH-SB-58_2.0-3.0-20230504	OH-SB-58_3.0-4.0-20230504	OH-SB-60-1.0-2.0_20230503	OH-SB-61-1.0-2.0-20230613
				Sample Date	05/04/2023	05/04/2023	05/03/2023	06/13/2023
				Depth (ft.)	2-3	3-4	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00498 U	< 0.00509 UJ	< 0.00545 UJ	< 0.00529 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.0098 U	< 0.01 UJ	< 0.0107 UJ	< 0.0104 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.0125 U	< 0.0127 UJ	< 0.0136 UJ	< 0.0132 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.0073 U	< 0.00745 UJ	< 0.00799 UJ	< 0.00775 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.00764 U	< 0.0078 UJ	< 0.00836 UJ	< 0.0081 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.006 U	< 0.00612 UJ	< 0.00656 UJ	< 0.00636 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00465 U	< 0.00475 UJ	< 0.00509 UJ	< 0.00494 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.01 U	< 0.0102 UJ	< 0.0109 UJ	< 0.0106 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00449 U	< 0.00459 UJ	< 0.00492 UJ	< 0.00477 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00347 U	< 0.00354 UJ	< 0.0038 UJ	< 0.00368 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-61	OH-SB-62	OH-SB-62	OH-SB-66
				Sample ID	OH-SB-61-9.0-10.0-20230613	OH-SB-62-1.0-2.0-20230612	OH-SB-62-9.0-10.0-20230612	OH-SB-66-1.0-2.0-20230515
				Sample Date	06/13/2023	06/12/2023	06/12/2023	05/15/2023
				Depth (ft.)	9-10	1-2	9-10	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units				
Aroclor 1016	0.1	1	1	mg/kg	< 0.00725 UJ	< 0.0049 U	< 0.00552 U	< 0.00466 UJ
Aroclor 1221	0.1	1	1	mg/kg	< 0.0142 U	< 0.00964 U	< 0.0108 U	< 0.00917 UJ
Aroclor 1232	0.1	1	1	mg/kg	< 0.0181 U	< 0.0123 U	< 0.0138 U	< 0.0117 UJ
Aroclor 1242	0.1	1	1	mg/kg	< 0.0106 U	< 0.00718 U	< 0.00808 U	< 0.00683 UJ
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.0111 U	< 0.00751 U	< 0.00845 U	< 0.00714 UJ
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00872 U	< 0.0059 U	< 0.00664 U	< 0.00561 UJ
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00676 U	< 0.00458 U	< 0.00515 U	0.288 J
Aroclor 1262	0.1	1	1	mg/kg	< 0.0145 U	< 0.00984 U	< 0.0111 U	< 0.00935 UJ
Aroclor 1268	0.1	1	1	mg/kg	< 0.00653 U	< 0.00442 U	< 0.00497 U	< 0.0042 UJ
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00504 U	< 0.00341 U	< 0.00384 U	0.288 J

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4C
SOIL QUALITY DATA - PCBs
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-66
				Sample ID	OH-SB-66-6.0-7.0-20230515
				Sample Date	05/15/2023
				Depth (ft.)	6-7
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units	
Aroclor 1016	0.1	1	1	mg/kg	< 0.00561 U
Aroclor 1221	0.1	1	1	mg/kg	< 0.011 U
Aroclor 1232	0.1	1	1	mg/kg	< 0.014 U
Aroclor 1242	0.1	1	1	mg/kg	< 0.00822 U
Aroclor 1248	0.1	**1**	*1*	mg/kg	< 0.0086 U
Aroclor 1254	0.1	**1**	*1*	mg/kg	< 0.00675 U
Aroclor 1260	0.1	**1**	*1*	mg/kg	< 0.00524 U
Aroclor 1262	0.1	1	1	mg/kg	< 0.0113 U
Aroclor 1268	0.1	1	1	mg/kg	< 0.00506 U
Total PCBs	0.1	**1**	*1*	mg/kg	< 0.00391 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg = milligram per kilogram
ft = feet
J = The result is qualified as an estimated concentration or amount.
U = The result is not detected above the associated detection limit.
UJ = The result is not detected. The detection limit is estimated.

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04	MW-04	MW-04	MW-04	MW-04	MW-05	MW-05
				Sample ID	MW-04-1.5-2.5-20230607	DUP-20230607	MW-04-1.5-2.5-20230607MS	MW-04-1.5-2.5-20230607MSD	MW-04-5.5-6.5-20230607	MW-04-41.5-42.5-20230607	MW-04-67.0-68.0-20230609	MW-05-1.0-2.0-20230605	MW-05-5.0-6.0-20230605
				Sample Date	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/09/2023	06/05/2023	06/05/2023
				Depth (ft.)	1.5-2.5	1.5-2.5	1.5-2.5	1.5-2.5	5.5-6.5	41.5-42.5	67-68	1-2	5-6
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units									
Cyanide, Free				mg/kg	< 1.2 U	< 1.2 U	< 1.2 U	< 1.1 U	< 1.6 U	< 1.2 U	< 1.2 U	< 1.1 U	< 1.2 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	0.678 J	0.201 J	**1.81**	0.479	**1.5**	< 0.00604 U	0.0433	0.144	**1.28**
Percent Solids				percent	86.3	88.7	87.8	87.1	76.1	82.8	87.1	89.9	78.6
Aluminum				mg/kg	7780	5320	7930	6610	5990	5990	3830	8450 J	8280 J
Antimony				mg/kg	1.84	1.6	2.05	1.78	3.22	< 0.161 U	< 0.158 U	5.64 UJ	28.8 J
Arsenic	13	**16**	*16*	mg/kg	6.07	4.94	5.52	5.99	7.11	2.62	1.95	5.16	14.2
Barium	350	**400**	*400*	mg/kg	196	139	124	154	107	54	37.3	95.3 J	277 J
Beryllium	7.2	72	590	mg/kg	1.84	1.3	1.63	1.6	0.867	0.928	0.225	0.434 J	0.412 J
Cadmium	2.5	**4.3**	*9.3*	mg/kg	< 0.0538 U	< 0.0523 U	< 0.0558 U	< 0.0536 U	< 0.061 U	< 0.0577 U	< 0.0565 U	0.724 J	0.967 J
Calcium				mg/kg	21900	21900	20000	18400	64000	16300	7720	106000 J	15100 J
Chromium			400	mg/kg	19.8	13.3	16.8	16.9	16	12.8	8.53	29 J	52.7 J
Cobalt				mg/kg	7.04	5.07	7.53	6.51	4.29	3.96	2.87	5.91 J	9.3 J
Copper	50	**270**	*270*	mg/kg	111	78.1	118	108	54.1	20.4	9.80	***940 J***	***3340 J***
Iron				mg/kg	17600	13300	18800	16500	12200	11200	9450	23900 J	71800 J
Lead	63	**400**	*1000*	mg/kg	90.7	70.6	76.8	86.3	155	32.6	5.43	**483 J**	***4020 J***
Magnesium				mg/kg	3350	8000	3410	2990	1830	4960	2800	25200 J	4230 J
Manganese	1600	2000	10000	mg/kg	184	126	177	138	114	219	194	242 J	329 J
Nickel	30	**310**	*310*	mg/kg	21.3	15.9	19.2	20.2	13.1	12	6.52	34.1 J	25.2 J
Potassium				mg/kg	1750	1350	2050	1670	1460	1700	856	694	1940
Selenium	3.9	180	1500	mg/kg	1.56	< 0.258 U	< 0.275 U	< 0.264 U	3.5	< 0.284 U	< 0.278 U	< 0.273 U	< 0.3 U
Silver	2	180	1500	mg/kg	< 0.0469 U	< 0.0456 U	< 0.0487 U	< 0.0467 U	< 0.0532 U	< 0.0503 U	< 0.0493 U	0.478	1.02
Sodium				mg/kg	715	589	765	631	2780	667	303	1370 J	3860 J
Thallium				mg/kg	< 0.0929 U	< 0.0903 U	< 0.0963 U	< 0.0924 U	< 0.105 U	< 0.0995 U	< 0.0976 U	< 0.0955 U	< 0.105 UJ
Vanadium				mg/kg	38.6	27.9	41.2	37.9	20.6	16.6	17.5	32.9 J	22.7 J
Zinc	109	10000	10000	mg/kg	136	93.9	109	119	239	62.1	20.4	173 J	1190 J
Cyanide	27	27	27	mg/kg	0.184	0.0615	0.161	0.252	3.78	< 0.00782 U	0.276	< 0.00721 U	< 0.00857 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-05	MW-05	MW-06	MW-06	MW-06	MW-07	MW-07	MW-07	MW-07
				Sample ID	MW-05-32.5-33.5-20230606	MW-05-66.0-67.0-20230606	MW-06-5.0-6.0-20230601	MW-06-41.0-42.0-20230601	MW-06-66.0-67.0-20230601	MW-07-1.0-2.0-20230602	MW-07-6.6-7.6-20230602	MW-07-35.0-36.0-20230602	MW-07-66.5-67.5-20230605
				Sample Date	06/06/2023	06/06/2023	06/01/2023	06/01/2023	06/01/2023	06/02/2023	06/02/2023	06/02/2023	06/05/2023
				Depth (ft.)	32.5-33.5	66-67	5-6	41-42	66-67	1-2	6.6-7.6	35-36	66.5-67.5
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units									
Cyanide, Free				mg/kg	< 1.2 U	< 1.2 U	< 1.5 U	< 1.1 U	< 1.2 U	< 1.2 U	< 1.4 U	< 1.1 U	< 1.2 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	0.0294	0.0329	0.675	0.0691	0.0316	**1.11**	0.295	0.0348	< 0.00559 U
Percent Solids				percent	91.1	86	80	91.8	83.7	86.4	84.6	89.7	89.4
Aluminum				mg/kg	3400	3830	5940	3900	6630	9810	5990	5360	6930 J
Antimony				mg/kg	< 0.151 U	< 0.158 U	< 0.172 U	< 0.145 U	< 0.164 U	< 0.16 U	< 0.161 U	< 0.153 U	< 0.153 UJ
Arsenic	13	**16**	*16*	mg/kg	2	3.6	6.17	1.64	< 0.108 U	***29.4***	12.5	6.2	< 0.1 U
Barium	350	**400**	*400*	mg/kg	22.8	14.3	34.2	46.8	74.3	146	73.2	37.1	64.4 J
Beryllium	7.2	72	590	mg/kg	0.301	0.314	0.47	0.318	0.474	0.524	0.455	0.404	0.564 J
Cadmium	2.5	**4.3**	*9.3*	mg/kg	< 0.0541 U	< 0.0567 U	0.363	< 0.0518 U	< 0.0589 U	2.32	0.612	< 0.0546 U	< 0.0548 U
Calcium				mg/kg	830	1080	61900	10000	13900	62300	14700	12800	11700 J
Chromium			400	mg/kg	8.43	8.66	19.3	7.95	12.3	58.2	24.2	13.8	13.7 J
Cobalt				mg/kg	3.85	3.78	3.54	2.6	4.56	10.6	5.47	4.34	4.39 J
Copper	50	**270**	*270*	mg/kg	7.87	6.77	35	9.54	12.5	***544***	168	41.7	13 J
Iron				mg/kg	7650	7730	14300	6750	11700	54700	19500	11500	12100 J
Lead	63	**400**	*1000*	mg/kg	3.7	5.57	114	17	6.64	325	155	50.5	5.06 J
Magnesium				mg/kg	2080	2850	3380	2910	6150	17900	5700	2870	6990 J
Manganese	1600	2000	10000	mg/kg	59.8	65.1	129	167	289	409	203	137	270 J
Nickel	30	**310**	*310*	mg/kg	13.8	15.8	11.5	7.82	15.2	194	61.8	20.6	19.4 J
Potassium				mg/kg	770	832	1970	1060	1690	508	761	953	1560
Selenium	3.9	180	1500	mg/kg	< 0.266 U	< 0.279 U	< 0.303 U	< 0.255 U	< 0.29 U	< 0.282 U	< 0.284 U	< 0.269 U	< 0.27 U
Silver	2	180	1500	mg/kg	< 0.0472 U	< 0.0494 U	< 0.0537 UJ	< 0.0452 UJ	< 0.0513 UJ	0.513 J	0.193 J	< 0.0476 UJ	< 0.0478 U
Sodium				mg/kg	340	468	1040	558	1040	1110	1160	716	1020 J
Thallium				mg/kg	< 0.0933 U	< 0.0978 U	< 0.106 U	< 0.0894 U	< 0.102 U	< 0.0989 U	< 0.0995 U	< 0.0942 U	< 0.0946 UJ
Vanadium				mg/kg	13.9	11.9	25.1	10.9	16.2	1010	225	50.7	21.7 J
Zinc	109	10000	10000	mg/kg	18.8	19.1	70.1	18.1	23.4	464	117	41.2	26.4 J
Cyanide	27	27	27	mg/kg	< 0.00769 U	< 0.00831 U	< 0.0081 U	< 0.00748 U	< 0.00855 U	< 0.00673 U	< 0.00863 U	< 0.00832 U	< 0.00739 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-12	OH-SB-12	OH-SB-12A	OH-SB-12A	OH-SB-13	OH-SB-13	OH-SB-13	OH-SB-14	OH-SB-14
				Sample ID	OH-SB-12-0.5-1.5-20230531	DUP-20230531	OH-SB-12A-1.5-2.5-20230531	OH-SB-12A-5.0-6.0-20230531	OH-SB-13-3.0-4.0-20230516	OH-SB-13-5-6-20230516	OH-SB-13-15-16-20230516	OH-SB-14-1.0-2.0-20230517	OH-SB-14-7.7-8.7-20230517
				Sample Date	05/31/2023	05/31/2023	05/31/2023	05/31/2023	05/16/2023	05/16/2023	05/16/2023	05/17/2023	05/17/2023
				Depth (ft.)	0.5-1.5	0.5-1.5	1.5-2.5	5-6	3-4	5-6	15-16	1-2	7.7-8.7
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units									
Cyanide, Free				mg/kg	< 1.1 U	< 1.0 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1.3 U	< 1.6 U	< 1.2 U	< 1.9 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	0.0753	0.141	0.272	0.391	0.185 J	***2.84 J***	**2.79 J**	0.584	0.157
Percent Solids				percent	94.2	94.6	94.1	82.3	90	54.7	67.9	86.3	57.9
Aluminum				mg/kg	2700	2950	5800	5690	8980 J	6220 J	18600 J	7570	18000
Antimony				mg/kg	< 0.146 U	< 0.143 U	< 0.148 U	2.97	< 0.155 UJ	< 0.253 UJ	< 0.196 UJ	26.1	< 0.239 U
Arsenic	13	**16**	*16*	mg/kg	3.52	2.27	6.32	6.3	2.67	4.7	7.33	4.11	9.35
Barium	350	**400**	*400*	mg/kg	24.6	21.8	87	34.6	75.5 J	118 J	64.5 J	125	182
Beryllium	7.2	72	590	mg/kg	0.211	0.211	0.393	0.415	1.56 J	1.11 J	1.81 J	1.41	1.96
Cadmium	2.5	**4.3**	*9.3*	mg/kg	< 0.0522 U	< 0.0513 U	0.937	0.358	0.456	< 0.0904 U	< 0.07 U	***26.4***	< 0.0855 U
Calcium				mg/kg	79900	68100	89100	254000	68500 J	29200 J	6430 J	70700	2330
Chromium			400	mg/kg	19.5 J	12.9 J	26	10.8	15.9	19.9	28.7	29.9	33.9
Cobalt				mg/kg	3.86	3.39	4.88	2.53	4.81 J	4.23 J	7.86 J	6.06	7.37
Copper	50	**270**	*270*	mg/kg	140 J	63.1 J	181	168	81.4	30.4	21	165	28.7
Iron				mg/kg	40500 J	18000 J	50400	9310	17500 J	11800 J	31700 J	20100	28800
Lead	63	**400**	*1000*	mg/kg	26	25.7	208	227	92.4 J	**430 J**	61.1 J	***2160***	81.8
Magnesium				mg/kg	40100 J	19000 J	17200	2790	21000 J	3080 J	7140 J	18400	6040
Manganese	1600	2000	10000	mg/kg	240	189	305	113	200	154	269	178	235
Nickel	30	**310**	*310*	mg/kg	31.6 J	13.7 J	27.5	7.97	13.9 J	11.1 J	22.9 J	67.4	24.3
Potassium				mg/kg	< 31.9 U	< 31.3 U	335	1750	1800 J	2110 J	4390 J	1770	4390
Selenium	3.9	180	1500	mg/kg	< 0.257 U	< 0.252 U	< 0.262 U	1.6	< 0.273 UJ	< 0.445 UJ	< 0.345 UJ	< 0.284 U	< 0.421 U
Silver	2	180	1500	mg/kg	< 0.0456 U	< 0.0447 U	0.19	0.306	< 0.0484 UR	< 0.0789 UR	< 0.0611 UR	0.444	1.17
Sodium				mg/kg	103	202	646	585	886	1720	2680	626	1680
Thallium				mg/kg	< 0.0902 U	< 0.0885 U	< 0.0917 U	< 0.105 U	< 0.0958 U	< 0.156 U	< 0.121 U	< 0.0995 U	< 0.148 U
Vanadium				mg/kg	29.2	33.4	89.1	15.9	62.9 J	15.1 J	38.4 J	72.5	40.2
Zinc	109	10000	10000	mg/kg	24.3	25.9	233	184	86.3	62.2	76.1	266	67.1
Cyanide	27	27	27	mg/kg	< 0.00714 U	< 0.00698 U	0.0601	0.395	2.24	3.08	< 0.00918 U	0.873	0.419

Notes:
Concentrations above NYSPART375UU are shaded gray
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Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-15	OH-SB-15	OH-SB-16	OH-SB-16A	OH-SB-16A	OH-SB-16A	OH-SB-17	OH-SB-17
				Sample ID	OH-SB-15-3.5-4.5-20230515	OH-SB-15-6.0-7.0-20230515	OH-SB-16-3.0-4.0-20230524	OH-SB-16A-1.0-2.0-20230525	OH-SB-16A-9.5-10.5-20230525	OH-SB-16A-46.0-47.0-20230525	OH-SB-17-1.5-2.5-20230518	OH-SB-17-10.8-11.8-20230518
				Sample Date	05/15/2023	05/15/2023	05/24/2023	05/25/2023	05/25/2023	05/25/2023	05/18/2023	05/18/2023
				Depth (ft.)	3.5-4.5	6-7	3-4	1-2	9.5-10.5	46-47	1.5-2.5	10.8-11.8
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.2 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.2 U	< 1.2 U	< 1.1 U	< 1.6 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	0.0963	0.364	< 0.00595 UJ	**1.77**	0.0819	< 0.00593 U	0.323	**2.48**
Percent Solids				percent	81.7	80.3	84.1	90.3	80	84.4	90.8	64.5
Aluminum				mg/kg	8260	2470	5420	6360	1280	5280	4460	10300
Antimony				mg/kg	< 0.168 U	1.6	< 0.158 U	5.94	< 0.173 U	< 0.16 U	2.78	< 0.205 U
Arsenic	13	**16**	*16*	mg/kg	10.4	3.28	3	7.79	2.08	< 0.105 U	8.08	12.6
Barium	350	**400**	*400*	mg/kg	71.7	147	77.9	112	8.7	31.3	179	149
Beryllium	7.2	72	590	mg/kg	1.59	0.819	0.381	0.524	0.0967	0.393	0.31	0.768
Cadmium	2.5	**4.3**	*9.3*	mg/kg	< 0.0603 U	< 0.0616 U	< 0.0565 U	2.66	< 0.0618 U	< 0.0572 U	0.79	1.33
Calcium				mg/kg	48700	13500	8340	164000	394000	8710	32700	84400
Chromium			400	mg/kg	14.4	29.4	9.05	28.5	3.13	9.12	7.31	24.3
Cobalt				mg/kg	8.01	3.89	4.12	6.45	0.824	3.34	3.19	6.36
Copper	50	**270**	*270*	mg/kg	120	26.3	8.47	***650***	6.4	8.65	59.6	163
Iron				mg/kg	62400	6730	8530	49200	3520	8600	15800	22200
Lead	63	**400**	*1000*	mg/kg	64.2	**522**	3.14	251	8.66	2.66	133	299
Magnesium				mg/kg	2680	402	4440	8750	1480	3940	3690	15900
Manganese	1600	2000	10000	mg/kg	215	70.2	226	321	206	236	942	290
Nickel	30	**310**	*310*	mg/kg	128	100	10.8	95.1	4.03	10.3	7.37	34
Potassium				mg/kg	1140	451	1900	1030	786	1450	1210	1120
Selenium	3.9	180	1500	mg/kg	< 0.297 U	< 0.303 U	< 0.278 U	< 0.258 U	< 0.304 U	< 0.282 U	< 0.255 U	< 0.361 U
Silver	2	180	1500	mg/kg	< 0.0526 UR	< 0.0537 UR	< 0.0493 UJ	0.451 J	< 0.0539 UJ	< 0.0499 UJ	0.693	0.422
Sodium				mg/kg	1810	854	996	1630	1830	752	2180	1340
Thallium				mg/kg	< 0.104 U	< 0.106 U	< 0.0976 U	< 0.0904 U	< 0.107 U	< 0.0987 U	< 0.0895 U	< 0.127 U
Vanadium				mg/kg	31.5	12	13.6	103	6.18	13.6	10.6	49.3
Zinc	109	10000	10000	mg/kg	65.8	72	16.1	1030	16.6	14.5	359	323
Cyanide	27	27	27	mg/kg	< 0.00875 U	< 0.00909 U	< 0.00907 U	< 0.00808 U	< 0.00857 U	< 0.0399 U	0.0762	0.333

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-18	OH-SB-18	OH-SB-19	OH-SB-19	OH-SB-20	OH-SB-20	OH-SB-21	OH-SB-21
				Sample ID	OH-SB-18-3.5-4.5-20230517	OH-SB-18-5.0-6.0-20230518	OH-SB-19-3.5-4.5-20230517	OH-SB-19-5.5-6.5-20230517	OH-SB-20-1.0-2.0-20230515	OH-SB-20-4.0-5.0-20230515	OH-SB-21-0.5-1.5-20230522	OH-SB-21-6.0-7.0-20230523
				Sample Date	05/17/2023	05/18/2023	05/17/2023	05/17/2023	05/15/2023	05/15/2023	05/22/2023	05/23/2023
				Depth (ft.)	3.5-4.5	5-6	3.5-4.5	5.5-6.5	1-2	4-5	0.5-1.5	6-7
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.5 U	< 1.4 U	< 1.4 U	< 1.4 U	< 1.1 U	< 1.6 U	< 1.1 U	< 1.2 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	***6.71***	0.579	0.0979	0.301	0.0578	0.15	0.118	***5.98***
Percent Solids				percent	76.6	70.7	81	72.7	91.8	64.6	90.3	80.6
Aluminum				mg/kg	4210	3540	12200	19100	8890	6260	5730	3100
Antimony				mg/kg	7.17	< 0.192 U	1.74	2.68	< 0.151 U	< 0.208 U	40.2	< 0.168 U
Arsenic	13	**16**	*16*	mg/kg	7.49	8.89	3.87	6.1	< 0.0986 U	4.69	***16.9***	3.2
Barium	350	**400**	*400*	mg/kg	107	95.2	69.4	88	45.4	46.3	133	12.1
Beryllium	7.2	72	590	mg/kg	1.14	0.318	1.55	3.05	1.39	1.01	0.28	0.198
Cadmium	2.5	**4.3**	*9.3*	mg/kg	1.02	< 0.0686 U	**5.02**	***18.1***	2.72	0.759	1.29	< 0.0601 U
Calcium				mg/kg	8990	16000	127000	16200	77500	145000	69300	220000
Chromium			400	mg/kg	27	9.6	17.9	28.2	14	12.4	58.9	21.3
Cobalt				mg/kg	6.79	3.87	6.02	10.1	3.48	3.1	5.19	1.38
Copper	50	**270**	*270*	mg/kg	125	37.6	99.8	67.4	***4890***	***1290***	232	23.1
Iron				mg/kg	14100	11600	13400	24200	10400	12700	20000	5460
Lead	63	**400**	*1000*	mg/kg	**491**	130	52.1	258	33.6	91.6	***2350***	27.4
Magnesium				mg/kg	2480	2040	7500	6760	11300	4520	7210	1520
Manganese	1600	2000	10000	mg/kg	122	336	157	287	184	222	223	137
Nickel	30	**310**	*310*	mg/kg	23.7	9.15	***526***	***425***	32.1	11.8	28.4	5
Potassium				mg/kg	816	629	1610	6090	1460	1410	893	930
Selenium	3.9	180	1500	mg/kg	< 0.32 U	< 0.338 U	< 0.284 U	< 0.337 U	< 0.265 U	< 0.366 U	1.55	< 0.296 U
Silver	2	180	1500	mg/kg	< 0.0566 U	< 0.0598 U	< 0.0502 U	< 0.0597 U	< 0.047 UR	< 0.0649 UR	0.264 J	< 0.0525 UJ
Sodium				mg/kg	3540	1500	1040	1120	2230	3180	3460	2180
Thallium				mg/kg	< 0.112 U	< 0.118 U	< 0.0994 U	< 0.118 U	< 0.093 U	< 0.128 U	< 0.09 U	< 0.104 U
Vanadium				mg/kg	19.9	15.3	37.2	34.1	34	19.6	19.9	9.59
Zinc	109	10000	10000	mg/kg	177	70	165	2880	71	36.8	1210	25.7
Cyanide	27	27	27	mg/kg	7.02	0.191	0.148	< 0.00891 U	< 0.00733 U	< 0.0106 U	< 0.00809 U	0.253

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
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TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-22	OH-SB-22	OH-SB-22	OH-SB-23	OH-SB-23	OH-SB-23	OH-SB-23	OH-SB-24	OH-SB-24
				Sample ID	OH-SB-22-2.0-3.0-20230523	OH-SB-22-6.4-7.4-20230523	OH-SB-22-46.0-47.0-20230524	OH-SB-23-1.0-2.0-20230518	DUP-20230518	OH-SB-23-7.3-8.3-20230518	OH-SB-23-14.8-15.8-20230518	OH-SB-24-2.5-3.5-20230526	OH-SB-24-5.5-6.5-20230526
				Sample Date	05/23/2023	05/23/2023	05/24/2023	05/18/2023	05/18/2023	05/18/2023	05/18/2023	05/26/2023	05/26/2023
				Depth (ft.)	2-3	6.4-7.4	46-47	1-2	1-2	7.5-8.3	14.8-15.8	2.5-3.5	5.5-6.5
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units									
Cyanide, Free				mg/kg	< 1.4 U	< 1.2 U	< 1.2 U	< 1.1 U	< 1.1 U	< 1.6 U	< 1.6 U	< 1.2 U	< 1.3 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	***4.88***	0.602	0.038 J	0.484	0.795	0.346	***4.59***	**2.74**	< 0.0064 U
Percent Solids				percent	89.8	79.5	86.1	92.6	91.5	77.5	64.4	84.5	78.1
Aluminum				mg/kg	11100	5840	9810	13500	12700	5360	19800	6910	2780
Antimony				mg/kg	1.67	< 0.169 U	< 0.156 U	< 0.141 U	1.4	< 0.169 U	< 0.218 U	< 0.16 U	< 0.166 U
Arsenic	13	**16**	*16*	mg/kg	12.2	8.09	14.4	5.45	6.59	6.5	11.4	5.39	3.28
Barium	350	**400**	*400*	mg/kg	201	20.7	101	103	117	90.9	148	72.2	97.4
Beryllium	7.2	72	590	mg/kg	0.645	0.42	0.523	0.676	0.626	0.46	1.12	0.531	0.228
Cadmium	2.5	**4.3**	*9.3*	mg/kg	2.23	< 0.0604 U	0.601	1.06	1.68	< 0.0605 U	< 0.078 U	< 0.0571 U	< 0.0594 U
Calcium				mg/kg	44800	43900	7960	19000	22200	5230	4470	24400	25100
Chromium			400	mg/kg	79.6	16	18.9	34.1	38.5	7.23	35.3	36.6	7.38
Cobalt				mg/kg	12.1	3.78	4.46	6.9	8.58	6.83	10.1	6.68	2.95
Copper	50	**270**	*270*	mg/kg	***467***	22.8	69.5	150	208	76.9	61.2	46.8	2.96
Iron				mg/kg	84900	16400	34300	30000	29800	17100	33900	14100	7500
Lead	63	**400**	*1000*	mg/kg	**620**	67.4	131	275	387	192	304	142	7.71
Magnesium				mg/kg	14700	2670	2740	7980	9300	583	7390	2650	3590
Manganese	1600	2000	10000	mg/kg	1170	61.6	246	278	292	105	294	109	193
Nickel	30	**310**	*310*	mg/kg	177	9.02	16.3	81.1	127	15	32.7	22.5	5.67
Potassium				mg/kg	791	2220	1370	1690	1290	412	3980	1340	452
Selenium	3.9	180	1500	mg/kg	< 0.255 U	< 0.298 U	< 0.275 U	< 0.248 U	< 0.268 U	< 0.298 U	< 0.384 U	< 0.281 U	< 0.293 U
Silver	2	180	1500	mg/kg	0.353 J	< 0.0527 UJ	< 0.0486 UJ	2.82	0.315	< 0.0528 U	0.612	< 0.0498 U	< 0.0519 U
Sodium				mg/kg	1570	2360	1690	949	980	1510	3220	531	978
Thallium				mg/kg	< 0.0892 U	< 0.104 U	< 0.0962 U	< 0.0869 U	< 0.0938 U	< 0.104 U	< 0.135 U	< 0.0985 U	< 0.103 U
Vanadium				mg/kg	963	19.6	30	566	641	14.9	39.8	24.2	15.9
Zinc	109	10000	10000	mg/kg	777	47.1	171	215	365	77.9	161	122	22
Cyanide	27	27	27	mg/kg	0.0655	< 0.00939 U	< 0.00781 U	0.276	1.13	0.38	0.543	0.221	< 0.00955 U

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
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U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-24	OH-SB-25	OH-SB-25	OH-SB-27	OH-SB-27	OH-SB-28	OH-SB-28	OH-SB-29
				Sample ID	OH-SB-24-34.5-35.5-20230526	OH-SB-25-1.0-2.0-20230522	OH-SB-25-5.7-6.7-20230522	OH-SB-27-1.0-2.0-20230519	OH-SB-27-10.0-11.0-20230519	OH-SB-28-0.5-1.5-20230519	OH-SB-28-15.0-16.0-20230519	OH-SB-29-1.5-2.5-20230518
				Sample Date	05/26/2023	05/22/2023	05/22/2023	05/19/2023	05/19/2023	05/19/2023	05/19/2023	05/18/2023
				Depth (ft.)	34.5-35.5	1-2	5.7-6.7	1-2	10-11	0.5-1.5	15-16	1.5-2.5
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.1 U	< 1.1 U	< 1.6 U	< 1.1 U	< 1.3 U	< 1.1 U	< 1.2 U	< 1.2 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	< 0.00571 U	**0.893**	0.342	**1.11**	0.274	**1.22**	0.0823	**1.78**
Percent Solids				percent	87.6	90.7	67.7	91.9	77.7	90.9	84	86.2
Aluminum				mg/kg	4370	9040	12900	7220	6130	80100	6650	4570
Antimony				mg/kg	< 0.149 U	< 0.149 U	< 0.192 U	< 0.147 U	< 0.174 U	< 0.149 U	< 0.161 U	< 0.151 U
Arsenic	13	**16**	*16*	mg/kg	< 0.0975 U	8.42	4.83	***17.2***	14.9	5.44	4.14	3
Barium	350	**400**	*400*	mg/kg	33.9	347	43.8	96.5	23	73.9	65.6	113
Beryllium	7.2	72	590	mg/kg	0.314	0.528	0.412	0.425	0.433	0.282	0.589	0.353
Cadmium	2.5	**4.3**	*9.3*	mg/kg	< 0.0533 U	2.88	< 0.0686 U	2.75	< 0.0624 U	2.25	< 0.0577 U	< 0.0541 U
Calcium				mg/kg	2630	92400	53200	60300	2460	19200	16600	141000
Chromium			400	mg/kg	11.8	48.3	34.7	35.3	18.5	231	6.48	9.77
Cobalt				mg/kg	3.74	8.15	4.89	7.44	4.29	4.32	2.84	3
Copper	50	**270**	*270*	mg/kg	8.25	***296***	39.1	***291***	19.9	246	11	36.3
Iron				mg/kg	7350	26900	20600	37200	13000	49200	10800	10700
Lead	63	**400**	*1000*	mg/kg	2.75	**901**	99.1	222	48.7	380	16.9	106
Magnesium				mg/kg	3810	16200	3760	15300	4400	9360	7830	3260
Manganese	1600	2000	10000	mg/kg	84	317	141	295	191	157	136	181
Nickel	30	**310**	*310*	mg/kg	19	103	15.1	91.3	14.3	38.6	7.31	8.07
Potassium				mg/kg	1100	444	2610	242	1430	156	2570	1080
Selenium	3.9	180	1500	mg/kg	< 0.262 U	< 0.263 U	< 0.338 U	< 0.259 U	2.01	< 0.263 U	< 0.284 U	< 0.266 U
Silver	2	180	1500	mg/kg	< 0.0465 U	0.581 J	0.235 J	0.416 J	< 0.0544 UJ	0.446 J	< 0.0504 UJ	< 0.0472 U
Sodium				mg/kg	452	1570	5240	597	3250	276	2340	797
Thallium				mg/kg	< 0.0919 U	< 0.0923 U	< 0.118 U	< 0.0906 U	< 0.108 U	< 0.0921 U	< 0.0996 U	< 0.0934 U
Vanadium				mg/kg	11.9	48.6	29.5	528	20.2	163	15.3	15.6
Zinc	109	10000	10000	mg/kg	16.9	370	222	423	50.6	225	26.7	56.3
Cyanide	27	27	27	mg/kg	0.385	< 0.00742 U	< 0.0106 U	< 0.00679 U	< 0.0092 U	< 0.00712 U	< 0.00834 U	0.252

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-29	OH-SB-30	OH-SB-30	OH-SB-31	OH-SB-31	OH-SB-33	OH-SB-33	OH-SB-34
				Sample ID	OH-SB-29-10-0-11.0-20230519	OH-SB-30-3.0-4.0-20230516	OH-SB-30-6.5-7.5-20230516	OH-SB-31-2.5-3.5-20230522	OH-SB-31-6.1-7.1-20230522	OH-SB-33-1.0-2.0-20230513	OH-SB-33-3.5-4-202230513	OH-SB-34-1.0-2.0-20230513
				Sample Date	05/19/2023	05/16/2023	05/16/2023	05/22/2023	05/22/2023	05/13/2023	05/13/2023	05/13/2023
				Depth (ft.)	10-11	4-4	6.5-7.5	2.5-3.5	6.1-7.1	1-2	3.5-4	1-2
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.3 U	< 1.3 U	< 1.2 U	< 1.1 U	< 1.4 U	< 1.2 U	< 1.3 U	< 1.2 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	< 0.00623 U	***3.78 J***	***2.88 J***	0.0568	0.433	0.0674	**1.04**	0.315
Percent Solids				percent	80.3	82.6	84.6	88.4	59.7	83.1	77.1	80.6
Aluminum				mg/kg	3700	8770 J	8660 J	13600	9330	2050	4380	12100
Antimony				mg/kg	< 0.167 U	2.21 J	< 0.159 UJ	< 0.153 U	11.1	1.79	2.12	< 0.162 U
Arsenic	13	**16**	*16*	mg/kg	3.59	9.13	5.58	11.8	7.79	3.73	***19.5***	10.9
Barium	350	**400**	*400*	mg/kg	6.46	151 J	55.7 J	108	91.4	154	***577***	96.4
Beryllium	7.2	72	590	mg/kg	0.204	1.3 J	0.904 J	0.29	0.546	0.825	1.69	1.57
Cadmium	2.5	**4.3**	*9.3*	mg/kg	< 0.0598 U	0.365	< 0.0567 U	< 0.0549 U	< 0.0788 U	< 0.0602 U	0.321	0.445
Calcium				mg/kg	468	25400 J	37200 J	69000	103000	13300	4530	75400
Chromium			400	mg/kg	9.29	38.8	61.4	35.5	28.8	21.1	72.4	12.2
Cobalt				mg/kg	1.35	7.01 J	6.64 J	50.1	6.92	10.6	7.18	3.41
Copper	50	**270**	*270*	mg/kg	0.975	59.1	70.7	51.5	84.1	30.9	97.6	49.3
Iron				mg/kg	7980	20200 J	21200 J	29000	21300	6640	13600	12000
Lead	63	**400**	*1000*	mg/kg	4.09	**501 J**	103 J	26.3	360	**625**	***1260***	108
Magnesium				mg/kg	879	5250 J	2970 J	12100	30800	575	467	3670
Manganese	1600	2000	10000	mg/kg	33.2	213	124	232	272	40.5	43.5	188
Nickel	30	**310**	*310*	mg/kg	2.45	30.7 J	16.3 J	45	20.5	8.52	13.3	9.05
Potassium				mg/kg	1470	2260 J	2190 J	750	1480	614	794	1940
Selenium	3.9	180	1500	mg/kg	< 0.294 U	< 0.278 UJ	< 0.279 UJ	2.01	2.69	< 0.296 U	5.83	< 0.285 U
Silver	2	180	1500	mg/kg	< 0.0522 UJ	< 0.0493 UR	< 0.0495 UR	0.198 J	0.484 J	< 0.0525 UR	< 0.0536 UR	< 0.0505 UR
Sodium				mg/kg	1250	709	578	2610	1030	1240	2050	3090
Thallium				mg/kg	< 0.103 U	< 0.0974 U	< 0.0979 U	< 0.0947 U	< 0.136 U	< 0.104 U	< 0.106 U	< 0.0999 U
Vanadium				mg/kg	10.9	40 J	26.3 J	38.6	49.3	15.8	20.4	26.2
Zinc	109	10000	10000	mg/kg	8.86	180	116	32.4	232	45.1	48.5	130
Cyanide	27	27	27	mg/kg	0.141	< 0.00755 U	< 0.0078 U	< 0.00792 U	2.57	0.604	< 0.00856 U	0.108

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
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TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-34	OH-SB-39	OH-SB-39	OH-SB-40	OH-SB-40	OH-SB-41	OH-SB-41	OH-SB-42
				Sample ID	OH-SB-34-2.0-3.0-20230513	OH-SB-39_1.0-2.0_20230510	OH-SB-39_2.0-3.0_20230510	OH-SB-40-1.0-2.0_20230509	OH-SB-40-2.0-3.0_20230509	OH-SB-41-1.0-2.0_20230509	OH-SB-41-3.0-4.0_20230509	OH-SB-42-1.0-2.0_20230508
				Sample Date	05/13/2023	05/10/2023	05/10/2023	05/09/2023	05/09/2023	05/09/2023	05/09/2023	05/08/2023
				Depth (ft.)	2-3	1-2	2-3	1-2	2-3	1-2	3-4	1-2
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.2 U	< 1.2 U	< 1.2 U	< 1.2 U	< 1.2 U	< 1.1 U	< 1.4 U	< 1.1 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	0.388	0.294	0.615	0.158	**1.35**	0.039	0.235	0.0412
Percent Solids				percent	79.8	88.1	87.9	89.9	84.1	90.1	79.9	90.2
Aluminum				mg/kg	5900	8150	7850	5680	6560	5930	7380	7620
Antimony				mg/kg	2.95	< 0.159 U	< 0.159 U	1.89	3.64	1.77	< 0.171 U	< 0.146 U
Arsenic	13	**16**	*16*	mg/kg	9.02	4.62	7.05	1.99	8.67	3.9	11.4	2.05
Barium	350	**400**	*400*	mg/kg	***787***	89.1	130	62.6	215	107	169	34.4
Beryllium	7.2	72	590	mg/kg	0.881	0.645	0.614	0.544	0.579	0.555	0.776	0.699
Cadmium	2.5	**4.3**	*9.3*	mg/kg	0.91	< 0.0567 U	0.33	< 0.0527 U	0.761	0.334	0.422	< 0.0522 U
Calcium				mg/kg	101000	14000	32900	8160	25700	12400	54900	4510
Chromium			400	mg/kg	73.2	24	24.4	16.8	21.6	18.9	19.4	30.5
Cobalt				mg/kg	3.46	18.8	15.5	8.43	7.9	9.94	9.28	9.99
Copper	50	**270**	*270*	mg/kg	51.7	48.9	54.5	28.1	213	93	58.2	15.4
Iron				mg/kg	12400	16100	16100	13100	23800	16800	17500	16700
Lead	63	**400**	*1000*	mg/kg	***3990***	143	275	125	369	154	182	10.8
Magnesium				mg/kg	2090	4190	4020	4400	4340	4230	5120	6990
Manganese	1600	2000	10000	mg/kg	132	271	208	228	244	228	233	262
Nickel	30	**310**	*310*	mg/kg	8.57	38.7	30.9	37.3	46.3	48.5	36.2	108
Potassium				mg/kg	1170	1920	1790	1540	1500	1570	1580	2070
Selenium	3.9	180	1500	mg/kg	< 0.299 U	< 0.279 U	< 0.28 U	< 0.259 U	< 0.281 U	< 0.259 U	< 0.302 U	< 0.257 U
Silver	2	180	1500	mg/kg	< 0.053 UR	< 0.0495 U	< 0.0496 U	< 0.0459 U	0.358	< 0.0458 U	0.237	< 0.0455 U
Sodium				mg/kg	2520	798	986	543	845	501	1050	679
Thallium				mg/kg	< 0.105 U	< 0.0979 U	< 0.0982 U	< 0.0909 U	2.92	< 0.0907 U	2.46	< 0.0901 U
Vanadium				mg/kg	23.7	23.5	23.7	17.7	24.4	19	23.5	23.8
Zinc	109	10000	10000	mg/kg	211	95.5	123	81.3	580	165	189	33.2
Cyanide	27	27	27	mg/kg	0.818	0.196	0.362	< 0.00749 U	< 0.00868 U	2.16	< 0.00796 U	0.198

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
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< = method detection limit
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ft. = feet
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TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-42	OH-SB-45	OH-SB-45	OH-SB-46	OH-SB-46	OH-SB-50	OH-SB-51	OH-SB-52
				Sample ID	OH-SB-42-3.0-4.0_20230508	OH-SB-45-1.0-2.0-20230511	OH-SB-45-4.0-5.0-20230511	OH-SB_46_1.0-2.0_20230512	OH-SB_46_3.0-4.0_20230512	OH-SB-50-1.0-2.0-05012023	OH-SB-51_1.0-2.0_20230503	OH-SB-52-1.0-2.0-20230502
				Sample Date	05/08/2023	05/11/2023	05/11/2023	05/12/2023	05/12/2023	05/01/2023	05/03/2023	05/02/2023
				Depth (ft.)	3-4	1-2	4-5	1-2	3-4	1-2	1-2	1-2
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.1 U	< 1.2 U	< 1.1 U	< 1.5 U	< 1.3 U	< 1.1 U	< 1.1 U	< 1.1 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	**1.27**	**1.68**	0.151	**2.18**	**1.32**	0.545	**1.53**	0.58
Percent Solids				percent	89.5	87.3	84.8	79.1	82.0	90.1	91.1	90
Aluminum				mg/kg	7780	6940	3100	6510	6700	4620 J	6720	7250
Antimony				mg/kg	< 0.147 U	< 0.149 U	< 0.157 U	3.93	1.69	1.71 J	1.65	1.36
Arsenic	13	**16**	*16*	mg/kg	5.04	***18.3***	5.07	***17.0***	8.38	10.2	7.94	8.48
Barium	350	**400**	*400*	mg/kg	132	146	82.2	***663***	205	***454***	178	66.3
Beryllium	7.2	*72*	590	mg/kg	0.679	0.541	1.19	1.07	1.19	0.46 J	0.611	0.843
Cadmium	2.5	**4.3**	*9.3*	mg/kg	0.54	1.38	0.457	2.30	0.696	2.12	< 0.0546 U	0.488
Calcium				mg/kg	21100	14200	16700	19700	23800	32600	19600	24100
Chromium			400	mg/kg	27.3	17.7	10.1	75.3	30.6	42.9 J	15.9	17.3
Cobalt				mg/kg	7.96	8.64	4.8	19.6	8.79	5.99	10.2	6.15
Copper	50	**270**	*270*	mg/kg	56.9	262	***647***	219	88.2	122	52.1	83.2
Iron				mg/kg	17700	18800	12500	58700	23100	21000 J	13500	22400
Lead	63	**400**	*1000*	mg/kg	135	392	155	**701**	**419**	301	207	197
Magnesium				mg/kg	6900	2800	832	20000	6750	3240 J	4070	4960
Manganese	1600	2000	10000	mg/kg	241	183	125	456	279	178	187	247
Nickel	30	**310**	*310*	mg/kg	64	22.4	24.2	102	40.1	15.1 J	19	24.3
Potassium				mg/kg	2080	1380	469	2880	1950	1110 J	1350	1650
Selenium	3.9	180	1500	mg/kg	< 0.259 U	< 0.263 U	< 0.276 U	< 0.289 U	< 0.294 U	< 0.268 UJ	< 0.269 U	< 0.26 U
Silver	2	180	1500	mg/kg	0.164	< 0.0466 U	< 0.0489 U	0.437 J	< 0.0521 UJ	0.315 J	0.549 J	0.442
Sodium				mg/kg	1190	1550	1060	1680	816	1200 J	1220	1470
Thallium				mg/kg	2.2	< 0.0923 U	< 0.0967 U	< 0.101 U	< 0.103 U	< 0.0938 UJ	< 0.0942 U	< 0.0912 UJ
Vanadium				mg/kg	24.6	19.7	12.5	22.2	19.9	30.9 J	22.2	20.3
Zinc	109	10000	10000	mg/kg	167	458	388	1270	274	789	187	113
Cyanide	27	27	27	mg/kg	< 0.00852 U					0.922	1.48	1.19

Notes:
Concentrations above NYSPART375UU are shaded gray
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mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
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TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-53	OH-SB-53	OH-SB-56	OH-SB-56	OH-SB-58	OH-SB-58	OH-SB-60	OH-SB-61
				Sample ID	OH-SB-53_1.0-2.0-20230504	OH-SB-53_3.0-4.0-20230504	OH-SB-56-1.0-2.0-20230504	OH-SB-56-3.0-4.0-20230504	OH-SB-58_2.0-3.0-20230504	OH-SB-58_3.0-4.0-20230504	OH-SB-60-1.0-2.0_20230503	OH-SB-61-1.0-2.0-20230613
				Sample Date	05/04/2023	05/04/2023	05/04/2023	05/04/2023	05/04/2023	05/04/2023	05/03/2023	06/13/2023
				Depth (ft.)	1-2	3-4	1-2	3-4	2-3	3-4	1-2	1-2
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units								
Cyanide, Free				mg/kg	< 1.2 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1.1 U	< 1.2 U	< 1.3 U	< 1.2 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	0.456	0.301	**1.02**	0.446	0.735	**1.13**	**1.06**	0.341
Percent Solids				percent	86.8	91.2	88.2	88.6	88.8	87	81.2	83.7
Aluminum				mg/kg	7790	9040	5370	10200	12300	7460	6140	5420
Antimony				mg/kg	1.77	< 0.146 U	< 0.158 U	< 0.146 U	< 0.15 U	1.49	2.96	< 0.159 U
Arsenic	13	**16**	*16*	mg/kg	9.48	6.69	9.56	4.98	4.01	7.76	14	12.8
Barium	350	**400**	*400*	mg/kg	***1060***	185	***428***	97.5	129	97.8	***1740***	233
Beryllium	7.2	72	590	mg/kg	0.825	0.878	0.838	0.889	0.92	0.741	0.783	0.36
Cadmium	2.5	**4.3**	*9.3*	mg/kg	0.568	0.31	0.393	< 0.0524 U	< 0.0535 U	0.355	0.854	0.437
Calcium				mg/kg	6840	17000	5180	4880	6890	10000	14300	86900
Chromium			400	mg/kg	18.3	20.1	21.4	22.5	27.4	18.4	28	28.3
Cobalt				mg/kg	32.5	20.5	6.74	5.67	7.58	5.61	4.83	5.13
Copper	50	**270**	*270*	mg/kg	69.8	42.5	74.6	55.1	27.3	66.1	165	58.3
Iron				mg/kg	17600	16100	12200	15800	17800	15000	22100	16500
Lead	63	**400**	*1000*	mg/kg	283	207	320	177	**459**	310	**550**	**497**
Magnesium				mg/kg	3150	4710	1630	3130	3590	2780	2110	2050
Manganese	1600	2000	10000	mg/kg	251	214	123	233	314	218	193	220
Nickel	30	**310**	*310*	mg/kg	23.8	30	22.8	23.2	35.7	22.5	17.7	13.1
Potassium				mg/kg	1530	2240	1430	1990	2060	1530	1280	215
Selenium	3.9	180	1500	mg/kg	< 0.265 U	< 0.257 U	< 0.278 U	< 0.258 U	< 0.264 U	2.15	< 0.297 U	< 0.28 U
Silver	2	180	1500	mg/kg	< 0.0469 UJ	< 0.0455 UJ	< 0.0492 U	< 0.0457 U	< 0.0467 UJ	0.534 J	0.533 J	0.249
Sodium				mg/kg	1370	892	859	376	768	617	2920	523
Thallium				mg/kg	< 0.0928 U	< 0.09 U	< 0.0973 U	< 0.0904 U	< 0.0924 U	< 0.0934 U	< 0.104 U	< 0.098 U
Vanadium				mg/kg	22.3	29.4	23.5	25.6	28.8	22.1	23.3	18.9
Zinc	109	10000	10000	mg/kg	998	186	243	97.3	120	106	1950	379
Cyanide	27	27	27	mg/kg	< 0.00746 U	< 0.00684 U	< 0.00811 U	< 0.00861 U	0.31	< 0.00858 U	1.62	2.23

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4D
SOIL QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-61	OH-SB-62	OH-SB-62	OH-SB-66	OH-SB-66
				Sample ID	OH-SB-61-9.0-10.0-20230613	OH-SB-62-1.0-2.0-20230612	OH-SB-62-9.0-10.0-20230612	OH-SB-66-1.0-2.0-20230515	OH-SB-66-6.0-7.0-20230515
				Sample Date	06/13/2023	06/12/2023	06/12/2023	05/15/2023	05/15/2023
				Depth (ft.)	9-10	1-2	9-10	1-2	6-7
Chemical Name	NYSPART375UU	NYSPART375RR	NYSPART375C	Units					
Cyanide, Free				mg/kg	< 1.6 U	< 1.2 U	< 1.6 U	< 1.0 U	< 1.4 U
Mercury	0.18	**0.81**	*2.8*	mg/kg	***4.86***	0.31	0.481	0.0775	0.144 J
Percent Solids				percent	61.1	90.3	80.2	95	78.9
Aluminum				mg/kg	8500	7010	7570	4560	6460 J
Antimony				mg/kg	< 0.228 U	2.31	< 0.171 U	< 0.14 U	< 0.174 UJ
Arsenic	13	**16**	*16*	mg/kg	***16.3***	8.11	8.49	2.14	***21.4***
Barium	350	**400**	*400*	mg/kg	***1260***	124	183	31.6	177 J
Beryllium	7.2	72	590	mg/kg	0.587	0.369	0.348	0.845	0.811 J
Cadmium	2.5	**4.3**	*9.3*	mg/kg	0.547	< 0.0537 U	< 0.0614 U	0.321	1
Calcium				mg/kg	32500	52400	26400	91500	64000 J
Chromium			400	mg/kg	20.6	16.2	14.5	9.76	45.2
Cobalt				mg/kg	9.98	6.5	5	3.06	6.12 J
Copper	50	**270**	*270*	mg/kg	***1390***	76	19.2	39.8	54.1
Iron				mg/kg	19500	12000	13600	10100	79700 J
Lead	63	**400**	*1000*	mg/kg	***1570***	202	***1060***	42.2	**588 J**
Magnesium				mg/kg	1980	2570	2920	43100	1610 J
Manganese	1600	2000	10000	mg/kg	141	169	253	131	230
Nickel	30	**310**	*310*	mg/kg	27.1	13.5	19.4	24.7	21.9 J
Potassium				mg/kg	950	700	1590	967	1470 J
Selenium	3.9	180	1500	mg/kg	< 0.401 U	< 0.265 U	< 0.302 U	< 0.247 U	< 0.307 UJ
Silver	2	180	1500	mg/kg	4.04	0.483	< 0.0535 U	< 0.0437 UR	< 0.0545 UR
Sodium				mg/kg	3980	687	2900	471	1700
Thallium				mg/kg	< 0.141 U	< 0.0927 U	< 0.106 U	< 0.0864 U	< 0.108 U
Vanadium				mg/kg	24.1	19	18	40.1	35.9 J
Zinc	109	10000	10000	mg/kg	618	372	230	989	727
Cyanide	27	27	27	mg/kg	2.82	0.518 J	2.35	< 0.00695 U	0.152

Notes:
Concentrations above NYSPART375UU are shaded gray
Concentrations above NYSPART375RR are boldfaced
Concentrations above NYSPART375C are italicized
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-04	MW-04	MW-04	MW-04	MW-04	MW-04	MW-04
				Sample ID	MW-04-1.5-2.5-20230607	DUP-20230607	MW-04-1.5-2.5-20230607MS	MW-04-1.5-2.5-20230607MSD	MW-04-5.5-6.5-20230607	MW-04-41.5-42.5-20230607	MW-04-67.0-68.0-20230609
				Sample Date	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/07/2023	06/09/2023
				Depth (ft.)	1.5-2.5	1.5-2.5	1.5-2.5	1.5-2.5	5.5-6.5	41.5-42.5	67-68
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units							
4,4'-DDD	0.0033	13	92	mg/kg	< 0.00069 U	< 0.000671 U	< 0.000678 U	< 0.000683 UJ	< 0.000782 U	< 0.000718 U	< 0.000683 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000824 U	< 0.000801 U	< 0.00081 U	< 0.000816 UJ	< 0.000934 U	< 0.000858 U	< 0.000816 U
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00106 U	0.00116 J	< 0.00105 U	< 0.00105 UJ	< 0.00121 U	< 0.00111 U	< 0.00105 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000714 U	< 0.000694 U	< 0.000702 U	< 0.000707 UJ	< 0.000809 U	< 0.000744 U	< 0.000707 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000712 U	< 0.000692 U	< 0.0007 U	< 0.000705 UJ	< 0.000807 U	< 0.000741 U	< 0.000705 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000685 U	< 0.000666 U	< 0.000673 U	< 0.000679 UJ	< 0.000776 U	< 0.000713 U	< 0.000679 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000449 U	< 0.000436 U	< 0.000441 U	< 0.000444 UJ	< 0.000508 U	< 0.000467 U	< 0.000444 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.00072 U	< 0.0007 U	< 0.000708 U	< 0.000713 UJ	< 0.000816 U	< 0.00075 U	< 0.000713 U
BHC, delta	0.04	100	500	mg/kg	< 0.0007 U	< 0.000681 U	< 0.000688 U	< 0.000694 UJ	< 0.000793 U	< 0.000729 U	< 0.000694 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000478 U	< 0.000464 U	< 0.000469 U	< 0.000473 UJ	< 0.000541 U	< 0.000497 U	< 0.000473 U
Chlordane (Technical)				mg/kg	< 0.00067 U	< 0.000651 U	< 0.000659 U	< 0.000664 UJ	< 0.000759 U	< 0.000698 U	< 0.000664 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000788 U	< 0.000766 U	< 0.000775 U	< 0.000781 UJ	< 0.000893 U	< 0.000821 U	< 0.000781 U
ENDOSULFAN				mg/kg	< 0.000685 U	< 0.000666 U	< 0.000673 UJ	< 0.000679 UJ	< 0.000776 U	< 0.000713 U	< 0.000679 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000567 UJ	< 0.000551 U	< 0.000557 U	< 0.000562 UJ	< 0.000642 U	< 0.00059 U	< 0.000562 U
Endrin	0.014	11	89	mg/kg	< 0.00052 U	< 0.000506 U	< 0.000512 U	< 0.000516 UJ	< 0.00059 U	< 0.000542 U	< 0.000516 U
Endrin aldehyde				mg/kg	< 0.0006 U	< 0.000584 U	< 0.00059 U	< 0.000595 UJ	< 0.000681 U	< 0.000625 U	< 0.000595 U
Endrin ketone				mg/kg	< 0.000531 U	< 0.000516 U	< 0.000522 U	< 0.000526 UJ	< 0.000602 U	< 0.000553 U	< 0.000526 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000403 U	< 0.000392 U	< 0.000397 U	< 0.0004 UJ	< 0.000457 U	< 0.00042 U	< 0.000400 U
Heptachlor epoxide				mg/kg	< 0.00076 U	< 0.000739 U	< 0.000748 U	< 0.000753 UJ	< 0.000862 U	< 0.000792 U	< 0.000753 U
Methoxychlor				mg/kg	< 0.000442 U	< 0.000429 U	< 0.000434 U	< 0.000438 UJ	< 0.000501 U	< 0.00046 U	< 0.000438 U
Toxaphene				mg/kg	< 0.0726 U	< 0.0706 U	< 0.0714 U	< 0.0719 UJ	< 0.0823 U	< 0.0756 U	< 0.0719 U
2,4-D				mg/kg	< 0.0192 U	< 0.0187 UJ	< 0.0189 U	< 0.0191 U	< 0.0218 U	< 0.02 UJ	< 0.0191 UJ
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0114 U	< 0.011 UJ	< 0.0112 U	< 0.0113 U	< 0.0129 U	< 0.0118 UJ	< 0.0113 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-05	MW-05	MW-05	MW-05	MW-06	MW-06	MW-06
				Sample ID	MW-05-1.0-2.0-20230605	MW-05-5.0-6.0-20230605	MW-05-32.5-33.5-20230606	MW-05-66.0-67.0-20230606	MW-06-5.0-6.0-20230601	MW-06-41.0-42.0-20230601	MW-06-66.0-67.0-20230601
				Sample Date	06/05/2023	06/05/2023	06/06/2023	06/06/2023	06/01/2023	06/01/2023	06/01/2023
				Depth (ft.)	1-2	5-6	32.5-33.5	66-67	5-6	41-42	66-67
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units							
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000662 U	0.00276	< 0.000653 U	< 0.000692 U	< 0.000744 U	0.478 J	< 0.000711 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000791 UJ	0.0118 J	< 0.000781 UJ	< 0.000827 UJ	< 0.000889 U	< 0.000775 U	< 0.00085 U
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00102 U	0.00268	< 0.00101 U	< 0.00107 U	0.0247	0.412 J	< 0.0011 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000686 U	< 0.000784 U	< 0.000676 U	< 0.000716 U	< 0.00077 U	< 0.000671 U	< 0.000736 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000683 U	< 0.000782 U	< 0.000674 U	< 0.000714 U	< 0.000768 U	< 0.000669 U	< 0.000734 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000658 U	< 0.000752 U	< 0.000649 U	< 0.000687 U	< 0.000739 U	< 0.000644 U	< 0.000706 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000431 U	< 0.000493 U	< 0.000425 U	< 0.00045 U	< 0.000484 U	< 0.000422 U	< 0.000463 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000691 U	< 0.000791 U	< 0.000682 U	< 0.000722 U	< 0.000776 U	< 0.000677 U	< 0.000742 U
BHC, delta	0.04	100	500	mg/kg	< 0.000672 U	< 0.000769 U	< 0.000663 U	< 0.000702 U	< 0.000755 U	< 0.000658 U	< 0.000722 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000459 U	< 0.000524 U	< 0.000452 U	< 0.000479 U	< 0.000515 U	< 0.000449 U	< 0.000492 U
Chlordane (Technical)				mg/kg	0.00309	0.0119	< 0.000635 U	< 0.000672 U	< 0.000723 U	0.936 J	< 0.000691 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000757 U	< 0.000866 U	< 0.000747 U	< 0.000791 U	< 0.00085 U	< 0.000741 U	< 0.000813 U
ENDOSULFAN				mg/kg	< 0.000658 U	< 0.000752 U	< 0.000649 U	< 0.000687 U	< 0.000739 U	< 0.000644 U	< 0.000706 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000544 UJ	< 0.000622 UJ	< 0.000537 UJ	< 0.000569 UJ	< 0.000611 U	< 0.000533 U	< 0.000585 U
Endrin	0.014	11	89	mg/kg	< 0.0005 U	< 0.000572 U	< 0.000493 U	< 0.000522 U	< 0.000561 U	< 0.000489 U	< 0.000537 U
Endrin aldehyde				mg/kg	< 0.000577 U	< 0.000659 U	< 0.000569 U	< 0.000602 U	< 0.000648 U	< 0.000565 U	< 0.000619 U
Endrin ketone				mg/kg	< 0.00051 U	< 0.000583 U	< 0.000503 U	< 0.000533 U	< 0.000573 U	< 0.000499 U	< 0.000547 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000387 U	< 0.000443 U	< 0.000382 U	< 0.000405 U	< 0.000435 U	< 0.000379 U	< 0.000416 U
Heptachlor epoxide				mg/kg	0.00105 J	< 0.000835 U	< 0.00072 U	< 0.000763 U	< 0.00082 U	< 0.000715 U	< 0.000784 U
Methoxychlor				mg/kg	< 0.000424 U	< 0.000485 U	< 0.000418 U	< 0.000443 U	< 0.000476 U	< 0.000415 U	< 0.000455 U
Toxaphene				mg/kg	< 0.0697 U	< 0.0797 U	< 0.0688 U	< 0.0728 U	< 0.0783 U	< 0.0683 U	< 0.0749 U
2,4-D				mg/kg	< 0.0185 U	< 0.0211 U	< 0.0182 U	< 0.0193 U	< 0.0208 U	< 0.0181 U	< 0.0198 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0109 UJ	< 0.0125 UJ	< 0.0108 U	< 0.0114 U	< 0.0123 U	< 0.0107 U	< 0.0117 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	MW-07	MW-07	MW-07	MW-07	OH-SB-12	OH-SB-12	OH-SB-12A
				Sample ID	MW-07-1.0-2.0-20230602	MW-07-6.6-7.6-20230602	MW-07-35.0-36.0-20230602	MW-07-66.5-67.5-20230605	OH-SB-12-0.5-1.5-20230531	DUP-20230531	OH-SB-12A-1.5-2.5-20230531
				Sample Date	06/02/2023	06/02/2023	06/02/2023	06/05/2023	05/31/2023	05/31/2023	05/31/2023
				Depth (ft.)	1-2	6.6-7.6	35-36	66.5-67.5	0.5-1.5	0.5-1.5	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units							
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000689 U	< 0.000703 U	0.331 J	< 0.000666 U	0.00587	0.00334 J	< 0.000632 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000823 UJ	< 0.000841 UJ	< 0.000792 UJ	< 0.000796 UJ	0.0108 J	0.00371 J	< 0.000755 UJ
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00106 U	< 0.00109 U	0.0208 J	< 0.00103 U	0.0183	0.0135 J	< 0.000975 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000713 U	0.0155 J	< 0.000687 U	< 0.000689 U	< 0.000654 U	< 0.000651 UJ	< 0.000655 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000711 U	< 0.000726 U	< 0.000684 U	< 0.000687 U	< 0.000652 U	< 0.000649 UJ	< 0.000652 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000684 UJ	< 0.000699 UJ	< 0.000659 UJ	< 0.000661 U	< 0.000627 UJ	< 0.000625 UJ	< 0.000628 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000448 U	0.00106 J	< 0.000431 U	< 0.000433 U	< 0.000411 U	< 0.000409 UJ	< 0.000411 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000719 U	0.00332	< 0.000692 U	< 0.000695 U	< 0.000659 U	< 0.000656 UJ	< 0.00066 U
BHC, delta	0.04	100	500	mg/kg	< 0.000699 U	< 0.000714 U	< 0.000673 U	< 0.000676 U	< 0.000641 U	< 0.000638 UJ	< 0.000642 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000477 U	< 0.000487 U	< 0.000459 U	< 0.000461 U	< 0.000437 U	< 0.000435 UJ	< 0.000438 U
Chlordane (Technical)				mg/kg	< 0.000669 U	0.0244	0.704 J	< 0.000647 U	0.00484	0.00292 J	0.0349
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000787 U	< 0.000804 U	< 0.000758 U	< 0.000761 U	< 0.000722 U	< 0.000719 UJ	< 0.000723 U
ENDOSULFAN				mg/kg	< 0.000684 U	< 0.000699 U	< 0.000659 U	< 0.000661 U	< 0.000627 U	< 0.000625 UJ	< 0.000628 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000566 U	< 0.000578 U	< 0.000545 U	< 0.000547 UJ	< 0.000519 U	< 0.000517 UJ	< 0.00052 U
Endrin	0.014	11	89	mg/kg	< 0.00052 U	< 0.000531 U	< 0.0005 U	< 0.000502 U	< 0.000476 U	< 0.000475 UJ	< 0.000477 U
Endrin aldehyde				mg/kg	< 0.0006 U	< 0.000612 U	< 0.000577 U	< 0.00058 U	< 0.00055 U	< 0.000547 UJ	< 0.00055 U
Endrin ketone				mg/kg	< 0.00053 U	< 0.000541 U	< 0.00051 U	< 0.000512 U	< 0.000486 U	< 0.000484 UJ	< 0.000487 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000403 U	0.0129	< 0.000388 U	< 0.000389 U	< 0.000369 U	< 0.000368 UJ	< 0.00037 U
Heptachlor epoxide				mg/kg	< 0.000759 U	0.0402	< 0.000731 U	< 0.000734 U	< 0.000696 U	< 0.000693 UJ	0.00699
Methoxychlor				mg/kg	< 0.000441 U	< 0.00045 U	< 0.000425 U	< 0.000426 U	< 0.000404 U	< 0.000403 UJ	< 0.000405 U
Toxaphene				mg/kg	< 0.0725 U	< 0.074 U	< 0.0698 U	< 0.0701 U	< 0.0665 U	< 0.0662 UJ	< 0.0665 U
2,4-D				mg/kg	< 0.0192 U	< 0.0196 U	< 0.0185 U	< 0.0186 U	< 0.0176 U	< 0.0175 U	< 0.0176 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0113 U	< 0.0116 U	< 0.0109 U	< 0.011 UJ	< 0.0104 U	< 0.0104 U	< 0.0104 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-12A	OH-SB-13	OH-SB-13	OH-SB-13	OH-SB-14	OH-SB-14	OH-SB-15
				Sample ID	OH-SB-12A-5.0-6.0-20230531	OH-SB-13-3.0-4.0-20230516	OH-SB-13-5-6-20230516	OH-SB-13-15-16-20230516	OH-SB-14-1.0-2.0-20230517	OH-SB-14-7.7-8.7-20230517	OH-SB-15-3.5-4.5-20230515
				Sample Date	05/31/2023	05/16/2023	05/16/2023	05/16/2023	05/17/2023	05/17/2023	05/15/2023
				Depth (ft.)	5-6	3-4	5-6	15-16	1-2	7.7-8.7	3.5-4.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units							
4,4'-DDD	0.0033	13	92	mg/kg	0.00192	< 0.000661 U	0.0142 J	< 0.000876 UJ	0.00383 J	0.0131 J	< 0.000728 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000864 UJ	< 0.00079 U	0.0118 J	< 0.00105 UJ	0.00129 J	0.0182 J	0.00135 J
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00111 U	< 0.00102 U	< 0.00168 U	< 0.00135 U	0.0251	0.00423	< 0.00112 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000748 U	< 0.000684 U	< 0.00113 U	< 0.000907 U	< 0.000714 U	< 0.00106 U	< 0.000754 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000746 U	< 0.000682 U	< 0.00112 U	< 0.000904 U	< 0.000712 UJ	< 0.00106 U	< 0.000752 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000718 UJ	< 0.000656 UJ	< 0.00108 UJ	< 0.00087 UJ	< 0.000685 U	< 0.00102 UJ	< 0.000723 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.00047 U	< 0.00043 U	< 0.000707 U	< 0.00057 UJ	< 0.000449 UJ	< 0.000669 UJ	< 0.000474 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000754 U	< 0.00069 U	< 0.00113 U	< 0.000914 UJ	< 0.00072 UJ	< 0.00107 UJ	< 0.00076 U
BHC, delta	0.04	100	500	mg/kg	< 0.000734 U	< 0.000671 U	< 0.0011 U	< 0.000889 U	< 0.0007 U	< 0.00104 U	< 0.000739 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.0005 U	< 0.000458 U	< 0.000753 U	< 0.000606 U	< 0.000478 U	< 0.000712 U	< 0.000504 U
Chlordane (Technical)				mg/kg	< 0.000702 U	< 0.000642 U	< 0.00106 U	< 0.000851 U	< 0.00067 U	< 0.000999 U	< 0.000708 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000826 U	< 0.000755 U	< 0.00124 U	< 0.001 U	< 0.000788 U	< 0.00118 U	< 0.000832 U
ENDOSULFAN				mg/kg	< 0.000718 U	< 0.000656 U	< 0.00108 U	< 0.00087 U	< 0.000685 U	< 0.00102 U	< 0.000723 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000594 U	< 0.000543 U	< 0.000894 U	< 0.00072 U	< 0.000567 U	< 0.000845 U	< 0.000599 U
Endrin	0.014	11	89	mg/kg	< 0.000545 U	< 0.000499 U	< 0.000821 U	< 0.000661 U	< 0.00052 U	< 0.000776 U	< 0.00055 U
Endrin aldehyde				mg/kg	< 0.000629 U	< 0.000575 U	< 0.000947 U	< 0.000762 U	< 0.0006 U	< 0.000895 U	< 0.000634 U
Endrin ketone				mg/kg	< 0.000556 U	< 0.000509 U	< 0.000837 U	< 0.000674 U	< 0.000531 U	< 0.000792 U	< 0.000561 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000423 U	< 0.000386 U	< 0.000636 U	< 0.000512 U	< 0.000403 U	< 0.000601 U	< 0.000426 U
Heptachlor epoxide				mg/kg	< 0.000797 U	< 0.000729 U	< 0.0012 U	< 0.000965 U	< 0.00076 U	< 0.00113 U	< 0.000803 U
Methoxychlor				mg/kg	< 0.000463 U	< 0.000423 U	< 0.000696 U	< 0.000561 U	< 0.000442 U	< 0.000658 U	< 0.000466 U
Toxaphene				mg/kg	< 0.0761 U	< 0.0696 U	< 0.114 U	< 0.0922 U	< 0.0726 U	< 0.108 U	< 0.0767 U
2,4-D				mg/kg	< 0.0202 U	< 0.0184 UJ	< 0.0303 U	< 0.0244 U	< 0.0192 U	< 0.0287 U	< 0.0203 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0119 U	< 0.0109 UJ	< 0.0179 U	< 0.0144 U	< 0.0114 U	< 0.0169 U	< 0.012 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-15	OH-SB-16	OH-SB-16A	OH-SB-16A	OH-SB-16A	OH-SB-17
				Sample ID	OH-SB-15-6.0-7.0-20230515	OH-SB-16-3.0-4.0-20230524	OH-SB-16A-1.0-2.0-20230525	OH-SB-16A-9.5-10.5-20230525	OH-SB-16A-46.0-47.0-20230525	OH-SB-17-1.5-2.5-20230518
				Sample Date	05/15/2023	05/24/2023	05/25/2023	05/25/2023	05/25/2023	05/18/2023
				Depth (ft.)	6-7	3-4	1-2	9.5-10.5	46-47	1.5-2.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000741 U	0.506 J	0.059 J	< 0.000743 U	< 0.000705 U	0.0658 J
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000885 U	< 0.000845 U	0.00549 J	0.000966 J	< 0.000843 U	0.0138 J
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00114 U	0.14 J	0.047 J	< 0.00115 U	0.0704	0.0528
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000767 U	< 0.000732 U	< 0.000682 U	< 0.00077 U	< 0.00073 U	< 0.000678 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000764 U	< 0.00073 U	< 0.00068 U	< 0.000767 U	< 0.000728 U	< 0.000676 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000736 U	< 0.000703 UJ	< 0.000654 UJ	< 0.000738 UJ	< 0.0007 UJ	< 0.000651 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000482 U	< 0.00046 U	< 0.000428 U	< 0.000483 U	< 0.000459 U	< 0.000426 UJ
BHC, beta	0.036	0.36	3	mg/kg	< 0.000773 U	< 0.000738 U	< 0.000688 U	< 0.000776 U	< 0.000736 U	< 0.000684 UJ
BHC, delta	0.04	100	500	mg/kg	< 0.000752 U	< 0.000718 U	< 0.000669 U	< 0.000755 U	< 0.000716 U	< 0.000665 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000513 U	< 0.00049 U	< 0.000456 U	< 0.000515 U	< 0.000488 U	< 0.000454 U
Chlordane (Technical)				mg/kg	< 0.00072 U	0.626 J	0.0296 J	0.00268	0.205	0.0113
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000847 U	< 0.000809 U	< 0.000753 U	< 0.000849 U	< 0.000806 U	< 0.000749 U
ENDOSULFAN				mg/kg	< 0.000736 U	< 0.000703 U	< 0.000654 U	< 0.000738 U	< 0.0007 U	< 0.000651 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000609 U	< 0.000581 U	< 0.000541 U	< 0.000611 U	< 0.00058 U	< 0.000538 UJ
Endrin	0.014	11	89	mg/kg	< 0.000559 U	< 0.000534 U	< 0.000497 U	< 0.000561 U	< 0.000532 U	< 0.000494 U
Endrin aldehyde				mg/kg	< 0.000645 U	< 0.000616 U	< 0.000574 U	< 0.000647 U	< 0.000614 U	< 0.00057 U
Endrin ketone				mg/kg	< 0.00057 U	< 0.000545 U	< 0.000507 U	< 0.000572 U	< 0.000543 U	< 0.000504 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000433 U	< 0.000414 U	< 0.000385 U	< 0.000435 U	< 0.000412 U	< 0.000383 U
Heptachlor epoxide				mg/kg	< 0.000817 U	< 0.00078 U	< 0.000726 U	< 0.000819 U	0.00558	< 0.000722 U
Methoxychlor				mg/kg	< 0.000474 U	< 0.000453 U	< 0.000422 U	< 0.000476 U	< 0.000452 U	< 0.000419 U
Toxaphene				mg/kg	< 0.078 U	< 0.0745 U	< 0.0693 U	< 0.0782 U	< 0.0742 U	< 0.069 U
2,4-D				mg/kg	< 0.0207 U	< 0.0197 U	< 0.0184 U	< 0.0207 U	< 0.0197 U	< 0.0183 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0122 U	< 0.0117 U	< 0.0109 U	< 0.0122 U	< 0.0116 U	< 0.0108 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-17	OH-SB-18	OH-SB-18	OH-SB-19	OH-SB-19	OH-SB-20
				Sample ID	OH-SB-17-10.8-11.8-20230518	OH-SB-18-3.5-4.5-20230517	OH-SB-18-5.0-6.0-20230518	OH-SB-19-3.5-4.5-20230517	OH-SB-19-5.5-6.5-20230517	OH-SB-20-1.0-2.0-20230515
				Sample Date	05/18/2023	05/17/2023	05/18/2023	05/17/2023	05/17/2023	05/15/2023
				Depth (ft.)	10.8-11.8	3.5-4.5	5-6	3.5-4.5	5.5-6.5	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000922 UJ	0.00892 J	< 0.000842 UJ	< 0.000735 UJ	< 0.000819 UJ	< 0.000648 U
4,4'-DDE	0.0033	8.9	62	mg/kg	0.062 J	0.00915 J	0.00461 J	< 0.000878 UJ	< 0.000978 UJ	0.00136 J
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00142 U	0.00497 J	< 0.0013 U	0.00672	< 0.00126 U	< 0.001 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000955 U	< 0.000804 U	< 0.000871 U	< 0.00076 U	< 0.000848 U	< 0.000671 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000952 U	< 0.000801 U	< 0.000868 U	< 0.000758 U	< 0.000845 U	< 0.000669 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000916 U	< 0.000771 UJ	< 0.000836 U	< 0.00073 UJ	< 0.000813 UJ	< 0.000644 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.0006 UJ	< 0.000505 UJ	< 0.000547 UJ	< 0.000478 UJ	< 0.000533 UJ	< 0.000422 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000963 UJ	< 0.000811 UJ	< 0.000878 UJ	< 0.000767 UJ	< 0.000855 UJ	< 0.000676 U
BHC, delta	0.04	100	500	mg/kg	< 0.000936 U	< 0.000788 U	< 0.000854 U	< 0.000746 U	< 0.000831 U	< 0.000658 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000639 U	< 0.000538 U	< 0.000583 U	< 0.000509 U	< 0.000567 U	< 0.000449 U
Chlordane (Technical)				mg/kg	0.332	< 0.000754 U	< 0.000817 U	< 0.000714 U	< 0.000795 U	0.00535
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.00105 U	< 0.000888 U	< 0.000962 U	< 0.000839 U	< 0.000936 U	< 0.000741 U
ENDOSULFAN				mg/kg	< 0.000916 U	< 0.000771 U	< 0.000836 U	< 0.00073 U	< 0.000813 U	< 0.000644 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000758 UJ	< 0.000638 U	< 0.000692 UJ	< 0.000604 U	< 0.000673 U	< 0.000533 U
Endrin	0.014	11	89	mg/kg	< 0.000696 U	< 0.000586 U	< 0.000635 U	< 0.000554 U	< 0.000618 U	< 0.000489 U
Endrin aldehyde				mg/kg	< 0.000803 U	< 0.000676 U	< 0.000733 U	< 0.000639 U	< 0.000713 U	< 0.000564 U
Endrin ketone				mg/kg	< 0.00071 U	< 0.000598 U	< 0.000648 U	< 0.000565 U	< 0.00063 U	< 0.000499 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.00054 U	< 0.000454 U	< 0.000492 U	< 0.00043 U	< 0.000479 U	< 0.000379 U
Heptachlor epoxide				mg/kg	< 0.00102 U	< 0.000856 U	< 0.000928 U	< 0.00081 U	< 0.000903 U	< 0.000714 U
Methoxychlor				mg/kg	< 0.000591 U	< 0.000497 U	< 0.000539 U	< 0.00047 U	< 0.000524 U	< 0.000415 U
Toxaphene				mg/kg	< 0.0971 U	< 0.0817 U	< 0.0886 U	< 0.0773 U	< 0.0862 U	< 0.0682 U
2,4-D				mg/kg	< 0.0257 U	< 0.0217 U	< 0.0235 U	< 0.0205 U	< 0.0228 U	< 0.0181 UJ
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0152 U	< 0.0128 U	< 0.0139 U	< 0.0121 U	< 0.0135 U	< 0.0107 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-20	OH-SB-21	OH-SB-21	OH-SB-22	OH-SB-22	OH-SB-22
				Sample ID	OH-SB-20-4.0-5.0-20230515	OH-SB-21-0.5-1.5-20230522	OH-SB-21-6.0-7.0-20230523	OH-SB-22-2.0-3.0-20230523	OH-SB-22-6.4-7.4-20230523	OH-SB-22-46.0-47.0-20230524
				Sample Date	05/15/2023	05/22/2023	05/23/2023	05/23/2023	05/23/2023	05/24/2023
				Depth (ft.)	4-5	0.5-1.5	6-7	2-3	6.4-7.4	46-47
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000922 U	< 0.000659 U	0.00158 J	< 0.000663 U	< 0.000749 U	< 0.000691 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.0011 U	0.00904	< 0.000882 U	< 0.000792 U	< 0.000895 U	< 0.000826 U
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00142 U	0.0213	0.0108 J	< 0.00102 U	< 0.00116 U	< 0.00107 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000954 U	< 0.000682 U	< 0.000764 U	< 0.000686 U	< 0.000775 U	< 0.000715 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000951 U	< 0.00068 U	< 0.000761 U	< 0.000684 U	< 0.000773 U	< 0.000713 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000915 U	< 0.000655 UJ	< 0.000733 UJ	< 0.000658 UJ	< 0.000744 UJ	< 0.000686 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000599 U	< 0.000429 U	< 0.00048 U	< 0.000431 U	< 0.000487 U	< 0.000449 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000962 U	< 0.000688 U	< 0.00077 U	< 0.000692 U	< 0.000781 U	< 0.000721 U
BHC, delta	0.04	100	500	mg/kg	< 0.000936 U	< 0.000669 U	< 0.000749 U	< 0.000673 U	< 0.00076 U	< 0.000701 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000638 U	< 0.000456 U	< 0.000511 U	< 0.000459 U	< 0.000518 U	< 0.000478 U
Chlordane (Technical)				mg/kg	0.001 J	0.0106	< 0.000717 U	0.0133	0.32	< 0.000671 U
Dieldrin	0.005	0.2	1.4	mg/kg	0.00391	0.00461 J	< 0.000843 U	< 0.000757 U	< 0.000856 U	< 0.00079 U
ENDOSULFAN				mg/kg	< 0.000915 U	< 0.000655 U	< 0.000733 U	< 0.000658 U	< 0.000744 U	< 0.000686 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000757 U	< 0.000542 U	< 0.000606 U	< 0.000545 U	< 0.000615 U	< 0.000568 U
Endrin	0.014	11	89	mg/kg	< 0.000695 U	< 0.000497 U	< 0.000557 U	< 0.0005 U	< 0.000565 U	< 0.000521 U
Endrin aldehyde				mg/kg	< 0.000802 U	< 0.000574 U	< 0.000642 U	< 0.000577 U	< 0.000652 U	< 0.000601 U
Endrin ketone				mg/kg	< 0.000709 U	< 0.000507 U	< 0.000568 U	< 0.00051 U	< 0.000576 U	< 0.000532 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000539 U	< 0.000385 U	< 0.000432 U	< 0.000388 U	0.0414	< 0.000404 U
Heptachlor epoxide				mg/kg	< 0.00102 U	< 0.000726 U	< 0.000814 U	< 0.000731 U	< 0.000825 U	< 0.000762 U
Methoxychlor				mg/kg	< 0.00059 U	< 0.000422 U	< 0.000472 U	< 0.000424 UJ	< 0.000479 UJ	< 0.000442 U
Toxaphene				mg/kg	< 0.097 U	< 0.0694 U	< 0.0777 U	< 0.0698 U	< 0.0788 U	< 0.0727 U
2,4-D				mg/kg	< 0.0257 U	< 0.0184 U	< 0.0206 U	< 0.0185 U	< 0.0209 U	< 0.0193 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0152 U	< 0.0109 U	< 0.0122 U	< 0.0109 U	< 0.0123 U	< 0.0114 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-23	OH-SB-23	OH-SB-23	OH-SB-23	OH-SB-24	OH-SB-24	OH-SB-24
				Sample ID	OH-SB-23-1.0-2.0-20230518	DUP-20230518	OH-SB-23-7.3-8.3-20230518	OH-SB-23-14.8-15.8-20230518	OH-SB-24-2.5-3.5-20230526	OH-SB-24-5.5-6.5-20230526	OH-SB-24-34.5-35.5-20230526
				Sample Date	05/18/2023	05/18/2023	05/18/2023	05/18/2023	05/26/2023	05/26/2023	05/26/2023
				Depth (ft.)	1-2	1-2	7.5-8.3	14.8-15.8	2.5-3.5	5.5-6.5	34.5-35.5
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units							
4,4'-DDD	0.0033	13	92	mg/kg	0.00364 J	0.00414 J	< 0.000768 UJ	< 0.000924 UJ	0.00211 J	< 0.000762 U	< 0.000679 U
4,4'-DDE	0.0033	8.9	62	mg/kg	0.00359 J	0.00353 J	< 0.000918 UJ	0.0164 J	0.00262 J	< 0.00091 U	< 0.000812 U
4,4'-DDT	0.0033	7.9	47	mg/kg	0.057	0.0063	< 0.00118 U	< 0.00143 U	0.00546 J	< 0.00118 UJ	0.115 J
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000665 U	< 0.000673 U	< 0.000795 U	< 0.000957 U	< 0.000729 UJ	< 0.000789 U	< 0.000703 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000663 U	< 0.000671 U	< 0.000792 U	< 0.000953 U	< 0.000726 UJ	< 0.000786 U	< 0.000701 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000638 U	< 0.000646 U	< 0.000763 U	< 0.000918 U	< 0.000699 UJ	< 0.000757 U	< 0.000675 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000418 UJ	< 0.000423 U	< 0.000499 UJ	< 0.000601 UJ	< 0.000458 UJ	< 0.000496 U	< 0.000442 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000671 UJ	< 0.000678 U	< 0.000801 UJ	< 0.000964 UJ	< 0.000735 UJ	< 0.000795 U	< 0.000709 U
BHC, delta	0.04	100	500	mg/kg	< 0.000652 U	< 0.00066 U	< 0.00078 U	< 0.000938 U	< 0.000714 UJ	< 0.000773 U	< 0.00069 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000445 U	< 0.00045 U	< 0.000532 U	< 0.00064 U	< 0.000487 UJ	< 0.000528 U	< 0.000471 U
Chlordane (Technical)				mg/kg	0.00813	0.00739 J	< 0.000746 U	0.0512	< 0.000684 UJ	< 0.00074 U	0.192 J
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000734 U	< 0.000743 U	< 0.000878 U	< 0.00106 U	< 0.000804 UJ	< 0.000871 U	< 0.000777 U
ENDOSULFAN				mg/kg	< 0.000638 U	< 0.000646 U	< 0.000763 U	< 0.000918 U	< 0.000699 UJ	< 0.000757 U	< 0.000675 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000528 UJ	< 0.000534 UJ	< 0.000631 UJ	< 0.000759 UJ	< 0.000578 UJ	< 0.000626 U	< 0.000558 U
Endrin	0.014	11	89	mg/kg	< 0.000485 U	< 0.000491 U	< 0.000579 U	< 0.000697 U	< 0.000531 UJ	< 0.000575 U	< 0.000513 U
Endrin aldehyde				mg/kg	< 0.000559 U	< 0.000566 U	< 0.000669 U	< 0.000804 U	< 0.000613 UJ	< 0.000663 U	< 0.000592 U
Endrin ketone				mg/kg	< 0.000495 U	< 0.0005 U	< 0.000591 U	< 0.000711 U	< 0.000542 UJ	< 0.000586 U	< 0.000523 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000376 U	< 0.00038 U	< 0.000449 U	< 0.00054 U	< 0.000412 UJ	< 0.000446 U	0.00666 J
Heptachlor epoxide				mg/kg	< 0.000708 U	< 0.000717 U	< 0.000847 U	< 0.00102 U	< 0.000776 UJ	< 0.00084 U	< 0.000749 U
Methoxychlor				mg/kg	< 0.000411 U	< 0.000416 U	< 0.000492 U	< 0.000592 U	< 0.000451 UJ	< 0.000488 U	< 0.000435 U
Toxaphene				mg/kg	< 0.0676 U	< 0.0684 U	< 0.0808 U	< 0.0972 U	< 0.0741 UJ	< 0.0802 U	< 0.0715 U
2,4-D				mg/kg	< 0.0179 U	< 0.0181 U	< 0.0214 U	< 0.0258 U	< 0.0196 U	< 0.0213 U	< 0.019 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0106 U	< 0.0107 U	< 0.0126 U	< 0.0152 U	< 0.0116 U	< 0.0125 U	< 0.0112 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-25	OH-SB-25	OH-SB-27	OH-SB-27	OH-SB-28	OH-SB-28
				Sample ID	OH-SB-25-1.0-2.0-20230522	OH-SB-25-5.7-6.7-20230522	OH-SB-27-1.0-2.0-20230519	OH-SB-27-10.0-11.0-20230519	OH-SB-28-0.5-1.5-20230519	OH-SB-28-15.0-16.0-20230519
				Sample Date	05/22/2023	05/22/2023	05/19/2023	05/19/2023	05/19/2023	05/19/2023
				Depth (ft.)	1-2	5.7-6.7	1-2	10-11	0.5-1.5	15-16
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000656 U	0.0552	< 0.000648 U	0.00977 J	0.00899 J	< 0.000708 UJ
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000784 U	0.0376	0.000885 J	0.00532 J	< 0.000782 U	< 0.000846 UJ
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00101 U	0.0128	0.0599	< 0.00118 U	0.0437 J	< 0.00109 UJ
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000679 U	< 0.00091 U	< 0.00067 U	< 0.000793 U	< 0.000677 U	< 0.000733 UJ
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000677 U	< 0.000907 U	< 0.000668 U	< 0.00079 U	< 0.000675 U	< 0.000731 UJ
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000652 UJ	< 0.000873 UJ	< 0.000643 UJ	< 0.00076 UJ	< 0.00065 UJ	< 0.000703 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000427 U	< 0.000572 U	< 0.000421 U	< 0.000498 U	< 0.000426 U	< 0.000461 UJ
BHC, beta	0.036	0.36	3	mg/kg	< 0.000685 U	< 0.000918 U	< 0.000676 U	< 0.000799 U	< 0.000683 U	< 0.000739 UJ
BHC, delta	0.04	100	500	mg/kg	< 0.000666 U	< 0.000893 U	< 0.000657 U	< 0.000777 U	< 0.000664 U	< 0.000719 UJ
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000454 U	< 0.000609 U	< 0.000448 U	< 0.00053 U	< 0.000453 U	< 0.00049 UJ
Chlordane (Technical)				mg/kg	0.0179	< 0.000854 U	0.00463	0.00847 J	0.0035 J	< 0.000688 UJ
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.00075 U	< 0.001 U	< 0.00074 U	< 0.000875 U	< 0.000748 U	< 0.000809 UJ
ENDOSULFAN				mg/kg	< 0.000652 U	< 0.000873 U	< 0.000643 U	< 0.00076 U	< 0.00065 U	< 0.000703 UJ
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000539 U	< 0.000723 U	< 0.000532 U	< 0.000629 U	< 0.000538 U	< 0.000582 UJ
Endrin	0.014	11	89	mg/kg	< 0.000495 U	< 0.000664 U	< 0.000489 U	< 0.000578 U	< 0.000494 U	< 0.000534 UJ
Endrin aldehyde				mg/kg	< 0.000571 U	< 0.000766 U	< 0.000564 U	< 0.000666 U	< 0.00057 U	< 0.000617 UJ
Endrin ketone				mg/kg	< 0.000505 U	< 0.000677 U	< 0.000498 U	< 0.000589 U	< 0.000504 U	< 0.000545 UJ
Heptachlor	0.042	2.1	15	mg/kg	< 0.000384 U	< 0.000514 U	< 0.000379 U	< 0.000448 U	< 0.000383 U	< 0.000414 UJ
Heptachlor epoxide				mg/kg	< 0.000723 U	< 0.00097 U	< 0.000714 U	< 0.000844 U	< 0.000721 U	< 0.000781 UJ
Methoxychlor				mg/kg	< 0.00042 UJ	< 0.000563 U	< 0.000415 U	< 0.00049 U	< 0.000419 U	< 0.000454 UJ
Toxaphene				mg/kg	< 0.0691 U	< 0.0926 U	< 0.0682 U	< 0.0806 U	< 0.0689 U	< 0.0745 UJ
2,4-D				mg/kg	< 0.0183 U	< 0.0245 U	< 0.0181 UJ	< 0.0214 U	< 0.0183 U	< 0.0198 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0108 UJ	< 0.0145 UJ	< 0.0107 UJ	< 0.0126 UJ	< 0.0108 UJ	< 0.0117 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-29	OH-SB-29	OH-SB-30	OH-SB-30	OH-SB-31	OH-SB-31
				Sample ID	OH-SB-29-1.5-2.5-20230518	OH-SB-29-10-0-11.0-20230519	OH-SB-30-3.0-4.0-20230516	OH-SB-30-6.5-7.5-20230516	OH-SB-31-2.5-3.5-20230522	OH-SB-31-6.1-7.1-20230522
				Sample Date	05/18/2023	05/19/2023	05/16/2023	05/16/2023	05/22/2023	05/22/2023
				Depth (ft.)	1.5-2.5	10-11	4-4	6.5-7.5	2.5-3.5	6.1-7.1
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	0.00174 J	< 0.000741 U	< 0.00072 U	< 0.000703 U	< 0.000673 U	< 0.000996 U
4,4'-DDE	0.0033	8.9	62	mg/kg	0.00131 J	< 0.000885 U	0.00466	< 0.00084 U	< 0.000804 U	< 0.00119 U
4,4'-DDT	0.0033	7.9	47	mg/kg	0.0037 J	< 0.00114 U	< 0.00111 U	< 0.00108 U	< 0.00104 U	< 0.00154 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000714 U	< 0.000767 U	< 0.000746 U	< 0.000728 U	< 0.000697 U	< 0.00103 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000712 U	< 0.000765 U	< 0.000743 U	< 0.000725 U	< 0.000695 U	< 0.00103 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000685 U	< 0.000736 UJ	< 0.000715 UJ	< 0.000698 UJ	< 0.000669 UJ	< 0.000989 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000449 UJ	< 0.000482 U	< 0.000468 U	< 0.000457 U	< 0.000438 U	< 0.000648 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.00072 UJ	< 0.000773 U	< 0.000752 U	< 0.000734 U	< 0.000703 U	< 0.00104 U
BHC, delta	0.04	100	500	mg/kg	< 0.0007 U	< 0.000752 U	< 0.000731 U	< 0.000714 U	< 0.000683 U	< 0.00101 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000478 U	< 0.000513 U	< 0.000499 U	< 0.000487 U	< 0.000466 U	< 0.00069 U
Chlordane (Technical)				mg/kg	< 0.00067 U	< 0.00072 U	< 0.0007 U	< 0.000683 U	< 0.000654 U	< 0.000968 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000789 U	< 0.000847 U	< 0.000823 U	< 0.000803 U	< 0.000769 U	< 0.00114 U
ENDOSULFAN				mg/kg	< 0.000685 U	< 0.000736 U	< 0.000715 U	< 0.000698 U	< 0.000669 U	< 0.000989 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000567 UJ	< 0.000609 U	< 0.000592 U	< 0.000578 U	< 0.000553 U	< 0.000819 U
Endrin	0.014	11	89	mg/kg	< 0.000521 U	< 0.000559 U	< 0.000543 U	< 0.000531 U	< 0.000508 U	< 0.000752 U
Endrin aldehyde				mg/kg	< 0.000601 U	< 0.000645 U	< 0.000627 U	< 0.000612 U	< 0.000586 U	< 0.000867 U
Endrin ketone				mg/kg	< 0.000531 U	< 0.00057 U	< 0.000554 U	< 0.000541 U	< 0.000518 U	< 0.000767 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000404 U	< 0.000433 U	< 0.000421 U	< 0.000411 U	< 0.000394 U	< 0.000583 U
Heptachlor epoxide				mg/kg	< 0.000761 U	< 0.000817 U	< 0.000794 U	< 0.000775 U	< 0.000742 U	< 0.0011 U
Methoxychlor				mg/kg	< 0.000442 U	< 0.000474 U	< 0.000461 U	< 0.00045 U	< 0.000431 UJ	< 0.000638 U
Toxaphene				mg/kg	< 0.0726 U	< 0.078 U	< 0.0758 U	< 0.074 U	< 0.0708 U	< 0.105 U
2,4-D				mg/kg	< 0.0193 U	< 0.0207 U	< 0.0201 U	< 0.0196 UJ	< 0.0188 U	< 0.0278 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0114 U	< 0.0122 UJ	< 0.0119 U	< 0.0116 UJ	< 0.0111 UJ	< 0.0164 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-33	OH-SB-33	OH-SB-34	OH-SB-34	OH-SB-39	OH-SB-39
				Sample ID	OH-SB-33-1.0-2.0-20230513	OH-SB-33-3.5-4-202230513	OH-SB-34-1.0-2.0-20230513	OH-SB-34-2.0-3.0-20230513	OH-SB-39_1.0-2.0_20230510	OH-SB-39_2.0-3.0_20230510
				Sample Date	05/13/2023	05/13/2023	05/13/2023	05/13/2023	05/10/2023	05/10/2023
				Depth (ft.)	1-2	3.5-4	1-2	2-3	1-2	2-3
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000716 U	< 0.000772 U	< 0.000738 U	< 0.000745 U	0.00332 J	0.00705 J
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000856 U	< 0.000923 U	< 0.000882 U	< 0.000891 U	< 0.000807 UJ	0.00122 J
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00111 U	< 0.00119 U	< 0.00114 U	< 0.00115 U	0.00266 J	0.00549 J
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000742 U	< 0.000799 U	< 0.000764 U	< 0.000772 U	< 0.000699 U	< 0.000701 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000739 U	< 0.000797 U	< 0.000762 U	< 0.000769 U	< 0.000697 U	< 0.000699 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000712 UJ	< 0.000767 UJ	< 0.000733 UJ	< 0.00074 UJ	< 0.000671 UJ	< 0.000672 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000466 U	< 0.000502 U	< 0.00048 U	< 0.000485 U	< 0.000439 UJ	< 0.00044 UJ
BHC, beta	0.036	0.36	3	mg/kg	< 0.000748 U	< 0.000806 U	< 0.00077 U	< 0.000778 U	< 0.000705 UJ	< 0.000706 UJ
BHC, delta	0.04	100	500	mg/kg	< 0.000727 U	< 0.000784 U	< 0.000749 U	< 0.000757 U	< 0.000686 U	< 0.000687 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000496 U	< 0.000535 U	< 0.000511 U	< 0.000516 U	< 0.000468 U	< 0.000469 U
Chlordane (Technical)				mg/kg	< 0.000696 U	< 0.00075 U	< 0.000717 U	< 0.000724 U	< 0.000656 U	< 0.000658 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000819 U	< 0.000882 U	< 0.000844 U	< 0.000852 U	< 0.000772 U	< 0.000774 U
ENDOSULFAN				mg/kg	< 0.000712 U	< 0.000767 U	< 0.000733 U	< 0.00074 U	< 0.000671 U	< 0.000672 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000589 U	< 0.000635 U	< 0.000607 U	< 0.000613 U	< 0.000555 U	< 0.000556 U
Endrin	0.014	11	89	mg/kg	< 0.000541 U	< 0.000583 U	< 0.000557 U	< 0.000562 U	< 0.00051 U	< 0.000511 U
Endrin aldehyde				mg/kg	< 0.000624 U	< 0.000672 U	< 0.000643 U	< 0.000649 U	< 0.000588 U	< 0.000589 U
Endrin ketone				mg/kg	< 0.000551 U	< 0.000594 U	< 0.000568 U	< 0.000574 U	< 0.00052 U	< 0.000521 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000419 U	< 0.000452 U	< 0.000432 U	< 0.000436 U	< 0.000395 U	< 0.000396 U
Heptachlor epoxide				mg/kg	< 0.00079 U	< 0.000851 U	< 0.000814 U	< 0.000822 U	< 0.000745 U	< 0.000746 U
Methoxychlor				mg/kg	< 0.000459 U	< 0.000494 U	< 0.000473 U	< 0.000477 U	< 0.000432 U	< 0.000433 U
Toxaphene				mg/kg	< 0.0754 U	< 0.0813 U	< 0.0777 U	< 0.0785 U	< 0.0711 U	< 0.0712 U
2,4-D				mg/kg	< 0.02 UJ	< 0.0215 U	< 0.0206 U	< 0.0208 U	< 0.0188 U	< 0.0189 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0118 UJ	< 0.0127 U	< 0.0122 U	< 0.0123 U	< 0.0111 U	< 0.0111 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-40	OH-SB-40	OH-SB-41	OH-SB-41	OH-SB-42	OH-SB-42
				Sample ID	OH-SB-40-1.0-2.0_20230509	OH-SB-40-2.0-3.0_20230509	OH-SB-41-1.0-2.0_20230509	OH-SB-41-3.0-4.0_20230509	OH-SB-42-1.0-2.0_20230508	OH-SB-42-3.0-4.0_20230508
				Sample Date	05/09/2023	05/09/2023	05/09/2023	05/09/2023	05/08/2023	05/08/2023
				Depth (ft.)	1-2	2-3	1-2	3-4	1-2	3-4
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	0.000927 J	0.00796 J	0.00226	< 0.000745 U	< 0.00066 U	0.00142 J
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000791 U	0.0033 J	0.00102 J	< 0.00089 U	< 0.000788 U	< 0.000794 U
4,4'-DDT	0.0033	7.9	47	mg/kg	0.0063	0.00229 J	< 0.00102 U	< 0.00115 U	< 0.00102 U	< 0.00103 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000685 U	< 0.000732 U	< 0.000684 U	< 0.000771 U	< 0.000683 U	< 0.000688 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000683 U	< 0.00073 U	< 0.000682 U	< 0.000769 U	< 0.000681 U	< 0.000686 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000658 U	< 0.000702 U	< 0.000656 U	< 0.00074 U	< 0.000655 U	< 0.00066 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000431 U	< 0.00046 U	< 0.00043 U	< 0.000485 U	< 0.000429 U	< 0.000432 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000691 U	< 0.000738 U	< 0.000689 U	< 0.000777 U	< 0.000688 U	< 0.000694 U
BHC, delta	0.04	100	500	mg/kg	< 0.000672 U	< 0.000718 U	< 0.00067 U	< 0.000756 U	< 0.00067 U	< 0.000675 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000458 U	< 0.00049 U	< 0.000457 U	< 0.000516 U	< 0.000457 U	< 0.00046 U
Chlordane (Technical)				mg/kg	0.00195 J	< 0.000687 U	< 0.000642 U	< 0.000724 U	< 0.000641 U	< 0.000646 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000757 U	< 0.000808 U	< 0.000755 U	< 0.000851 U	< 0.000754 U	< 0.00076 U
ENDOSULFAN				mg/kg	< 0.000658 U	< 0.000702 U	< 0.000656 U	< 0.00074 U	< 0.000655 U	< 0.00066 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000544 U	< 0.000581 U	< 0.000543 U	< 0.000612 U	< 0.000542 U	< 0.000546 U
Endrin	0.014	11	89	mg/kg	< 0.0005 U	< 0.000534 U	< 0.000498 U	< 0.000562 U	< 0.000498 U	< 0.000502 U
Endrin aldehyde				mg/kg	< 0.000576 U	< 0.000616 U	< 0.000575 U	< 0.000649 U	< 0.000574 U	< 0.000579 U
Endrin ketone				mg/kg	< 0.00051 U	< 0.000544 U	< 0.000508 U	< 0.000573 U	< 0.000508 U	< 0.000512 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000387 U	< 0.000414 U	< 0.000386 U	< 0.000436 U	< 0.000386 U	< 0.000389 U
Heptachlor epoxide				mg/kg	< 0.00073 U	< 0.00078 U	< 0.000728 U	< 0.000821 U	< 0.000727 U	< 0.000733 U
Methoxychlor				mg/kg	< 0.000424 U	< 0.000453 U	< 0.000423 U	< 0.000477 U	< 0.000422 U	< 0.000426 U
Toxaphene				mg/kg	< 0.0697 U	< 0.0744 U	< 0.0695 U	< 0.0784 U	< 0.0694 U	< 0.07 U
2,4-D				mg/kg	< 0.0185 U	< 0.0197 U	< 0.0184 U	< 0.0208 U	< 0.0184 U	< 0.0185 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0109 U	< 0.0116 U	< 0.0109 U	< 0.0123 U	< 0.0109 U	< 0.0109 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-45	OH-SB-45	OH-SB-46	OH-SB-46	OH-SB-50	OH-SB-51
				Sample ID	OH-SB-45-1.0-2.0-20230511	OH-SB-45-4.0-5.0-20230511	OH-SB_46_1.0-2.0_20230512	OH-SB_46_3.0-4.0_20230512	OH-SB-50-1.0-2.0-05012023	OH-SB-51_1.0-2.0_20230503
				Sample Date	05/11/2023	05/11/2023	05/12/2023	05/12/2023	05/01/2023	05/03/2023
				Depth (ft.)	1-2	4-5	1-2	3-4	1-2	1-2
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	0.0143 J	0.00109 J	< 0.000752 U	< 0.000726 U	< 0.00066 U	< 0.000653 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000815 U	< 0.000838 U	< 0.000899 U	< 0.000867 U	< 0.000789 U	< 0.000781 U
4,4'-DDT	0.0033	7.9	47	mg/kg	0.00276 J	0.00116 J	< 0.00116 U	< 0.00112 U	< 0.00102 U	< 0.00101 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000706 U	< 0.000726 U	< 0.000779 U	< 0.000751 U	< 0.000684 U	< 0.000676 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000704 U	< 0.000724 U	< 0.000776 U	< 0.000749 U	< 0.000681 U	< 0.000674 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000677 U	< 0.000697 U	< 0.000747 U	< 0.000721 U	< 0.000656 U	< 0.000649 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000444 U	< 0.000456 U	< 0.000489 U	< 0.000472 U	< 0.000429 U	< 0.000425 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000712 U	< 0.000732 U	< 0.000785 U	< 0.000757 U	< 0.000689 U	< 0.000682 U
BHC, delta	0.04	100	500	mg/kg	< 0.000692 U	< 0.000712 U	< 0.000764 U	< 0.000737 U	< 0.00067 U	< 0.000663 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000472 U	< 0.000486 U	< 0.000521 U	< 0.000502 U	< 0.000457 U	< 0.000452 U
Chlordane (Technical)				mg/kg	< 0.000662 U	< 0.000681 U	< 0.000731 U	< 0.000705 U	< 0.000641 U	< 0.000635 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000779 U	< 0.000802 U	< 0.000860 U	< 0.000829 U	< 0.000755 U	< 0.000747 U
ENDOSULFAN				mg/kg	< 0.000677 U	< 0.000697 U	< 0.000747 U	< 0.000721 U	< 0.000656 U	< 0.000649 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.00056 U	< 0.000576 U	< 0.000618 U	< 0.000596 U	< 0.000543 U	< 0.000537 U
Endrin	0.014	11	89	mg/kg	< 0.000515 U	< 0.000529 U	< 0.000568 U	< 0.000548 U	< 0.000498 U	< 0.000493 U
Endrin aldehyde				mg/kg	< 0.000594 U	< 0.000611 U	< 0.000655 U	< 0.000632 U	< 0.000575 U	< 0.000569 U
Endrin ketone				mg/kg	< 0.000525 U	< 0.00054 U	< 0.000579 U	< 0.000559 U	< 0.000508 U	< 0.000503 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000399 U	< 0.00041 U	< 0.000440 U	< 0.000424 U	< 0.000386 U	< 0.000382 U
Heptachlor epoxide				mg/kg	< 0.000752 U	< 0.000773 U	< 0.000829 U	< 0.000800 U	< 0.000728 U	< 0.00072 U
Methoxychlor				mg/kg	< 0.000437 U	< 0.000449 U	< 0.000482 U	< 0.000465 U	< 0.000423 U	< 0.000418 U
Toxaphene				mg/kg	< 0.0718 U	< 0.0738 U	< 0.0792 U	< 0.0764 U	< 0.0695 U	< 0.0688 U
2,4-D				mg/kg	< 0.019 U	< 0.0196 U	< 0.0210 UJ	< 0.0202 U	< 0.0184 U	< 0.0182 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0112 U	< 0.0116 U	< 0.0124 UJ	< 0.0120 U	< 0.0109 U	< 0.0108 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-52	OH-SB-53	OH-SB-53	OH-SB-56	OH-SB-56	OH-SB-58
				Sample ID	OH-SB-52-1.0-2.0-20230502	OH-SB-53_1.0-2.0-20230504	OH-SB-53_3.0-4.0-20230504	OH-SB-56-1.0-2.0-20230504	OH-SB-56-3.0-4.0-20230504	OH-SB-58_2.0-3.0-20230504
				Sample Date	05/02/2023	05/04/2023	05/04/2023	05/04/2023	05/04/2023	05/04/2023
				Depth (ft.)	1-2	1-2	3-4	1-2	3-4	2-3
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000661 U	< 0.000686 U	< 0.000653 U	< 0.000675 U	< 0.000672 U	< 0.00067 U
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.00079 U	< 0.000819 U	< 0.00078 U	< 0.000806 U	< 0.000803 U	< 0.000801 U
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00102 U	< 0.00106 U	< 0.00101 U	< 0.00104 U	< 0.00104 U	< 0.00103 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000684 U	< 0.00071 U	< 0.000676 U	< 0.000699 U	< 0.000695 U	< 0.000694 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000682 U	< 0.000708 U	< 0.000673 U	< 0.000696 U	< 0.000693 U	< 0.000691 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000657 U	< 0.000681 U	< 0.000648 U	< 0.00067 U	< 0.000667 U	< 0.000665 U
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.00043 U	< 0.000446 U	< 0.000424 U	< 0.000439 U	< 0.000437 U	< 0.000436 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.00069 U	< 0.000716 U	< 0.000681 U	< 0.000704 U	< 0.000701 U	< 0.000699 U
BHC, delta	0.04	100	500	mg/kg	< 0.000671 U	< 0.000696 U	< 0.000662 U	< 0.000685 U	< 0.000682 U	< 0.00068 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000458 U	< 0.000475 U	< 0.000452 U	< 0.000467 U	< 0.000465 U	< 0.000464 U
Chlordane (Technical)				mg/kg	< 0.000642 U	< 0.000666 U	< 0.000634 U	< 0.000655 U	< 0.000653 U	< 0.000651 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000755 U	< 0.000784 U	< 0.000746 U	< 0.000771 U	< 0.000768 U	< 0.000766 U
ENDOSULFAN				mg/kg	< 0.000657 U	< 0.000681 U	< 0.000648 U	< 0.00067 U	< 0.000667 U	< 0.000665 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000543 U	< 0.000564 U	< 0.000536 U	< 0.000555 U	< 0.000552 U	< 0.000551 U
Endrin	0.014	11	89	mg/kg	< 0.000499 U	< 0.000517 U	< 0.000492 U	< 0.000509 U	< 0.000507 U	< 0.000506 U
Endrin aldehyde				mg/kg	< 0.000575 U	< 0.000597 U	< 0.000568 U	< 0.000587 U	< 0.000585 U	< 0.000583 U
Endrin ketone				mg/kg	< 0.000509 U	< 0.000528 U	< 0.000502 U	< 0.000519 U	< 0.000517 U	< 0.000516 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.000387 U	< 0.000401 U	< 0.000382 U	< 0.000395 U	< 0.000393 U	< 0.000392 U
Heptachlor epoxide				mg/kg	< 0.000729 U	< 0.000756 U	< 0.000719 U	< 0.000744 U	< 0.000741 U	< 0.000739 U
Methoxychlor				mg/kg	< 0.000423 U	< 0.000439 U	< 0.000418 U	< 0.000432 U	< 0.00043 U	< 0.000429 U
Toxaphene				mg/kg	< 0.0696 U	< 0.0722 U	< 0.0687 U	< 0.071 U	< 0.0707 U	< 0.0705 U
2,4-D				mg/kg	< 0.0184 U	< 0.0191 U	< 0.0182 U	< 0.0188 U	< 0.0187 U	< 0.0187 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0109 U	< 0.0113 U	< 0.0107 U	< 0.0111 U	< 0.0111 U	< 0.011 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-58	OH-SB-60	OH-SB-61	OH-SB-61	OH-SB-62	OH-SB-62
				Sample ID	OH-SB-58_3.0-4.0-20230504	OH-SB-60-1.0-2.0_20230503	OH-SB-61-1.0-2.0-20230613	OH-SB-61-9.0-10.0-20230613	OH-SB-62-1.0-2.0-20230612	OH-SB-62-9.0-10.0-20230612
				Sample Date	05/04/2023	05/03/2023	06/13/2023	06/13/2023	06/12/2023	06/12/2023
				Depth (ft.)	3-4	1-2	1-2	9-10	1-2	9-10
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units						
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000684 U	< 0.000733 U	< 0.000711 U	< 0.000974 U	< 0.000659 U	< 0.000742 U
4,4'-DDE	0.0033	8.9	62	mg/kg	0.00923	0.000961 J	< 0.000849 U	< 0.00116 U	0.00115 J	0.00123 J
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.00106 U	< 0.00113 U	< 0.0011 U	< 0.0015 U	< 0.00102 U	< 0.00114 U
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000708 U	< 0.000759 U	< 0.000736 U	< 0.00101 U	< 0.000682 U	< 0.000768 U
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000706 U	< 0.000756 U	< 0.000733 U	< 0.00101 U	< 0.00068 U	< 0.000765 U
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000679 U	< 0.000728 UJ	< 0.000706 UJ	< 0.000967 UJ	< 0.000655 UJ	< 0.000737 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000445 U	< 0.000477 U	< 0.000462 U	< 0.000634 U	< 0.000429 U	< 0.000482 U
BHC, beta	0.036	0.36	3	mg/kg	< 0.000714 U	< 0.000765 U	< 0.000742 U	< 0.00102 U	< 0.000688 U	< 0.000774 U
BHC, delta	0.04	100	500	mg/kg	< 0.000694 U	< 0.000744 U	< 0.000721 U	< 0.000989 U	< 0.000669 U	< 0.000753 U
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000474 U	< 0.000508 U	< 0.000492 U	< 0.000674 U	< 0.000456 U	< 0.000513 U
Chlordane (Technical)				mg/kg	< 0.000664 U	< 0.000712 U	< 0.00069 U	< 0.000946 U	0.024	< 0.00072 U
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000782 U	< 0.000838 U	< 0.000812 U	< 0.00111 U	< 0.000753 U	< 0.000847 U
ENDOSULFAN				mg/kg	< 0.000679 U	< 0.000728 U	< 0.000706 U	< 0.000967 U	< 0.000655 U	< 0.000737 U
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000562 U	< 0.000602 U	< 0.000584 U	< 0.0008 U	< 0.000542 U	< 0.000609 U
Endrin	0.014	11	89	mg/kg	< 0.000516 U	< 0.000553 U	< 0.000536 U	< 0.000735 U	< 0.000497 U	< 0.00056 U
Endrin aldehyde				mg/kg	< 0.000595 U	< 0.000638 U	< 0.000619 U	< 0.000848 U	< 0.000574 U	< 0.000646 U
Endrin ketone				mg/kg	< 0.000526 U	< 0.000564 U	< 0.000547 U	< 0.00075 U	< 0.000507 U	< 0.000571 U
Heptachlor	0.042	2.1	15	mg/kg	< 0.0004 U	< 0.000429 U	< 0.000416 U	< 0.00057 U	< 0.000385 U	< 0.000434 U
Heptachlor epoxide				mg/kg	< 0.000754 U	< 0.000808 U	< 0.000784 U	< 0.00107 U	< 0.000727 U	< 0.000818 U
Methoxychlor				mg/kg	< 0.000438 U	< 0.000469 U	< 0.000455 U	< 0.000624 U	< 0.000422 U	< 0.000475 U
Toxaphene				mg/kg	< 0.072 U	< 0.0771 U	< 0.0748 U	< 0.103 U	< 0.0694 U	< 0.078 U
2,4-D				mg/kg	< 0.0191 U	< 0.0204 U	< 0.0198 UJ	< 0.0272 U	< 0.0184 UJ	< 0.0207 UJ
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0113 U	< 0.0121 U	< 0.0117 UJ	< 0.016 U	< 0.0109 UJ	< 0.0122 UJ

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 4E
SOIL QUALITY DATA - PESTICIDES/HERBICIDES
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

				Location ID	OH-SB-66	OH-SB-66
				Sample ID	OH-SB-66-1.0-2.0-20230515	OH-SB-66-6.0-7.0-20230515
				Sample Date	05/15/2023	05/15/2023
				Depth (ft.)	1-2	6-7
Chemical Name	NYSPART 375UU	NYSPART 375RR	NYSPART 375C	Units		
4,4'-DDD	0.0033	13	92	mg/kg	< 0.000627 U	0.00389 J
4,4'-DDE	0.0033	8.9	62	mg/kg	< 0.000749 U	0.00665 J
4,4'-DDT	0.0033	7.9	47	mg/kg	< 0.000967 U	0.00826 J
Aldrin	0.005	0.097	0.68	mg/kg	< 0.000649 U	< 0.000781 UJ
alpha Endosulfan (Endosulfan I)	2.4	24	200	mg/kg	< 0.000647 U	< 0.000779 UJ
beta Endosulfan (Endosulfan II)	2.4	24	200	mg/kg	< 0.000622 U	< 0.000749 UJ
BHC, alpha	0.02	0.48	3.4	mg/kg	< 0.000408 U	< 0.000491 UJ
BHC, beta	0.036	0.36	3	mg/kg	< 0.000654 U	< 0.000788 UJ
BHC, delta	0.04	100	500	mg/kg	< 0.000636 U	< 0.000766 UJ
BHC, gamma (Lindane)	0.1	1.3	9.2	mg/kg	< 0.000434 U	< 0.000522 UJ
Chlordane (Technical)				mg/kg	< 0.000609 U	< 0.000733 UJ
Dieldrin	0.005	0.2	1.4	mg/kg	< 0.000716 U	< 0.000862 UJ
ENDOSULFAN				mg/kg	< 0.000622 U	< 0.000749 UJ
Endosulfan sulfate	2.4	24	200	mg/kg	< 0.000515 U	< 0.00062 UJ
Endrin	0.014	11	89	mg/kg	< 0.000473 U	< 0.000569 UJ
Endrin aldehyde				mg/kg	< 0.000546 U	< 0.000657 UJ
Endrin ketone				mg/kg	< 0.000482 U	< 0.000581 UJ
Heptachlor	0.042	2.1	15	mg/kg	< 0.000367 U	< 0.000441 UJ
Heptachlor epoxide				mg/kg	< 0.000691 U	< 0.000832 UJ
Methoxychlor				mg/kg	< 0.000401 U	< 0.000483 UJ
Toxaphene				mg/kg	< 0.066 U	< 0.0794 UJ
2,4-D				mg/kg	< 0.0175 U	< 0.0211 U
Silvex (2,4,5-TP)	3.8	100	500	mg/kg	< 0.0103 U	< 0.0124 U

Notes:
Concentrations above NYSPART375UU are shaded gray
< = method detection limit
mg/kg - milligram per kilogram
ft. = feet
J - The result is qualified as an estimated concentration or amount
U - The result is not detected above the associated detection limit
UJ - The result is not detected, The detection limit is estimated

TABLE 5A
GROUNDWATER QUALITY DATA - VOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

			Location ID	MW-04D	MW-04I	MW-04S	MW-05D	MW-05I	MW-05S	MW-06D	MW-06S	MW-07D	MW-07D	MW-07S
			Sample ID	OH-MW-04D-20230808	OH-MW-04I-20230808	OH-MW-04S-20230808	OH-MW-05D-20230808	OH-MW-05I-20230809	OH-MW-05S-20230808	OH-MW-06D-20230809	OH-MW-06S-20230809	OH-MW-07D-20230809	DUP-20230809	OH-MW-07S-20230809
			Sample Date	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/9/2023	8/8/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023
Chemical Name	NYS703	NYSTOGS	Units											
1,1,1-Trichloroethane	5		ug/L	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U	< 0.216 U
1,1,2,2-Tetrachloroethane	5		ug/L	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U	< 0.218 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5		ug/L	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U	< 0.546 U
1,1,2-Trichloroethane	1		ug/L	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U	< 0.476 U
1,1-Dichloroethane	5		ug/L	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U	< 0.393 U
1,1-Dichloroethene	5		ug/L	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U	< 0.149 U
1,2,3-Trichlorobenzene	5	10	ug/L	< 0.488 U	< 0.488 U	< 0.488 U	< 0.488 U	< 0.488 U	< 0.488 U	< 0.488 U	< 0.488 UJ	< 0.488 UJ	< 0.488 UJ	< 0.488 U
1,2,4-Trichlorobenzene	5	10	ug/L	< 0.437 U	< 0.437 U	< 0.437 U	< 0.437 U	< 0.437 U	< 0.437 U	< 0.437 U	< 0.437 UJ	< 0.437 UJ	< 0.437 UJ	< 0.437 UJ
1,2,4-Trimethylbenzene	5		ug/L	< 0.155 U	< 0.155 U	< 0.155 U	31.5	150 J	4.38	174	6.11	74.3 J	74.5	1.01 J
1,2-Dibromo-3-chloropropane (DBCP)	0.04		ug/L	< 1.09 U	< 1.09 U	< 1.09 U	< 1.09 U	< 1.09 U	< 1.09 U	< 1.09 U	< 1.09 UJ	< 1.09 UJ	< 1.09 UJ	< 1.09 U
1,2-Dibromoethane (EDB)	0.0006		ug/L	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U
1,2-Dichlorobenzene	3		ug/L	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 UJ
1,2-Dichloroethane	0.6		ug/L	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U	< 0.306 U
1,2-Dichloropropane	1		ug/L	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U	< 0.267 U
1,3-Dichlorobenzene	3		ug/L	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U	< 0.287 U
1,4-Dichlorobenzene	3		ug/L	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U	< 0.238 U
2-Butanone (MEK)		50	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Hexanone		50	ug/L	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U	< 0.635 U
4-Methyl-2-pentanone (MIBK)			ug/L	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U	< 0.638 U
Acetone		50	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	14.7 J	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Benzene	1		ug/L	0.544 J	15.6	< 0.129 U	9.52	1320	0.554 J	340	8.54	73.1 J	74.9	< 0.129 U
Bromochloromethane	5		ug/L	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U	< 0.307 U
Bromodichloromethane		50	ug/L	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U	< 0.258 U
Bromoform		50	ug/L	< 0.421 U	< 0.421 U	< 0.421 U	< 0.421 U	< 0.421 U	< 0.421 U	< 0.421 U	< 0.421 UJ	< 0.421 UJ	< 0.421 UJ	< 0.421 U
Bromomethane	5		ug/L	< 0.702 UJ	< 0.702 UJ	< 0.702 UJ	< 0.702 UJ	< 0.702 U	< 0.702 UJ	< 0.702 U	< 0.702 U	< 0.702 U	< 0.702 U	< 0.702 UJ
Carbon disulfide	60	60	ug/L	< 0.477 U	< 0.477 U	< 0.477 U	< 0.477 U	3.12 J	1.2	1.13 J	1.93	< 0.477 U	< 0.477 U	< 0.477 U
Carbon tetrachloride	5		ug/L	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U	< 0.372 U
Chlorobenzene	5		ug/L	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U	< 0.3 U
Chloroethane	5		ug/L	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U	< 0.299 U
Chloroform	7		ug/L	4.62	0.589 J	< 0.365 U	< 0.365 U	2.76 J	< 0.365 U	2.83 J	< 0.365 U	0.618 J	0.492 J	< 0.365 U
Chloromethane	5		ug/L	< 0.758 U	< 0.758 U	< 0.758 U	< 0.758 U	< 0.758 UJ	< 0.758 U	< 0.758 U	< 0.758 U	< 0.758 U	< 0.758 U	< 0.758 U
cis-1,2-Dichloroethene	5		ug/L	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U
cis-1,3-Dichloropropene	0.4		ug/L	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U	< 0.294 U
Cyclohexane			ug/L	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U	< 0.298 U
Dibromochloromethane		50	ug/L	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U	< 0.504 U
Dichlorodifluoromethane (Freon 12)	5		ug/L	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 U	< 0.328 UJ
Ethylbenzene	5		ug/L	< 0.244 U	2.13	< 0.244 U	22.5	392	6.98	755	2.26	186	189	0.688 J
Isopropylbenzene (Cumene)	5		ug/L	< 0.275 U	< 0.275 U	< 0.275 U	1.71	11.9 J	5.93	20.5 J	3.69	4.89 J	5.16	0.556 J
Methyl acetate			ug/L	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U	< 0.373 U
Methylcyclohexane			ug/L	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U	< 0.222 U
Methylene chloride	5		ug/L	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U
Styrene	5		ug/L	< 0.176 U	< 0.176 U	< 0.176 U	5.56	169 J	< 0.176 U	117 J	< 0.176 U	33.9 J	33.2	< 0.176 U
tert-Butyl alcohol			ug/L	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U	< 8.17 U
tert-Butyl methyl ether (MTBE)		10	ug/L	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U	< 0.596 U
Tetrachloroethene (PCE)	5		ug/L	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U	< 0.466 U
Toluene	5		ug/L	< 0.205 U	0.985 J	< 0.205 U	49.9	425	0.36 J	782	0.656 J	234	238	< 0.205 U
trans-1,2-Dichloroethene	5		ug/L	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U	< 0.241 U
trans-1,3-Dichloropropene	0.4		ug/L	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U	< 0.279 U
Trichloroethene (TCE)	5		ug/L	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U
Trichlorofluoromethane (Freon 11)	5		ug/L	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U	< 0.413 U
Vinyl chloride	2		ug/L	< 0.157 U	< 0.157 U	< 0.157 U	< 0.157 U	< 0.157 UJ	< 0.157 U	< 0.157 U	< 0.157 U	< 0.157 U	< 0.157 U	< 0.157 U
Xylene, o (1,2-Dimethylbenzene)	5		ug/L	< 0.244 U	1.76	< 0.244 U	15.2	242	< 0.244 U	311	2.51	88.2 J	86.6	< 0.244 U
Xylenes, m & p			ug/L	< 0.461 U	1.31 J	< 0.461 U	27.9	468	0.962 J	582	2.79	160 J	155	< 0.461 U
Xylenes, total	5		ug/L	< 0.244 U	3.07	< 0.244 U	43.1	710	0.962 J	893	5.3	248 J	242	0.347 J

Notes:
ug/L = microgram per liter
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the sample method detection limit.
UJ - The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
Concentrations above NYS703 are shaded gray
Concentrations above NYSTOGS are boldfaced

TABLE 5B
GROUNDWATER QUALITY DATA - SVOCs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

			Location ID	MW-04D	MW-04I	MW-04S	MW-05D	MW-05I	MW-05S	MW-06D	MW-06S	MW-07D	MW-07D	MW-07S
			Sample ID	OH-MW-04D-20230808	OH-MW-04I-20230808	OH-MW-04S-20230808	OH-MW-05D-20230808	OH-MW-05I-20230809	OH-MW-05S-20230808	OH-MW-06D-20230809	OH-MW-06S-20230809	OH-MW-07D-20230809	DUP-20230809	OH-MW-07S-20230809
			Sample Date	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/9/2023	8/8/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023
Chemical Name	NYS703	NYSTOGS	Units											
2,3,4,6-Tetrachlorophenol	1		ug/L	< 0.21 U	< 0.21 U	< 0.21 U	< 2.1 U	< 0.21 U	< 0.219 UR	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U	< 0.21 U
2,4,5-Trichlorophenol	1		ug/L	< 0.0438 U	< 0.0438 U	< 0.0438 U	< 0.438 U	< 0.0438 U	< 0.0456 UR	< 0.0438 U	< 0.0438 U	< 0.0438 U	< 0.0438 U	< 0.0438 U
2,4,6-Trichlorophenol	1		ug/L	< 0.137 U	< 0.137 U	< 0.137 U	< 1.37 U	< 0.137 U	< 0.143 UR	< 0.137 U	< 0.137 U	< 0.137 U	< 0.137 U	< 0.137 U
2,4-Dichlorophenol	1		ug/L	< 0.152 U	< 0.152 U	< 0.152 U	< 1.52 U	< 0.152 U	< 0.158 UR	< 0.152 U	< 0.152 U	< 0.152 U	< 0.152 U	< 0.152 U
2,4-Dimethylphenol	1	50	ug/L	< 0.179 U	< 0.179 U	< 0.179 U	< 1.79 U	26.6	< 0.186 UR	< 0.179 U	< 0.179 U	< 0.179 U	< 0.179 U	< 0.179 U
2,4-Dinitrophenol	1	10	ug/L	< 0.326 U	< 0.326 U	< 0.326 U	< 3.26 U	< 0.326 U	< 0.34 UR	< 0.326 U	< 0.326 U	< 0.326 U	< 0.326 U	< 0.326 U
2,4-Dinitrotoluene	5		ug/L	< 0.108 U	< 0.108 U	< 0.108 U	< 1.08 U	< 0.108 U	< 0.112 UR	< 0.108 U	< 0.108 U	< 0.108 U	< 0.108 U	< 0.108 U
2,6-Dinitrotoluene	5		ug/L	< 0.143 U	< 0.143 U	< 0.143 U	< 1.43 U	< 0.143 U	< 0.149 UR	< 0.143 U	< 0.143 U	< 0.143 U	< 0.143 U	< 0.143 U
2-Chloronaphthalene		10	ug/L	< 0.122 U	< 0.122 U	< 0.122 U	< 1.22 U	< 0.122 U	< 0.127 UR	< 0.122 U	< 0.122 U	< 0.122 U	< 0.122 U	< 0.122 U
2-Chlorophenol	1		ug/L	< 0.111 U	< 0.111 U	< 0.111 U	< 1.11 U	< 0.111 U	< 0.116 UR	< 0.111 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.111 U
2-Methylnaphthalene			ug/L	< 0.103 U	< 0.103 U	< 0.103 U	499 J	610	< 0.107 UR	678	10.3	551	508	8.47
2-Methylphenol (o-cresol)	1		ug/L	< 0.155 U	< 0.155 U	< 0.155 U	< 1.55 U	< 0.155 U	< 0.161 UR	< 0.155 U	< 0.155 U	< 0.155 U	< 0.155 U	< 0.155 U
2-Nitroaniline	5		ug/L	< 0.101 U	< 0.101 U	< 0.101 U	< 1.01 U	< 0.101 U	< 0.105 UR	< 0.101 U	< 0.101 U	< 0.101 U	< 0.101 U	< 0.101 U
2-Nitrophenol	1		ug/L	< 0.162 U	< 0.162 U	< 0.162 U	< 1.62 U	< 0.162 U	< 0.169 UR	< 0.162 U	< 0.162 U	< 0.162 U	< 0.162 U	< 0.162 U
3,3'-Dichlorobenzidine	5		ug/L	< 0.11 U	< 0.11 U	< 0.11 U	< 1.1 U	< 0.11 U	< 0.115 UR	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U
3/4-Methylphenol	1		ug/L	< 0.122 U	< 0.122 U	< 0.122 U	< 1.22 U	6.63	< 0.127 UR	1.68 J	< 0.122 U	< 0.122 U	< 0.122 U	< 0.122 U
3-Nitroaniline	5		ug/L	< 0.134 U	< 0.134 U	< 0.134 U	< 1.34 U	< 0.134 U	< 0.14 UR	< 0.134 U	< 0.134 U	< 0.134 U	< 0.134 U	< 0.134 U
4,6-Dinitro-2-methylphenol	1		ug/L	< 0.0793 U	< 0.0793 U	< 0.0793 U	< 0.793 U	< 0.0793 U	< 0.0826 UR	< 0.0793 U	< 0.0793 U	< 0.0793 U	< 0.0793 U	< 0.0793 U
4-Bromophenyl phenyl ether			ug/L	< 0.191 U	< 0.191 U	< 0.191 U	< 1.91 U	< 0.191 U	< 0.199 UR	< 0.191 U	< 0.191 U	< 0.191 UJ	< 0.191 UJ	< 0.191 UJ
4-Chloro-3-methylphenol	1		ug/L	< 0.141 U	< 0.141 U	< 0.141 U	< 1.41 U	< 0.141 U	< 0.147 UR	< 0.141 U	< 0.141 U	< 0.141 U	< 0.141 U	< 0.141 U
4-Chloroaniline	5		ug/L	< 0.162 U	< 0.162 U	< 0.162 U	< 1.62 U	< 0.162 U	< 0.169 UR	< 0.162 U	< 0.162 U	< 0.162 U	< 0.162 U	< 0.162 U
4-Chlorophenyl phenyl ether			ug/L	< 0.136 U	< 0.136 U	< 0.136 U	< 1.36 U	< 0.136 U	< 0.142 UR	< 0.136 U	< 0.136 U	< 0.136 U	< 0.136 U	< 0.136 U
4-Nitroaniline	5		ug/L	< 0.0868 U	< 0.0868 U	< 0.0868 U	< 0.868 U	< 0.0868 U	< 0.0904 UR	< 0.0868 U	< 0.0868 U	< 0.0868 U	< 0.0868 U	< 0.0868 U
4-Nitrophenol	1		ug/L	< 0.168 U	< 0.168 U	< 0.168 U	< 1.68 U	< 0.168 U	< 0.175 UR	< 0.168 U	< 0.168 U	< 0.168 U	< 0.168 U	< 0.168 U
Acenaphthene		**20**	ug/L	< 0.1 U	< 0.1 U	< 0.1 U	**69.3 J**	**52**	11.3 J	**63.1**	**39.4**	**85.5**	**80.3**	**48.3**
Acenaphthylene			ug/L	< 0.14 U	< 0.14 U	< 0.14 U	194 J	263	0.687 J	261	1.28 J	101	96.8	0.921 J
Acetophenone			ug/L	< 0.17 U	0.408 J	0.592 J	< 1.7 U	< 0.17 U	< 0.177 UR	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U
Anthracene		50	ug/L	< 0.121 U	< 0.121 U	< 0.121 U	22.2 J	25.7	1.88 J	17	4.72	12.5	12.5	12.7
Atrazine	7.5		ug/L	< 0.0861 U	< 0.0861 U	< 0.0861 U	< 0.861 U	< 0.0861 U	< 0.0897 UR	< 0.0861 U	< 0.0861 U	< 0.0861 U	< 0.0861 U	< 0.0861 U
Benzaldehyde			ug/L	< 0.134 U	< 0.134 U	< 0.134 U	< 1.34 U	< 0.134 U	< 0.14 UR	< 0.134 U	< 0.134 U	< 0.134 U	< 0.134 U	< 0.134 U
Benzo(g,h,i)perylene			ug/L	< 0.0652 U	< 0.0652 U	< 0.0652 U	< 0.652 U	2.91	< 0.0679 UR	0.981 J	< 0.0652 U	< 0.0652 U	< 0.0652 U	1.21 J
Benzyl butyl phthalate		50	ug/L	< 0.19 U	< 0.19 U	< 0.19 U	< 1.9 U	< 0.19 U	< 0.198 UR	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U
Biphenyl (Diphenyl)	5		ug/L	< 0.106 U	< 0.106 U	< 0.106 U	48 J	37.8	< 0.11 UR	42	< 0.106 U	35.9	32.9	3.51
bis(2-Chloroethoxy)methane	5		ug/L	< 0.112 U	< 0.112 U	< 0.112 U	< 1.12 U	< 0.112 U	< 0.117 UR	< 0.112 U	< 0.112 U	< 0.112 U	< 0.112 U	< 0.112 U
bis(2-Chloroethyl)ether	1		ug/L	< 0.121 U	< 0.121 U	< 0.121 U	< 1.21 U	< 0.121 U	< 0.126 UR	< 0.121 U	< 0.121 U	< 0.121 U	< 0.121 U	< 0.121 U
bis(2-Chloroisopropyl)ether	5		ug/L	< 0.132 U	< 0.132 U	< 0.132 U	< 1.32 U	< 0.132 U	< 0.138 UR	< 0.132 U	< 0.132 U	< 0.132 U	< 0.132 U	< 0.132 U
bis(2-Ethylhexyl)phthalate	5		ug/L	< 0.183 U	0.428 J	< 0.183 U	< 1.83 U	< 0.183 U	< 0.191 UR	< 0.183 U	< 0.183 U	< 0.183 U	< 0.183 U	< 0.183 U
Caprolactam			ug/L	< 0.193 U	< 0.193 U	< 0.193 U	< 1.93 U	< 0.193 U	< 0.201 UR	< 0.193 U	< 0.193 U	< 0.193 U	< 0.193 U	< 0.193 U
Carbazole			ug/L	< 0.188 U	< 0.188 U	< 0.188 U	9.24 J	16.9	< 0.196 UR	20	17.1	14.7	13.6	6.41
Chrysene		**0.002**	ug/L	< 0.129 U	< 0.129 U	< 0.129 U	< 1.29 U	**9.17**	< 0.134 UR	**3.9**	**0.466 J**	**0.7 J**	**1.01 J**	**1.43 J**
Dibenzofuran			ug/L	< 0.12 U	< 0.12 U	< 0.12 U	18.8 J	13	< 0.125 UR	10.6	18.7	23.6	22.1	27.2
Diethyl phthalate		50	ug/L	< 0.123 U	< 0.123 U	< 0.123 U	< 1.23 U	< 0.123 U	0.422 J	< 0.123 U	< 0.123 U	< 0.123 U	< 0.123 U	< 0.123 U
Dimethyl phthalate		50	ug/L	< 0.388 U	< 0.388 U	< 0.388 U	< 3.88 U	< 0.388 U	< 0.404 UR	< 0.388 U	1.16 J	< 0.388 U	< 0.388 U	< 0.388 U
di-n-Butyl phthalate	50		ug/L	< 0.131 U	< 0.131 U	< 0.131 U	< 1.31 U	< 0.131 U	< 0.136 UR	< 0.131 U	< 0.131 U	< 0.131 U	< 0.131 U	< 0.131 U
di-n-Octyl phthalate		50	ug/L	< 0.139 U	< 0.139 U	< 0.139 U	< 1.39 U	< 0.139 U	< 0.145 UR	< 0.139 U	< 0.139 U	< 0.139 U	< 0.139 U	< 0.139 U
Fluoranthene		50	ug/L	< 0.129 U	< 0.129 U	< 0.129 U	8.5 J	21.1	2.32 J	10.1	3.61	5.33	6.08	12.1
Fluorene		**50**	ug/L	< 0.109 U	< 0.109 U	< 0.109 U	**84.7 J**	**66.8**	2.64 J	**68.3**	24.1	**59.4**	**55.6**	27
Hexachlorocyclopentadiene	5		ug/L	< 0.205 UJ	< 0.205 UJ	< 0.205 UJ	< 2.05 UJ	< 0.205 U	< 0.214 UR	< 0.205 U	< 0.205 U	< 0.205 UJ	< 0.205 UJ	< 0.205 UJ
Hexachloroethane	5		ug/L	< 0.111 U	< 0.111 U	< 0.111 U	< 1.11 U	< 0.111 U	< 0.116 UR	< 0.111 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.111 U
Isophorone		50	ug/L	< 0.111 U	< 0.111 U	< 0.111 U	< 1.11 U	< 0.111 U	< 0.116 UR	< 0.111 U	< 0.111 U	< 0.111 U	< 0.111 U	< 0.111 U
Naphthalene		**10**	ug/L	0.458 J	2.17	< 0.0607 U	**854 J**	**2940**	< 0.0632 UR	**3970**	5.7	**1440**	**1440**	**67.3**
Nitrobenzene	0.4		ug/L	< 0.146 U	< 0.146 U	< 0.146 U	< 1.46 U	< 0.146 U	< 0.152 UR	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U	< 0.146 U
N-Nitroso-di-n-propylamine			ug/L	< 0.13 U	< 0.13 U	< 0.13 U	< 1.3 U	< 0.13 U	< 0.135 UR	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
N-Nitrosodiphenylamine		50	ug/L	< 0.0626 U	< 0.0626 U	< 0.0626 U	< 0.626 U	< 0.0626 U	< 0.0652 UR	< 0.0626 U	< 0.0626 U	< 0.0626 U	< 0.0626 U	< 0.0626 U
Phenanthrene		**50**	ug/L	< 0.0725 U	< 0.0725 U	< 0.0725 U	**103 J**	**84.4**	8.87 J	**65.2**	19.4	**64**	**61.2**	40.3
Phenol	1		ug/L	< 0.0973 U	< 0.0973 U	< 0.0973 U	< 0.973 U	4.74	< 0.101 UR	0.982 J	< 0.0973 U	< 0.0973 U	< 0.0973 U	< 0.0973 U
Pyrene		50	ug/L	< 0.115 U	< 0.115 U	< 0.115 U	12.2 J	27.2	3.24 J	14.5	2.44	6.58 J	7.42 J	8.95 J

Notes:
ug/L = microgram per liter
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the sample method detection limit.
UJ - The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
UR - The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
Concentrations above NYS703 are shaded gray
Concentrations above NYSTOGS are boldfaced

TABLE 5C
GROUNDWATER QUALITY DATA - METALS
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

			Location ID	MW-04D	MW-04I	MW-04S	MW-05D	MW-05I	MW-05S	MW-06D	MW-06S	MW-07D	MW-07D	MW-07S
			Sample ID	OH-MW-04D-20230808	OH-MW-04I-20230808	OH-MW-04S-20230808	OH-MW-05D-20230808	OH-MW-05I-20230809	OH-MW-05S-20230808	OH-MW-06D-20230809	OH-MW-06S-20230809	OH-MW-07D-20230809	DUP-20230809	OH-MW-07S-20230809
			Sample Date	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/9/2023	8/8/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023
Chemical Name	NYS703	NYSTOGS	Units											
Cyanide	0.2		mg/L	< 0.005 UR	0.104 J	0.149 J	< 0.005 UR		0.183 J					
Antimony	0.003		mg/L	< 0.000293 U	< 0.000293 U	< 0.000293 U	< 0.000293 U	< 0.00146 U	< 0.000293 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U	< 0.00146 U
Arsenic	0.025		mg/L	0.00575	< 0.000272 U	0.0281	0.00906	< 0.00136 U	< 0.000272 U	< 0.00136 U	< 0.00136 U	< 0.00136 U	< 0.00136 U	0.0129
Barium	1		mg/L	0.0995 J	0.149 J	0.527 J	0.162 J	0.87	0.457 J	0.955	0.184	0.596	0.585	0.108
Cadmium	0.005		mg/L	< 0.000301 U	< 0.000301 U	< 0.000301 U	< 0.000301 U	< 0.0015 U	< 0.000301 U	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.0015 U
Cobalt			mg/L	< 0.000196 U	< 0.000196 U	0.00432	< 0.000196 U	< 0.00098 U	< 0.000196 U	< 0.00098 U	< 0.00098 U	< 0.00098 U	< 0.00098 U	< 0.00098 U
Copper	0.2		mg/L	0.00656	0.012	0.0406	0.00457	< 0.00108 U	0.00811	0.0173	< 0.00108 U	0.0133	0.0195	0.0411
Lead	0.025		mg/L	0.00294	0.00335	0.00684	< 0.000338 U	< 0.00169 U	0.00429	< 0.00169 U	< 0.00169 U	< 0.00169 U	< 0.00169 U	0.0179
Nickel	0.1		mg/L	0.00319	0.00456	0.00731	0.00376	< 0.0015 U	0.00873	< 0.0015 U	< 0.0015 U	< 0.0015 U	< 0.0015 U	0.0137
Selenium	0.01		mg/L	< 0.000601 U	< 0.000601 U	< 0.000601 U	< 0.000601 U	< 0.003 U	< 0.000601 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U	< 0.003 U
Silver	0.05		mg/L	< 0.000266 U	< 0.000266 U	< 0.000266 U	< 0.000266 U	< 0.00133 U	< 0.000266 U	< 0.00133 U	< 0.00133 U	< 0.00133 U	< 0.00133 U	< 0.00133 U
Thallium		0.0005	mg/L	< 0.000339 UR	< 0.000339 UR	< 0.000339 UR	< 0.000339 UR	< 0.0017 U	< 0.000339 UR	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U	< 0.0017 U
Zinc		2	mg/L	< 0.000549 U	< 0.000549 U	< 0.000549 U	< 0.000549 U	< 0.00274 U	< 0.000549 U	< 0.00274 U	< 0.00274 U	< 0.00274 U	< 0.00274 U	0.156
Mercury	0.0007		mg/L	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U	< 0.000183 U
Aluminum			mg/L	0.878 J	0.758 J	< 0.0522 UR	0.252 J	< 0.0522 U	< 0.0522 UR	0.635	< 0.0522 U	< 0.0522 UJ	0.521 J	0.438
Beryllium		0.003	mg/L	< 0.000206 U	< 0.000206 U	0.00203	0.00189	0.00107	0.00122	0.00198	< 0.000206 U	0.00188	0.00184	0.00288
Calcium			mg/L	87.6	44.4	136	185	106	136	235	150	262	250	243
Chromium	0.05		mg/L	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U	< 0.00048 U
Iron	0.3		mg/L	1.63	4.13	19.3	0.833	1.52	< 0.058 U	0.714	11.6	2.97 J	6.01 J	< 0.058 U
Magnesium		**35**	mg/L	**47.4**	**64.5**	16	**94.7**	**154**	**110**	**408**	**69.6**	**382**	**365**	**597**
Manganese	0.3		mg/L	0.374 J	0.21 J	0.548 J	0.813 J	0.307	0.326 J	0.803	0.764	0.621	0.61	0.0535
Potassium			mg/L	10.6 J	47.9 J	57.9 J	16.9 J	95	69 J	118	74.7	144	140	249
Sodium	20		mg/L	66.6 J	875 J	6660 J	838 J	1920	2680 J	3340	517	3360	3480	6300
Vanadium			mg/L	< 0.00668 U	< 0.00668 U	0.00853	< 0.00668 U	< 0.00668 U	< 0.00668 U	< 0.00668 U	< 0.00668 U	< 0.00668 U	< 0.00668 U	< 0.00668 U

Notes:
mg/L = milligram per liter
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the sample method detection limit.
UJ - The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.
UR - The sample non-detection results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.
Concentrations above NYS703 are shaded gray
Concentrations above NYSTOGS are boldfaced

TABLE 5D
GROUNDWATER QUALITY DATA - PCBs
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

			Location ID	MW-04D	MW-04I	MW-04S	MW-05D	MW-05I	MW-05S	MW-06D	MW-06S	MW-07D	MW-07D	MW-07S
			Sample ID	OH-MW-04D-20230808	OH-MW-04I-20230808	OH-MW-04S-20230808	OH-MW-05D-20230808	OH-MW-05I-20230809	OH-MW-05S-20230808	OH-MW-06D-20230809	OH-MW-06S-20230809	OH-MW-07D-20230809	DUP-20230809	OH-MW-07S-20230809
			Sample Date	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/9/2023	8/8/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023
Chemical Name	NYS703	NYSTOGS	Units											
Aroclor 1016	0.09		ug/L	< 0.0497 U	< 0.0497 U	< 0.0497 U	< 0.0497 U	< 0.054 U	< 0.0497 U	< 0.0497 U	< 0.0502 U	< 0.0497 U	< 0.0497 U	< 0.0497 U
Aroclor 1221	0.09		ug/L	< 0.352 U	< 0.352 U	< 0.352 U	< 0.352 U	< 0.382 U	< 0.352 U	< 0.352 U	< 0.355 U	< 0.352 U	< 0.352 U	< 0.352 U
Aroclor 1232	0.09		ug/L	< 0.109 U	< 0.109 U	< 0.109 U	< 0.109 U	< 0.119 U	< 0.109 U	< 0.109 U	< 0.11 U	< 0.109 U	< 0.109 U	< 0.109 U
Aroclor 1242	0.09		ug/L	< 0.185 U	< 0.185 U	< 0.185 U	< 0.185 U	< 0.202 U	< 0.185 U	< 0.185 U	< 0.187 U	< 0.185 U	< 0.185 U	< 0.185 U
Aroclor 1248	0.09		ug/L	< 0.0933 U	< 0.0933 U	< 0.0933 U	< 0.0933 U	< 0.101 U	< 0.0933 U	< 0.0933 U	< 0.0942 U	< 0.0933 U	< 0.0933 U	< 0.0933 U
Aroclor 1254	0.09		ug/L	< 0.103 U	< 0.103 U	< 0.103 U	< 0.103 U	< 0.112 U	< 0.103 U	< 0.103 U	< 0.104 U	< 0.103 U	< 0.103 U	< 0.103 U
Aroclor 1260	0.09		ug/L	< 0.0784 U	< 0.0784 U	< 0.0784 U	< 0.0784 U	< 0.0852 U	< 0.0784 U	< 0.0784 U	< 0.0792 U	< 0.0784 U	< 0.0784 U	< 0.0784 U
Aroclor 1262	0.09		ug/L	< 0.169 U	< 0.169 U	< 0.169 U	< 0.169 U	< 0.184 U	< 0.169 U	< 0.169 U	< 0.171 U	< 0.169 U	< 0.169 U	< 0.169 U
Aroclor 1268	0.09		ug/L	< 0.159 U	< 0.159 U	< 0.159 U	< 0.159 U	< 0.173 U	< 0.159 U	< 0.159 U	< 0.161 U	< 0.159 U	< 0.159 U	< 0.159 U
Total PCBs	0.09		ug/L	< 0.0497 U	< 0.0497 U	< 0.0497 U	< 0.0497 U	< 0.054 U	< 0.0497 U	< 0.0497 U	< 0.0502 U	< 0.0497 U	< 0.0497 U	< 0.0497 U

Notes:
ug/L = microgram per liter
U - The analyte was analyzed for, but was not detected above the sample method detection limit.

TABLE 5E
GROUNDWATER QUALITY DATA - PESTICIDES
PHASE II INVESTIGATION - 00H-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

			Location ID	MW-04D	MW-04I	MW-04S	MW-05D	MW-05I	MW-05S	MW-06D	MW-06S	MW-07D	MW-07D	MW-07S
			Sample ID	OH-MW-04D-20230808	OH-MW-04I-20230808	OH-MW-04S-20230808	OH-MW-05D-20230808	OH-MW-05I-20230809	OH-MW-05S-20230808	OH-MW-06D-20230809	OH-MW-06S-20230809	OH-MW-07D-20230809	DUP-20230809	OH-MW-07S-20230809
			Sample Date	8/8/2023	8/8/2023	8/8/2023	8/8/2023	8/9/2023	8/8/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023	8/9/2023
Chemical Name	NYS703	NYSTOGS	Units											
4,4'-DDD	0.3		ug/L	< 0.000378 U	< 0.000378 U	< 0.000378 U	< 0.000378 U	< 0.000411 U	< 0.000378 U	< 0.000378 U	< 0.000382 U	< 0.000378 U	< 0.000378 U	< 0.000378 U
4,4'-DDE	0.2		ug/L	< 0.000234 U	< 0.000234 U	< 0.000234 U	< 0.000234 U	< 0.000254 U	< 0.000234 U	< 0.000234 U	< 0.000236 U	< 0.000234 U	< 0.000234 U	< 0.000234 U
4,4'-DDT	0.2		ug/L	< 0.000319 U	< 0.000319 U	< 0.000319 U	< 0.000319 U	< 0.000347 U	< 0.000319 U	< 0.000319 U	< 0.000322 U	< 0.000319 U	< 0.000319 U	< 0.000319 U
Aldrin	0		ug/L	< 0.000527 U	< 0.000527 U	< 0.000527 U	< 0.000527 U	< 0.000573 U	< 0.000527 U	< 0.000527 U	< 0.000532 U	< 0.000527 U	< 0.000527 U	< 0.000527 U
alpha Endosulfan (Endosulfan I)			ug/L	< 0.00038 U	< 0.00038 U	< 0.00038 U	< 0.00038 U	< 0.000413 U	< 0.00038 U	< 0.00038 U	< 0.000384 U	< 0.00038 U	< 0.00038 U	< 0.00038 U
beta Endosulfan (Endosulfan II)			ug/L	< 0.000254 U	< 0.000254 U	< 0.000254 U	< 0.000254 U	< 0.000276 U	< 0.000254 U	< 0.000254 U	< 0.000257 U	< 0.000254 U	< 0.000254 U	< 0.000254 U
BHC, alpha	0.01		ug/L	< 0.000255 U	< 0.000255 U	< 0.000255 U	< 0.000255 U	< 0.000277 U	< 0.000255 U	< 0.000255 U	< 0.000258 U	< 0.000255 U	< 0.000255 U	< 0.000255 U
BHC, beta	0.04		ug/L	< 0.000371 U	< 0.000371 U	< 0.000371 U	< 0.000371 U	< 0.000403 U	< 0.000371 U	< 0.000371 U	< 0.000375 U	< 0.000371 U	< 0.000371 U	< 0.000371 U
BHC, delta	0.04		ug/L	< 0.00032 U	< 0.00032 U	< 0.00032 U	< 0.00032 U	< 0.000348 U	< 0.00032 U	< 0.00032 U	< 0.000323 U	< 0.00032 U	< 0.00032 U	< 0.00032 U
BHC, gamma (Lindane)	0.05		ug/L	< 0.000241 U	< 0.000241 U	< 0.000241 U	< 0.000241 U	< 0.000262 U	< 0.000241 U	< 0.000241 U	< 0.000243 U	< 0.000241 U	< 0.000241 U	< 0.000241 U
Chlordane (Technical)	0.05		ug/L	< 0.000327 U	< 0.000327 U	< 0.000327 U	< 0.000327 U	< 0.000355 U	< 0.000327 U	< 0.000327 U	< 0.00033 U	< 0.000327 U	< 0.000327 U	< 0.000327 U
Dieldrin	0.004		ug/L	< 0.000271 U	< 0.000271 U	< 0.000271 U	< 0.000271 U	< 0.000295 U	< 0.000271 U	< 0.000271 U	< 0.000274 U	< 0.000271 U	< 0.000271 U	< 0.000271 U
Endosulfan sulfate			ug/L	< 0.000138 UJ	< 0.000138 UJ	< 0.000138 UJ	< 0.000138 UJ	< 0.00015 UJ	< 0.000138 UJ	< 0.000138 UJ	< 0.000139 UJ	< 0.000138 UJ	< 0.000138 UJ	< 0.000138 UJ
Endrin	0		ug/L	< 0.000229 U	< 0.000229 U	< 0.000229 U	< 0.000229 U	< 0.000249 U	< 0.000229 U	< 0.000229 U	< 0.000231 U	< 0.000229 U	< 0.000229 U	< 0.000229 U
Endrin aldehyde	5		ug/L	< 0.000318 U	< 0.000318 U	< 0.000318 U	< 0.000318 U	< 0.000346 U	< 0.000318 U	< 0.000318 U	< 0.000321 U	< 0.000318 U	< 0.000318 U	< 0.000318 U
Endrin ketone	5		ug/L	< 0.000203 U	< 0.000203 U	< 0.000203 U	< 0.000203 U	< 0.000221 U	< 0.000203 U	< 0.000203 U	< 0.000205 U	< 0.000203 U	< 0.000203 U	< 0.000203 U
Heptachlor	0.04		ug/L	< 0.000563 U	< 0.000563 U	< 0.000563 U	< 0.000563 U	< 0.000612 U	< 0.000563 U	< 0.000563 U	< 0.000569 U	< 0.000563 U	< 0.000563 U	< 0.000563 U
Heptachlor epoxide	0.03		ug/L	< 0.000302 U	< 0.000302 U	< 0.000302 U	< 0.000302 U	< 0.000328 U	< 0.000302 U	< 0.000302 U	< 0.000305 U	< 0.000302 U	< 0.000302 U	< 0.000302 U
Methoxychlor	35		ug/L	< 0.000343 U	< 0.000343 U	< 0.000343 U	< 0.000343 U	< 0.000373 U	< 0.000343 U	< 0.000343 U	< 0.000346 U	< 0.000343 U	< 0.000343 U	< 0.000343 U
Toxaphene	0.06		ug/L	< 0.0237 U	< 0.0237 U	< 0.0237 U	< 0.0237 U	< 0.0258 U	< 0.0237 U	< 0.0237 U	< 0.0239 U	< 0.0237 U	< 0.0237 U	< 0.0237 U

Notes:
ug/L = microgram per liter
U = The analyte was analyzed for, but was not detected above the sample method detection limit.
UJ = The analyte was not detected above the sample method detection limit; and the method detection limit is approximate.

TABLE 6
SOIL VAPOR DATA
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

	Location ID	OH-SV-6	OH-SV-7
	Sample ID	OH-SV-06_20230513	OH-SV-07_20230512
	Sample Date	5/13/2023	5/12/2023
Chemical Name	Units		
1,1,1-Trichloroethane	ug/m3	< 0.335 U	< 0.335 U
1,1,2,2-Tetrachloroethane	ug/m3	< 0.357 U	< 0.357 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	ug/m3	< 0.388 U	< 0.388 U
1,1,2-Trichloroethane	ug/m3	< 0.318 U	< 0.318 U
1,1-Dichloroethane	ug/m3	< 0.230 U	< 0.230 U
1,1-Dichloroethene	ug/m3	< 0.225 U	< 0.225 UJ
1,2,4-Trichlorobenzene	ug/m3	< 0.742 U	< 0.742 U
1,2,4-Trimethylbenzene	ug/m3	< 0.284 U	16.5 J
1,2-Dibromoethane (EDB)	ug/m3	< 0.418 U	< 0.418 U
1,2-Dichlorobenzene	ug/m3	< 0.372 U	< 0.372 U
1,2-Dichloroethane	ug/m3	< 0.319 U	< 0.319 U
1,2-Dichloroethene, total	ug/m3	NA	< 0.236 U
1,2-Dichloropropane	ug/m3	< 0.292 U	< 0.292 U
1,2-Dichlorotetrafluoroethane (Freon 114)	ug/m3	< 0.352 U	< 0.352 U
1,3,5-Trimethylbenzene (mesitylene)	ug/m3	< 0.295 U	4.75
1,3-Butadiene	ug/m3	< 0.137 U	1.27
1,3-Dichlorobenzene	ug/m3	< 0.467 U	3.29
1,3-Dichloropropene, total	ug/m3	NA	< 0.306 U
1,4-Dichlorobenzene	ug/m3	< 0.497 U	< 0.497 U
1,4-Dioxane	ug/m3	< 0.194 U	< 0.194 U
2,2,4-Trimethylpentane	ug/m3	< 0.323 U	17.0
2-Butanone (MEK)	ug/m3	3.92	20.4
2-Hexanone	ug/m3	< 0.374 U	< 0.374 U
3-Chloropropene (allyl chloride)	ug/m3	< 0.269 U	< 0.269 U
4-Ethyltoluene	ug/m3	< 0.272 U	3.53
4-Methyl-2-pentanone (MIBK)	ug/m3	15.4	2.56
Acetone	ug/m3	53.2	178
Benzene	ug/m3	1.09	54.6
Benzyl chloride	ug/m3	< 0.486 U	< 0.486 U
Bromodichloromethane	ug/m3	< 0.462 U	< 0.462 U
Bromoethene (vinyl bromide)	ug/m3	< 0.316 U	< 0.316 U
Bromoform	ug/m3	< 0.616 U	< 0.616 U
Bromomethane	ug/m3	< 0.212 U	< 0.212 U
Carbon disulfide	ug/m3	16.9	85.6
Carbon tetrachloride	ug/m3	38.3	< 0.432 U
Chlorobenzene	ug/m3	< 0.238 U	< 0.238 U
Chloroethane	ug/m3	1.06	< 0.171 U
Chloroform	ug/m3	40.7	1.68
Chloromethane	ug/m3	1.01	2.81
cis-1,2-Dichloroethene	ug/m3	< 0.236 U	< 0.236 U
cis-1,3-Dichloropropene	ug/m3	< 0.306 U	< 0.306 U
Cyclohexane	ug/m3	35.8	59.5

TABLE 6
SOIL VAPOR DATA
PHASE II INVESTIGATION - OOH-007
GOWANUS CANAL CSO FACILITY, BROOKLYN, NEW YORK

	Location ID	OH-SV-6	OH-SV-7
	Sample ID	OH-SV-06_20230513	OH-SV-07_20230512
	Sample Date	5/13/2023	5/12/2023
Chemical Name	Units		
Dibromochloromethane	ug/m3	< 0.482 U	< 0.482 U
Dichlorodifluoromethane (Freon 12)	ug/m3	2.90	< 0.374 U
Ethanol	ug/m3	88.4	464
Ethyl acetate	ug/m3	23.1	165
Ethylbenzene	ug/m3	2.51	12.7
Hexachlorobutadiene	ug/m3	< 0.647 U	< 0.647 U
Isopropanol	ug/m3	13.3	170
Methylene chloride	ug/m3	< 0.434 U	< 0.434 U
n-Heptane	ug/m3	2.90	27.7
n-Hexane	ug/m3	2.78	58.5
Styrene	ug/m3	< 0.254 U	< 0.254 U
tert-Butyl alcohol	ug/m3	< 0.400 U	9.55 J
tert-Butyl methyl ether (MTBE)	ug/m3	< 0.162 U	< 0.162 U
Tetrachloroethene (PCE)	ug/m3	9.02	1.88
Tetrahydrofuran	ug/m3	1.50	3.60
Toluene	ug/m3	7.80	56.5
trans-1,2-Dichloroethene	ug/m3	< 0.299 U	< 0.299 U
trans-1,3-Dichloropropene	ug/m3	< 0.355 U	< 0.355 U
Trichloroethene (TCE)	ug/m3	37.9	< 0.295 U
Trichlorofluoromethane (Freon 11)	ug/m3	1.32	< 0.442 U
Vinyl chloride	ug/m3	< 0.149 U	< 0.149 U
Xylene, o (1,2-Dimethylbenzene)	ug/m3	2.17	16.8
Xylenes, m & p	ug/m3	6.78	38.1
Xylenes, total	ug/m3	NA	54.7

Notes:

< = Method Detection Limit (MDL)

ug/m3 = micrograms per meter cubed

NA = not analyzed

U = The analyte was analyzed for, but was not detected above the sample method detection limit.

UJ = The analyte was not detected above the sample method detection limit; and the reporting limit is approximate.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Figures

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CSO-GC-SFS-DES-R-PHASE II INVESTIGATION-20250218



Brown AND Caldwell

Date: 11/20/2024 8:18 AM

Gowanus Owls Head CSO Facility
Brooklyn New York

156854

Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 1
SITE AND OH-007 CSO
PROJECT LOCATION
PHASE II INVESTIGATION
REPORT

1/6/2022

Author: tchaturgan Path: V:\Ramsey\NYCDEP\Gowanus\PDI\Owls_Head\Additional_PDI\Fig_2-1_Locations_of_potential_Envt_Concern.mxd

Legend

Phase I ESA Findings

- Retort Cylinders
- Oil Tank
- J.W. Masury & Son Dry Color works (1886)
- David E. Kennedy inc. Limestone and Asbestos Warehouse (1950)
  Phoenix Asbestos Disposal (1994)
  Spartan Dismantling (1995-2004)
- Eppinger and Russel Creosote Works (1886 Sanborn)
- Chemical Storage Shed (1904 Sanborn)
- Unidentified Storage Tank
- Potential Area of UST and Free Product Identified In Soil Boring By Langan Engineering in 2015

GOWANUS CANAL

5th St.

2nd Ave.

6th STREET BASIN

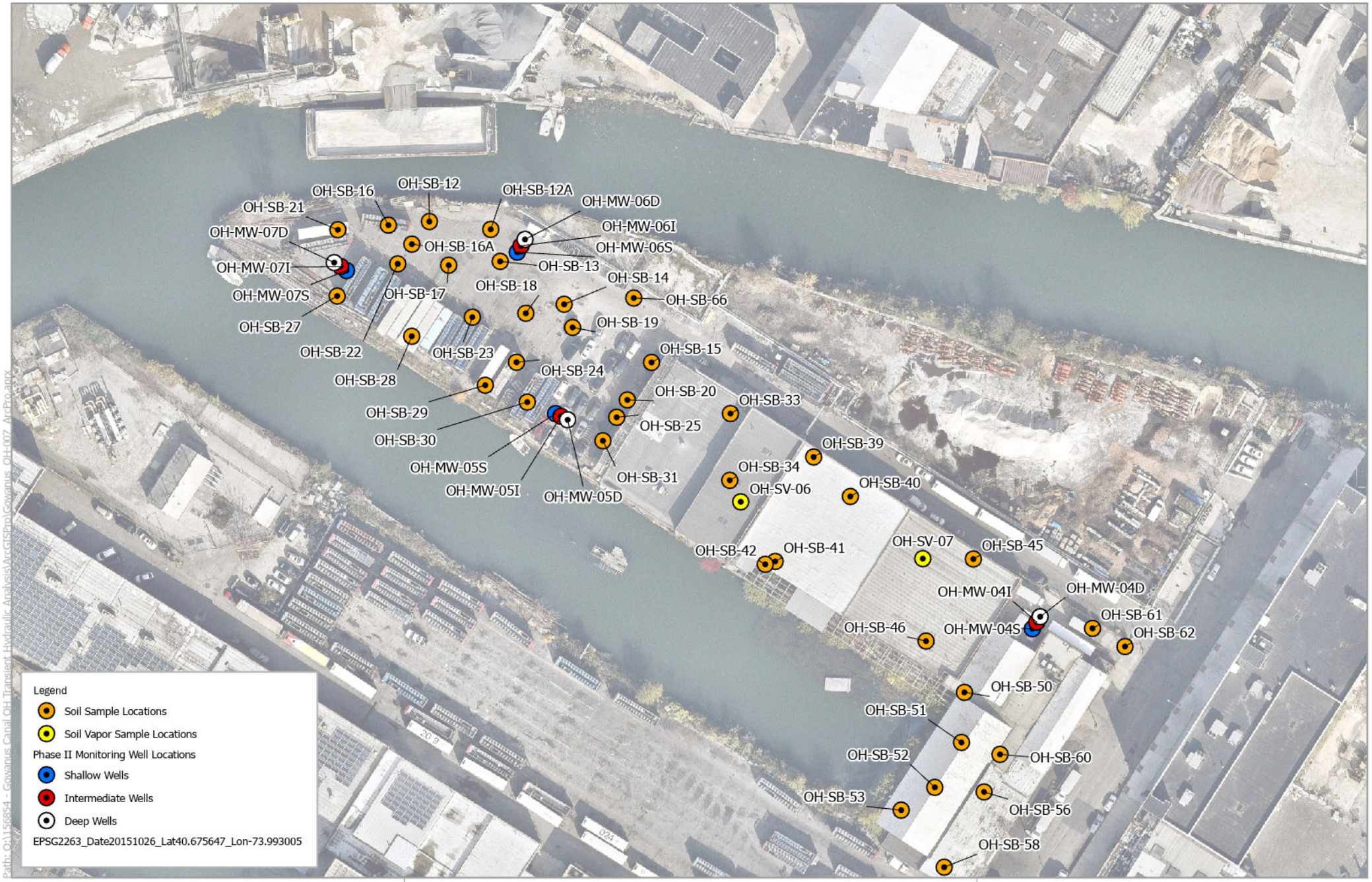
N

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, an

Brown AND Caldwell

FIGURE 2
LOCATIONS OF POTENTIAL ENVIRONMENTAL CONCERNS
GOWANUS CANAL CSO FACILITY - OH-007
BROOKLYN, NEW YORK

0 20 40 60
Feet



Path: Q:\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 2/24/2025 1:43 PM

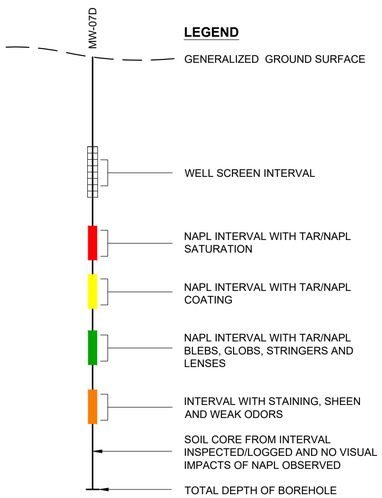
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

. Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

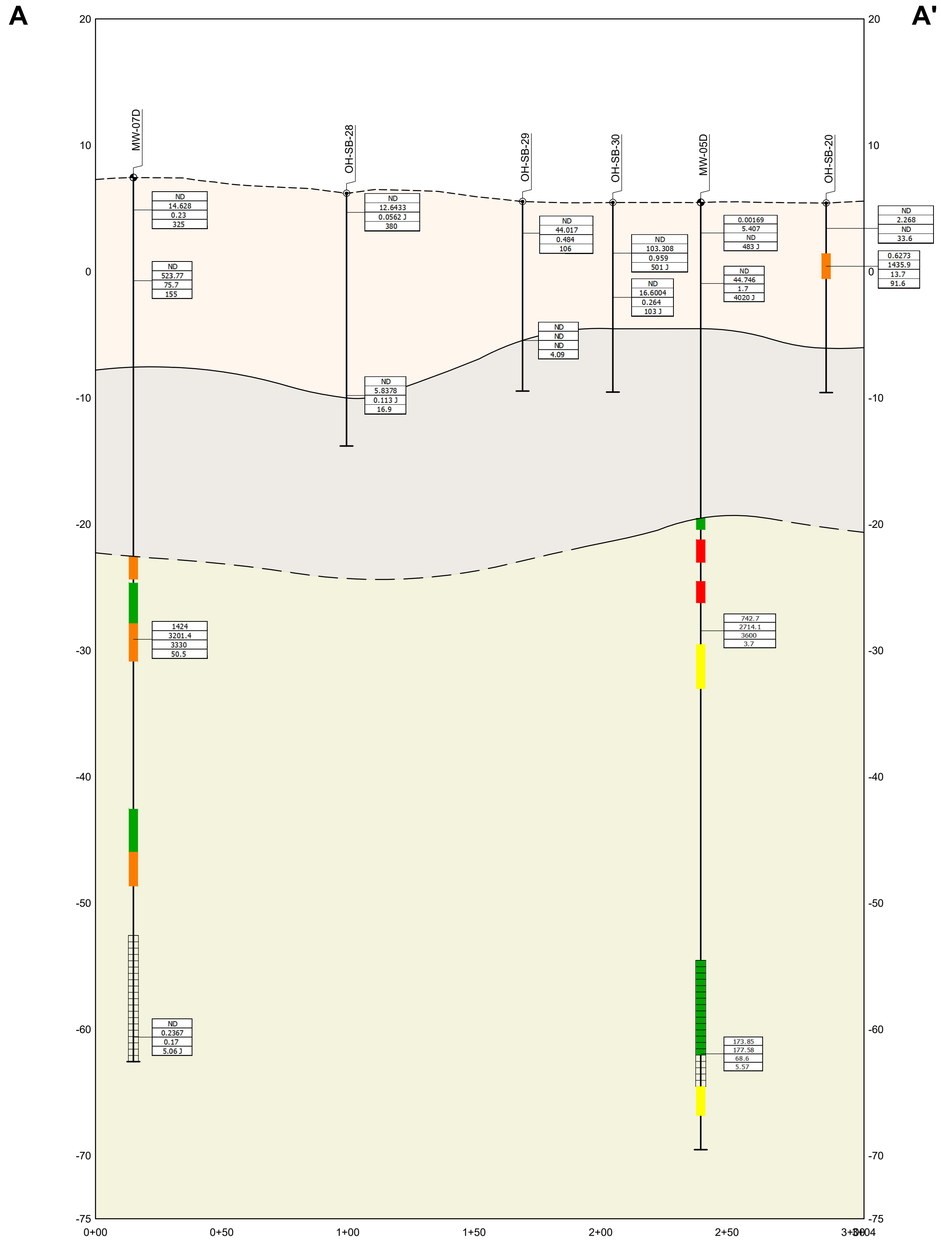
0 50 100 Feet

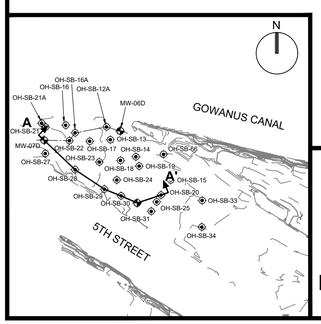
FIGURE 3
PHASE II INVESTIGATION LOCATIONS
PHASE II INVESTIGATION REPORT



1424	TOTAL BTEX (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL
3201.4	TOTAL PAHS (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL
3330	NAPHTHALENE (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL
50.5	LEAD (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL

PAHs	POLYCYCLIC AROMATIC HYDROCARBON
J	ESTIMATED CONCENTRATION
D	INDICATES RESULTS BASED ON DILUTION
ND	CONSTITUENT NOT DETECTED ABOVE METHOD DETECTION LIMITS
MR-01	MRCE GEOTECHNICAL BORING (JULY 2017)

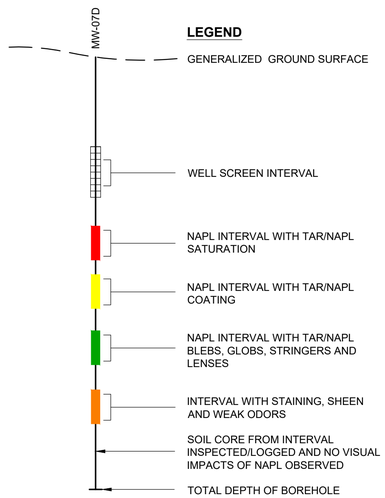




Brown AND Caldwell

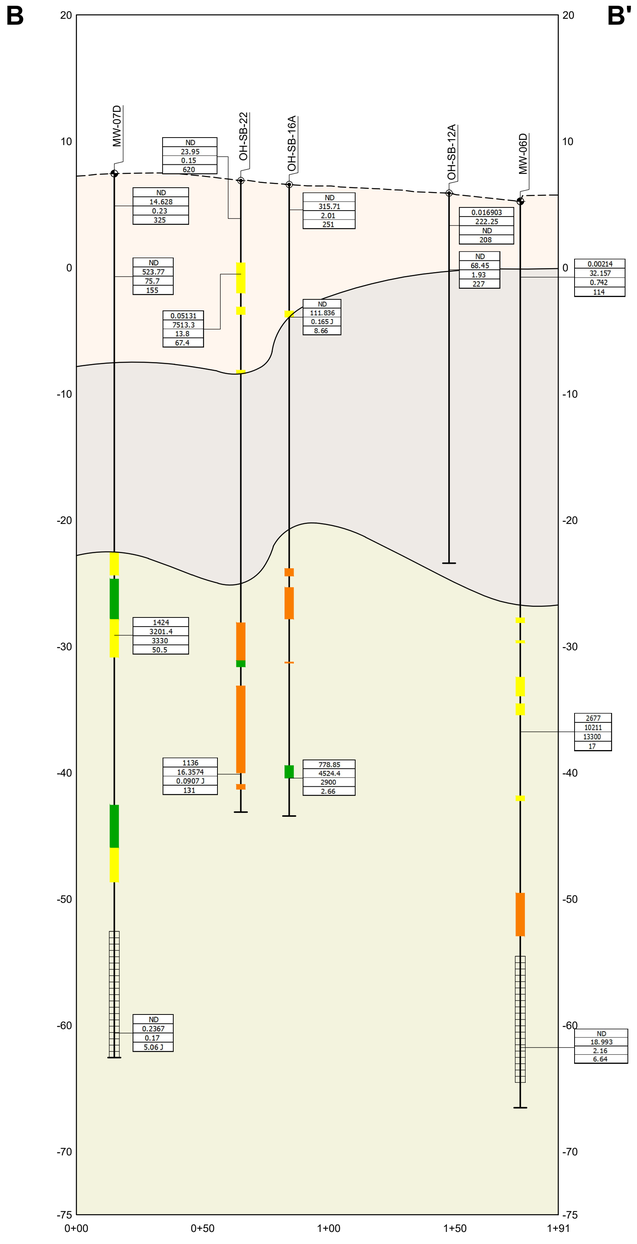
DATE: November 18, 2024

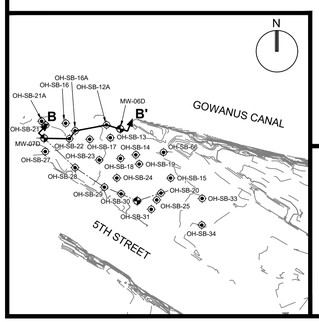
FIGURE 4
CROSS SECTION A-A'
OH-007 PHASE II INVESTIGATION REPORT
GOWANUS CANAL CSO FACILITY
BROOKLYN, NEW YORK



1424	TOTAL BTEX (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL
3201.4	TOTAL PAHS (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL
3330	NAPHTHALENE (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL
50.5	LEAD (mg/kg) CONCENTRATION WITHIN SAMPLE INTERVAL

PAHs	POLYCYCLIC AROMATIC HYDROCARBON
J	ESTIMATED CONCENTRATION
D	INDICATES RESULTS BASED ON DILUTION
ND	CONSTITUENT NOT DETECTED ABOVE METHOD DETECTION LIMITS
MR-01	MRCE GEOTECHNICAL BORING (JULY 2017)





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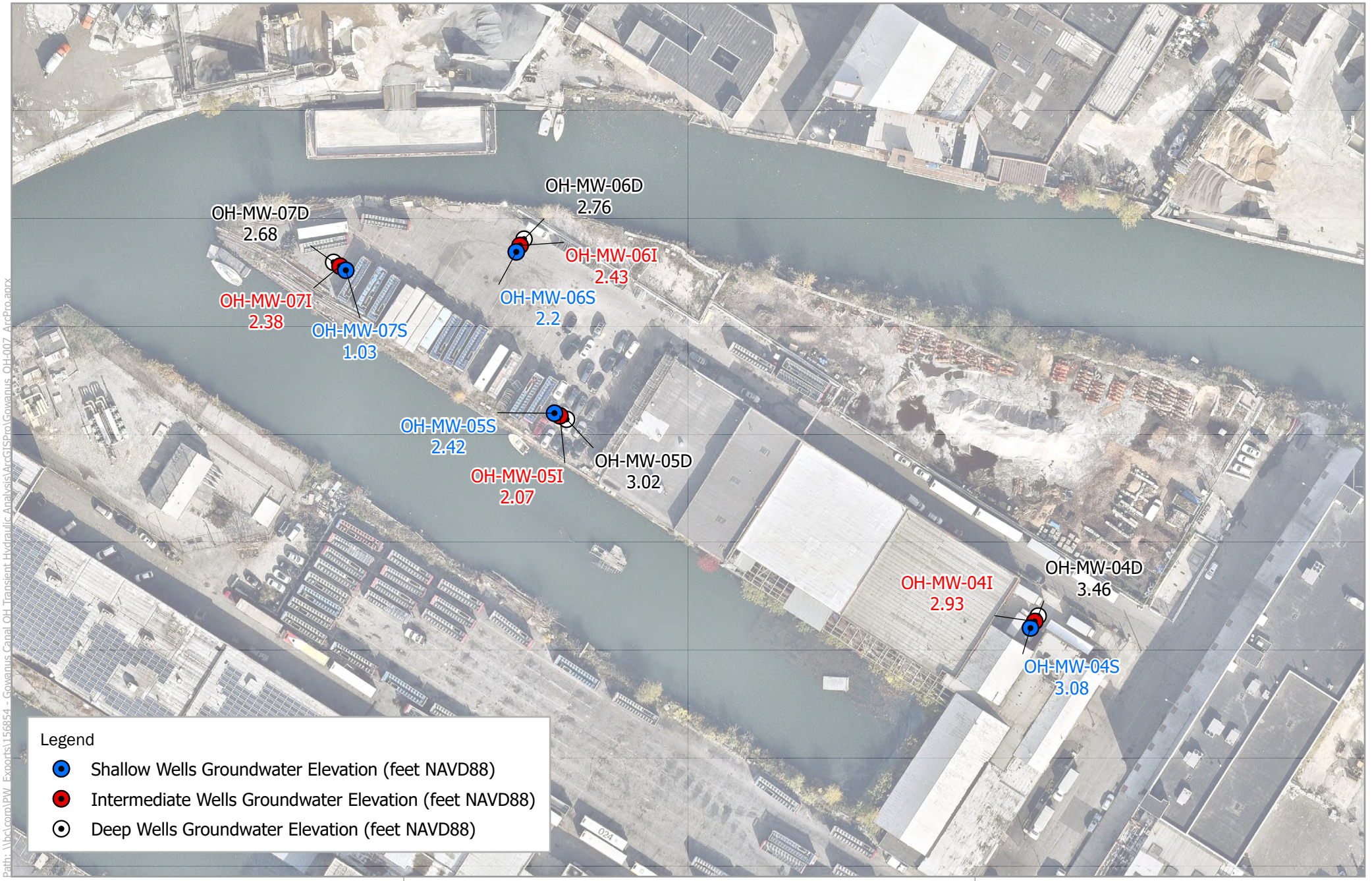
DATE: November 18, 2024

FIGURE 5
CROSS SECTION B-B'
OH-007 PHASE II INVESTIGATION REPORT
GOWANUS CANAL CSO FACILITY
BROOKLYN, NEW YORK



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 8:56 AM

Notes: N/A

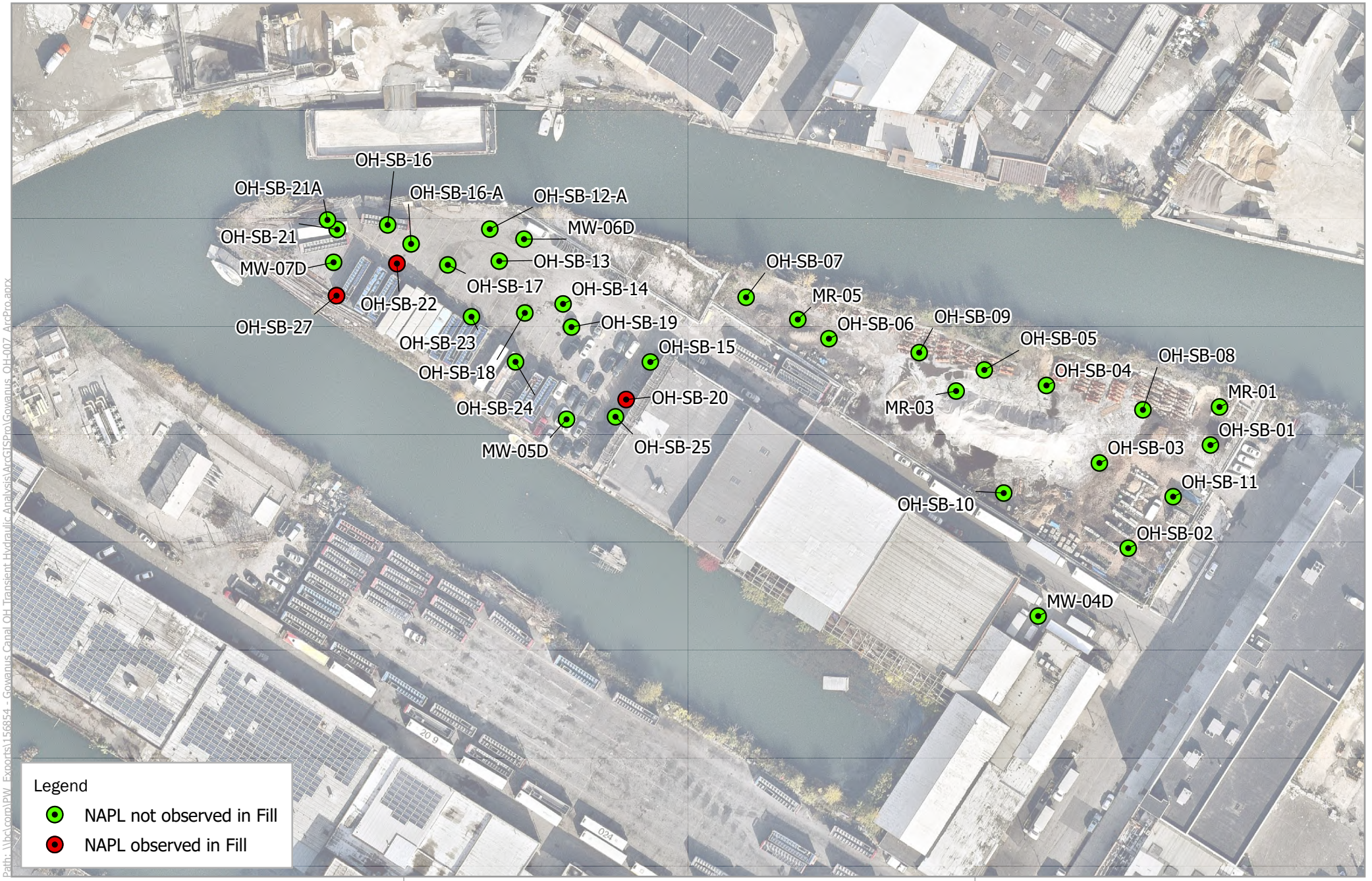
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 6
GROUNDWATER ELEVATION
AUGUST 27, 2023
PHASE II INVESTIGATION REPORT



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156854
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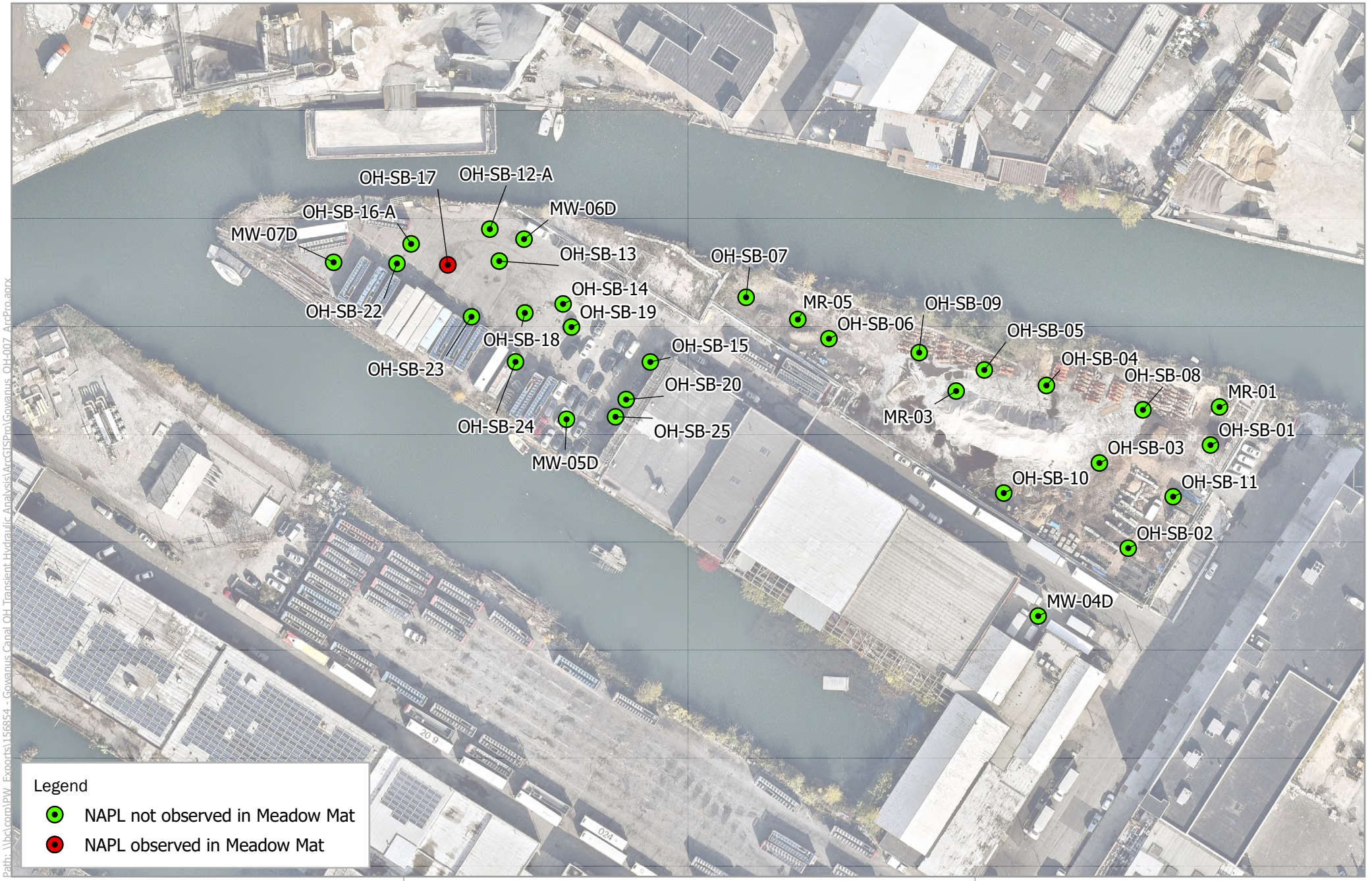
Date: 11/20/2024 3:52 PM

Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

FIGURE 7
OH-007 - NAPL DISTRIBUTION - FILL
PHASE II INVESTIGATION REPORT



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156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 3:54 PM

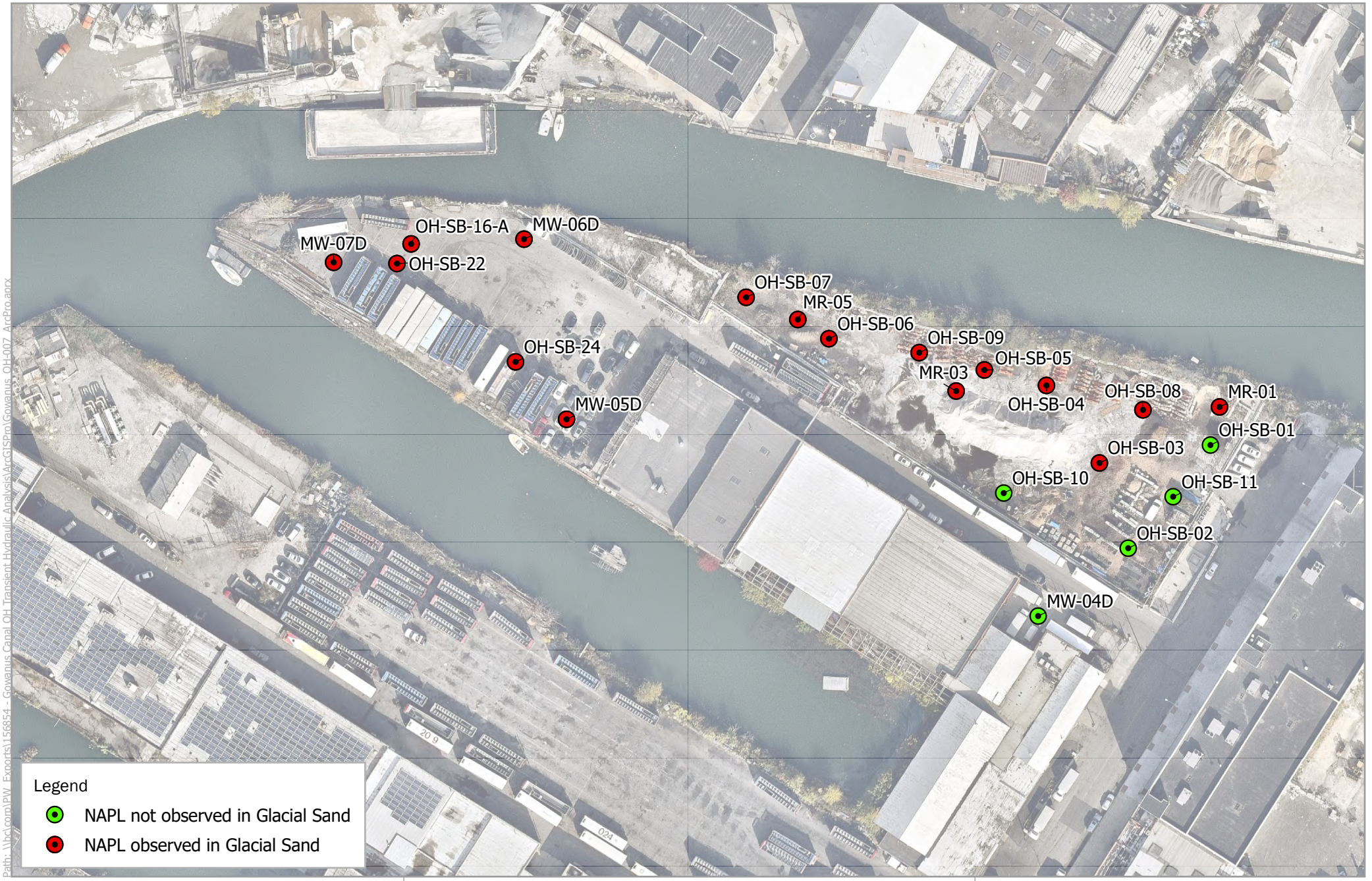
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 8
OH-007 - NAPL DISTRIBUTION MEADOW MAT
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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156854
Gowanus Canal CSO Facility
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Date: 11/20/2024 3:54 PM

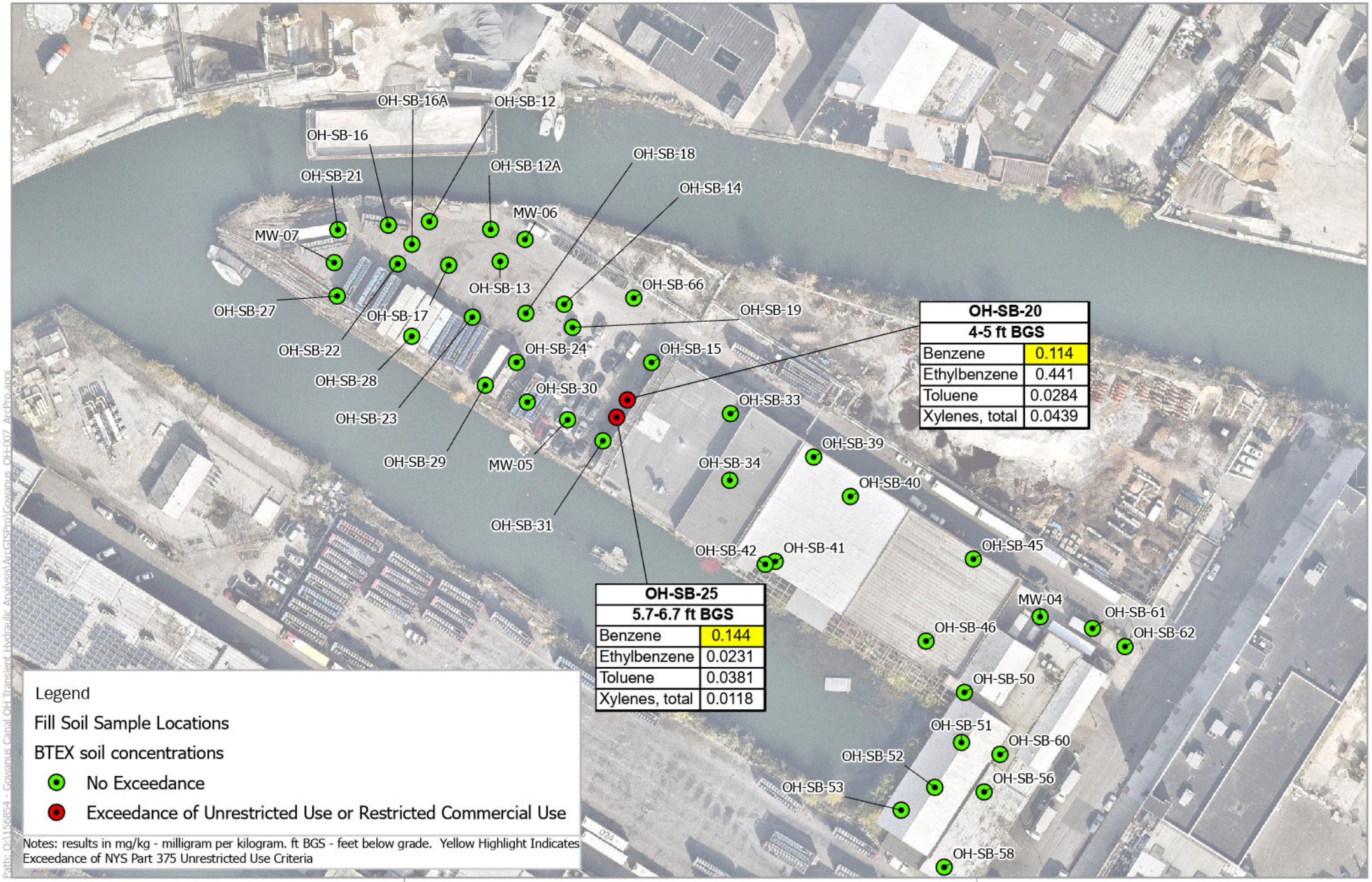
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 9
OH-007 - NAPL DISTRIBUTION GLACIAL SAND
PHASE II INVESTIGATION REPORT



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Date: 2/11/2025 3:24 PM

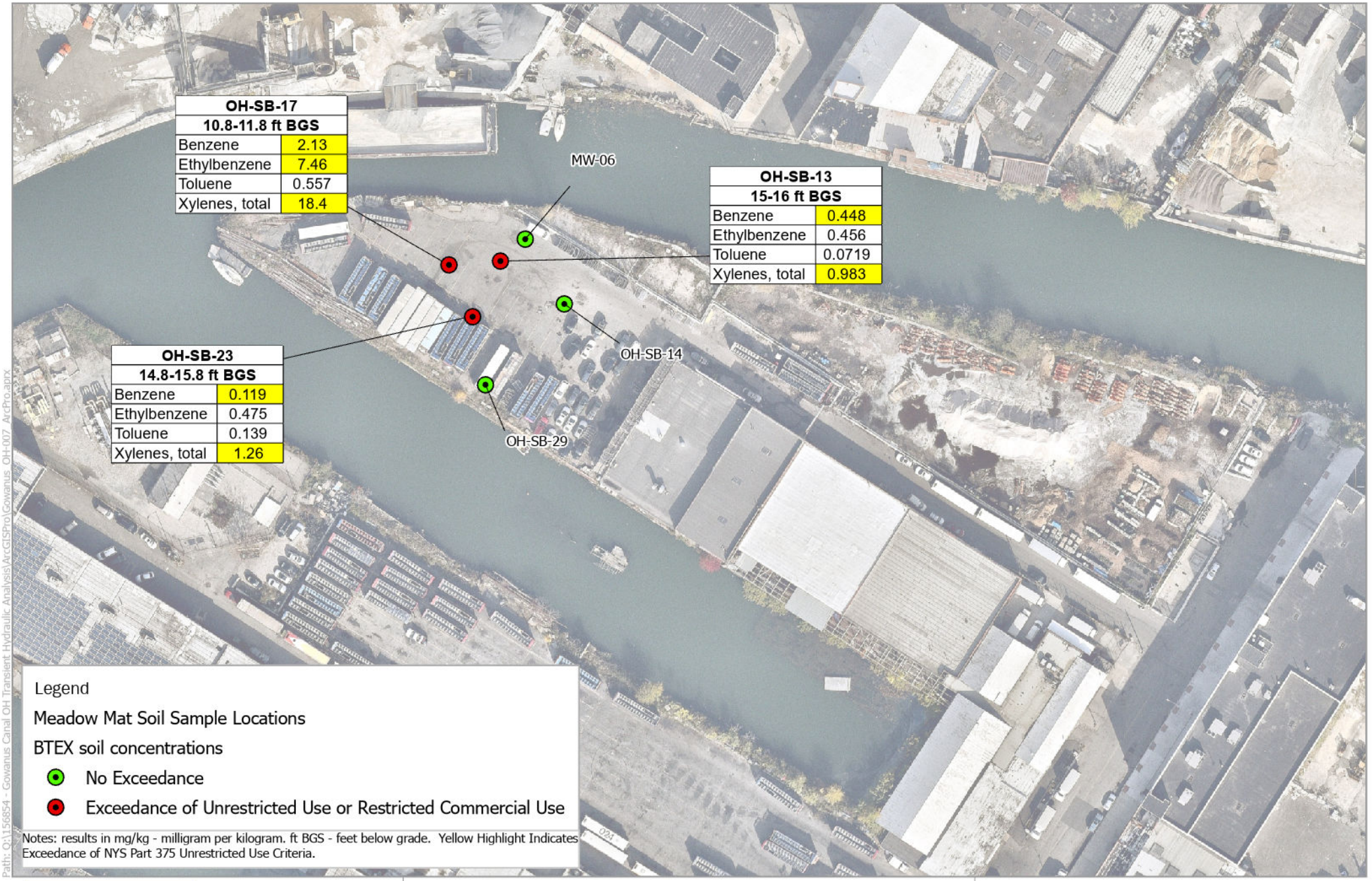
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 10
BTEX CONCENTRATIONS IN SOIL - FILL
PHASE II INVESTIGATION REPORT



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156854
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Date: 2/17/2025 7:12 AM

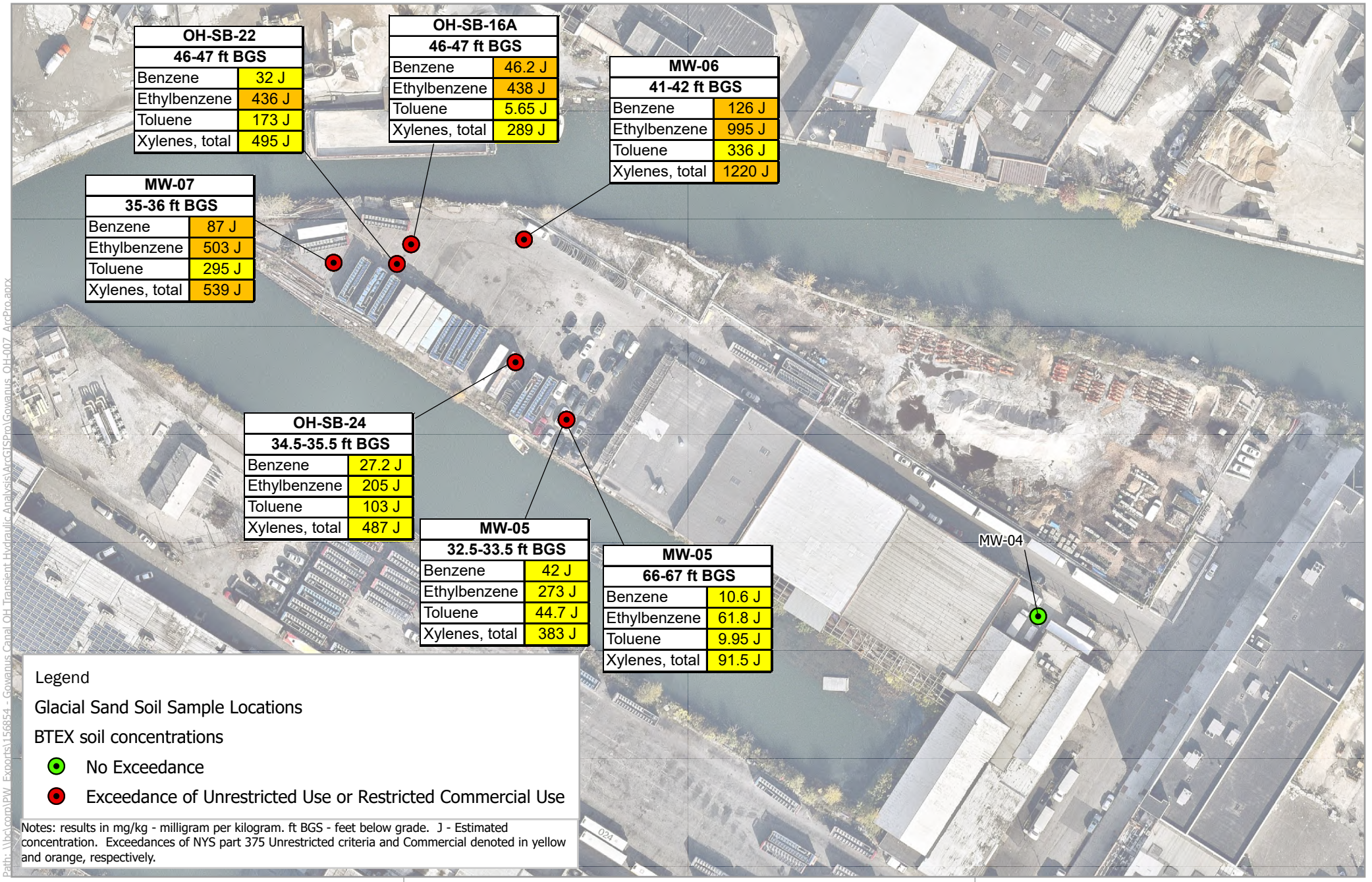
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 11
BTEX CONCENTRATIONS IN SOIL - MEADOW MAT
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 9:29 AM

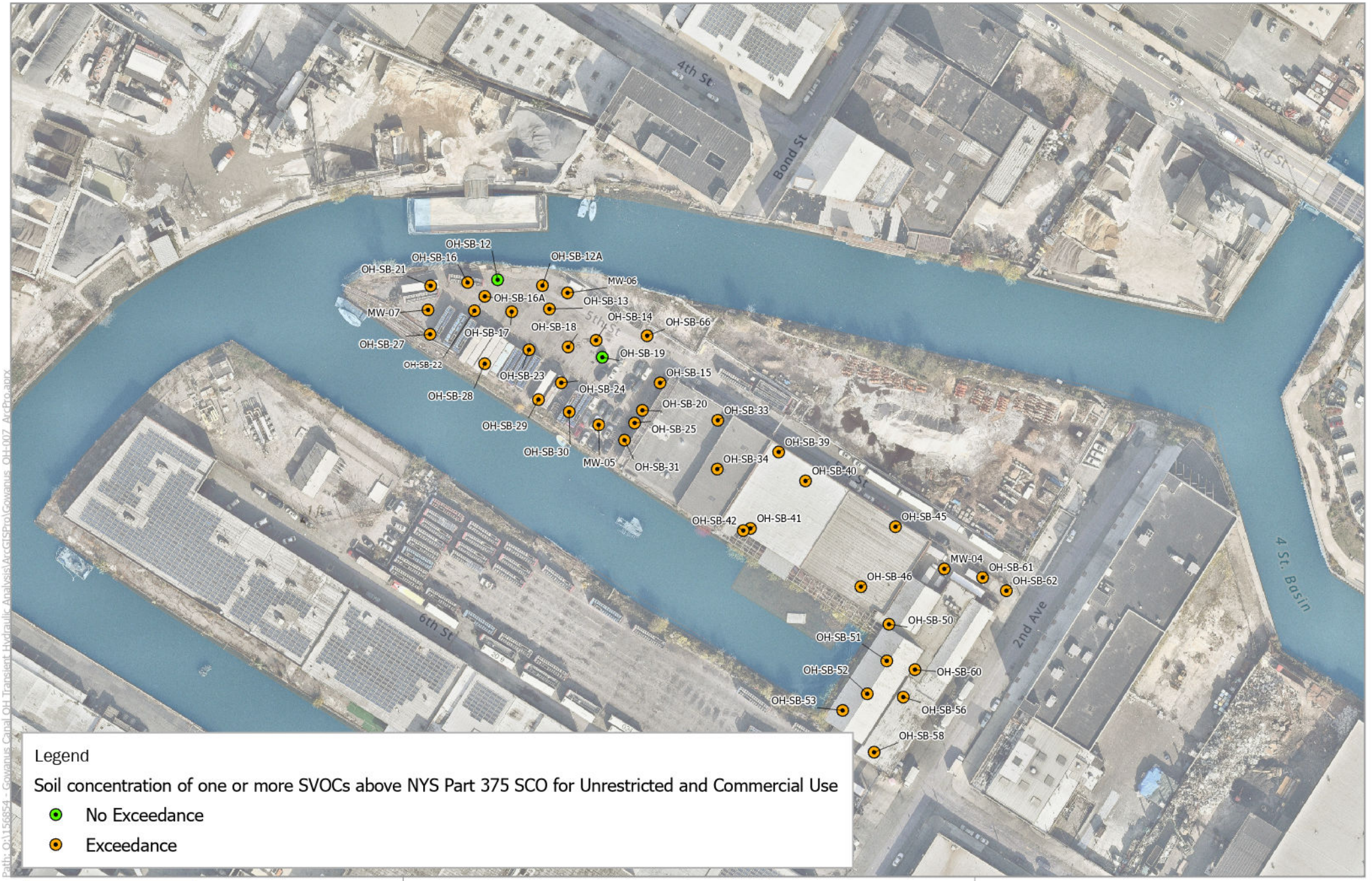
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 12
BTEX CONCENTRATIONS IN SOIL - GLACIAL SAND
PHASE II INVESTIGATION REPORT



Legend

Soil concentration of one or more SVOCs above NYS Part 375 SCO for Unrestricted and Commercial Use

- No Exceedance
- Exceedance

Path: O:\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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Date: 2/24/2025 1:43 PM

Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

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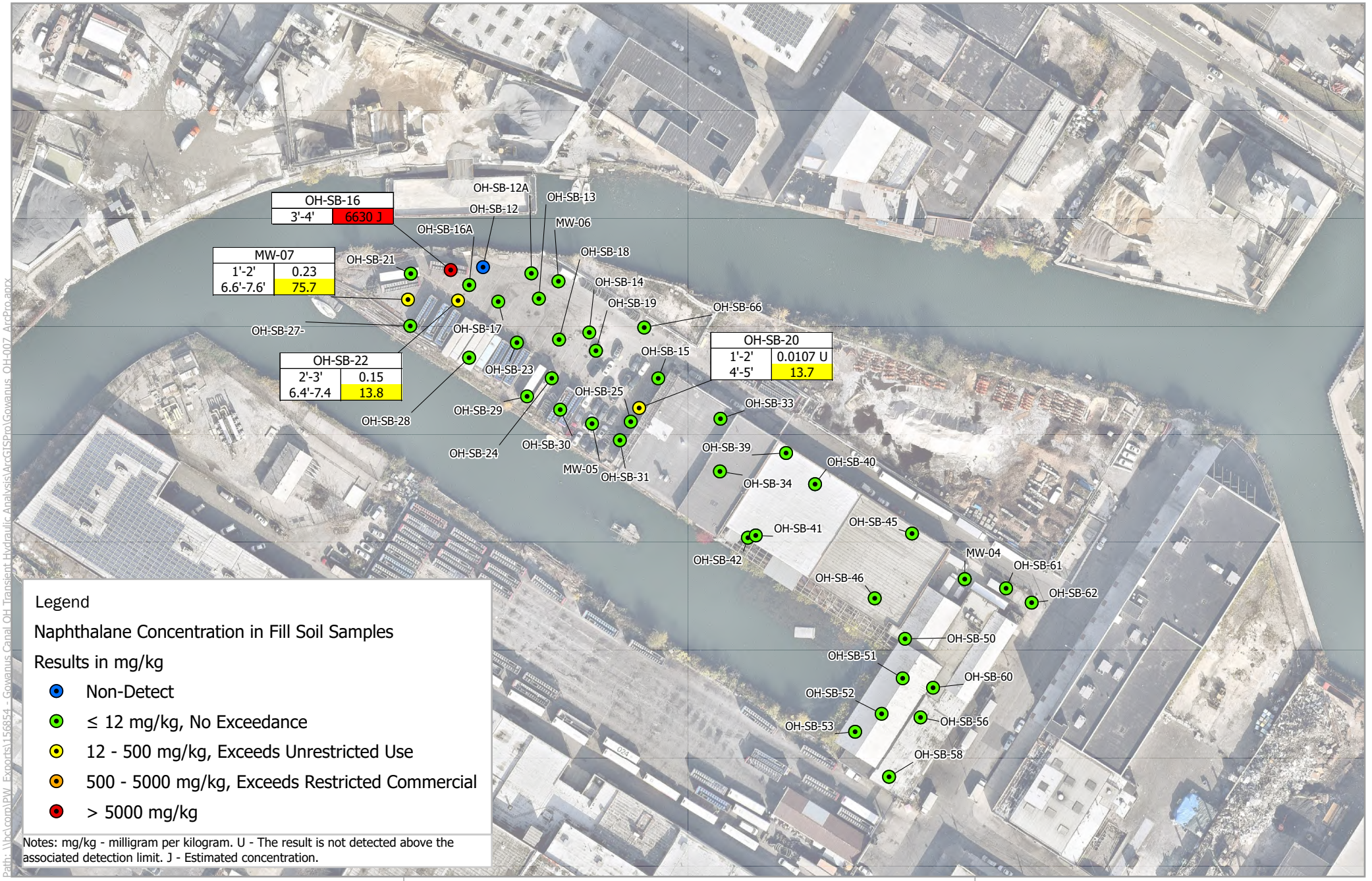
N

0 50 100 Feet

FIGURE 13
SVOCS EXCEEDANCES IN SOIL
PHASE II INVESTIGATION REPORT



Legend

Naphthalane Concentration in Fill Soil Samples

Results in mg/kg

- Non-Detect
- ≤ 12 mg/kg, No Exceedance
- 12 - 500 mg/kg, Exceeds Unrestricted Use
- 500 - 5000 mg/kg, Exceeds Restricted Commercial
- > 5000 mg/kg

Notes: mg/kg - milligram per kilogram. U - The result is not detected above the associated detection limit. J - Estimated concentration.

Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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Date: 11/20/2024 9:29 AM

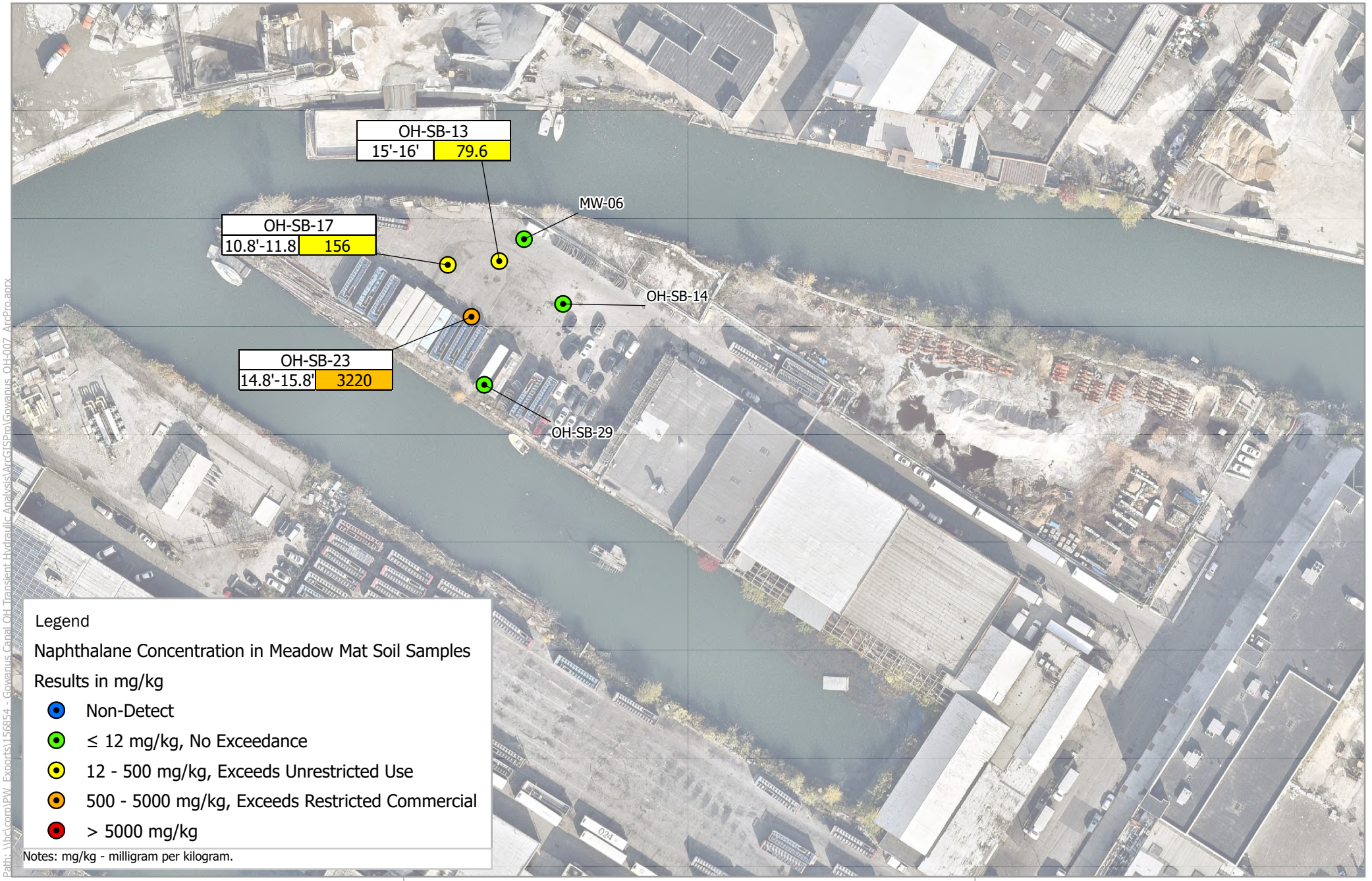
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100
Feet

FIGURE 14
NAPHTHALENE CONCENTRATIONS IN SOIL - FILL
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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Date: 11/20/2024 9:29 AM

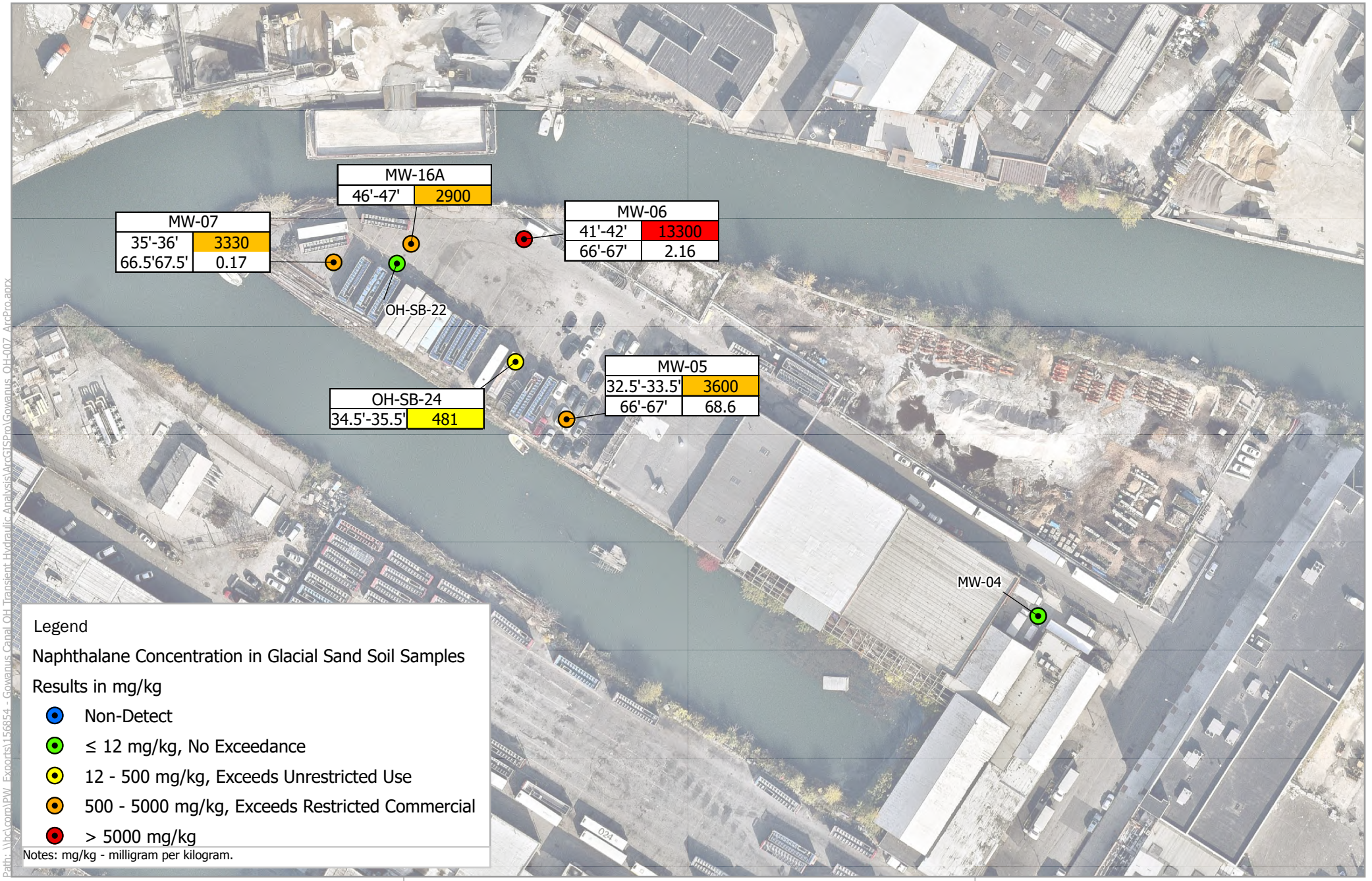
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 15
NAPHTHALENE CONCENTRATIONS IN SOILS - MEADOW MAT
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 10:38 AM

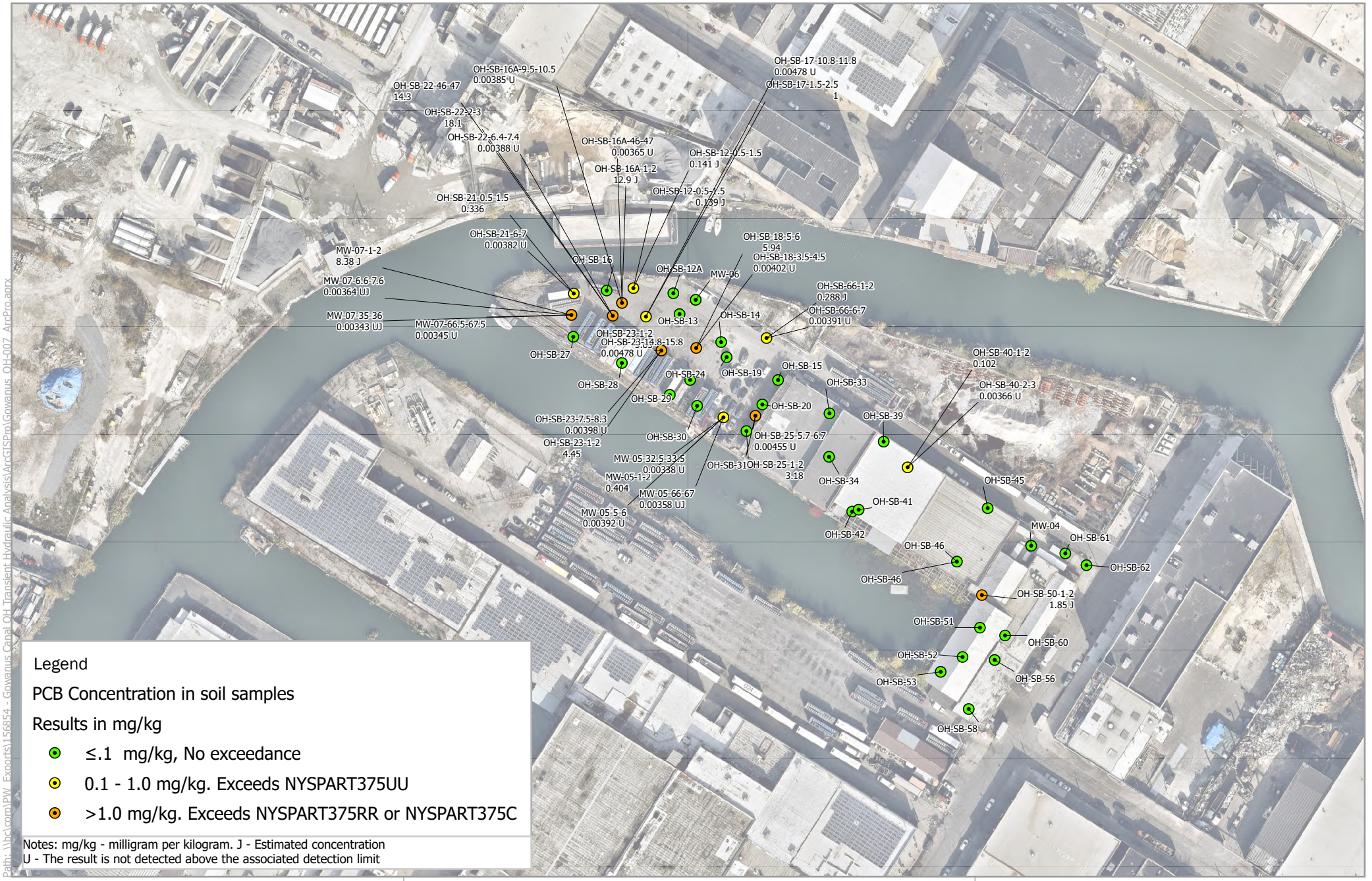
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

. Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 16
NAPHTHALENE CONCENTRATIONS SOILS - GLACIAL SAND
PHASE II INVESTIGATION REPORT



Legend

PCB Concentration in soil samples

Results in mg/kg

- ≤.1 mg/kg, No exceedance
- 0.1 - 1.0 mg/kg. Exceeds NYSPART375UU
- >1.0 mg/kg. Exceeds NYSPART375RR or NYSPART375C

Notes: mg/kg - milligram per kilogram. J - Estimated concentration
U - The result is not detected above the associated detection limit

Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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Brooklyn, New York

Date: 11/20/2024 10:38 AM

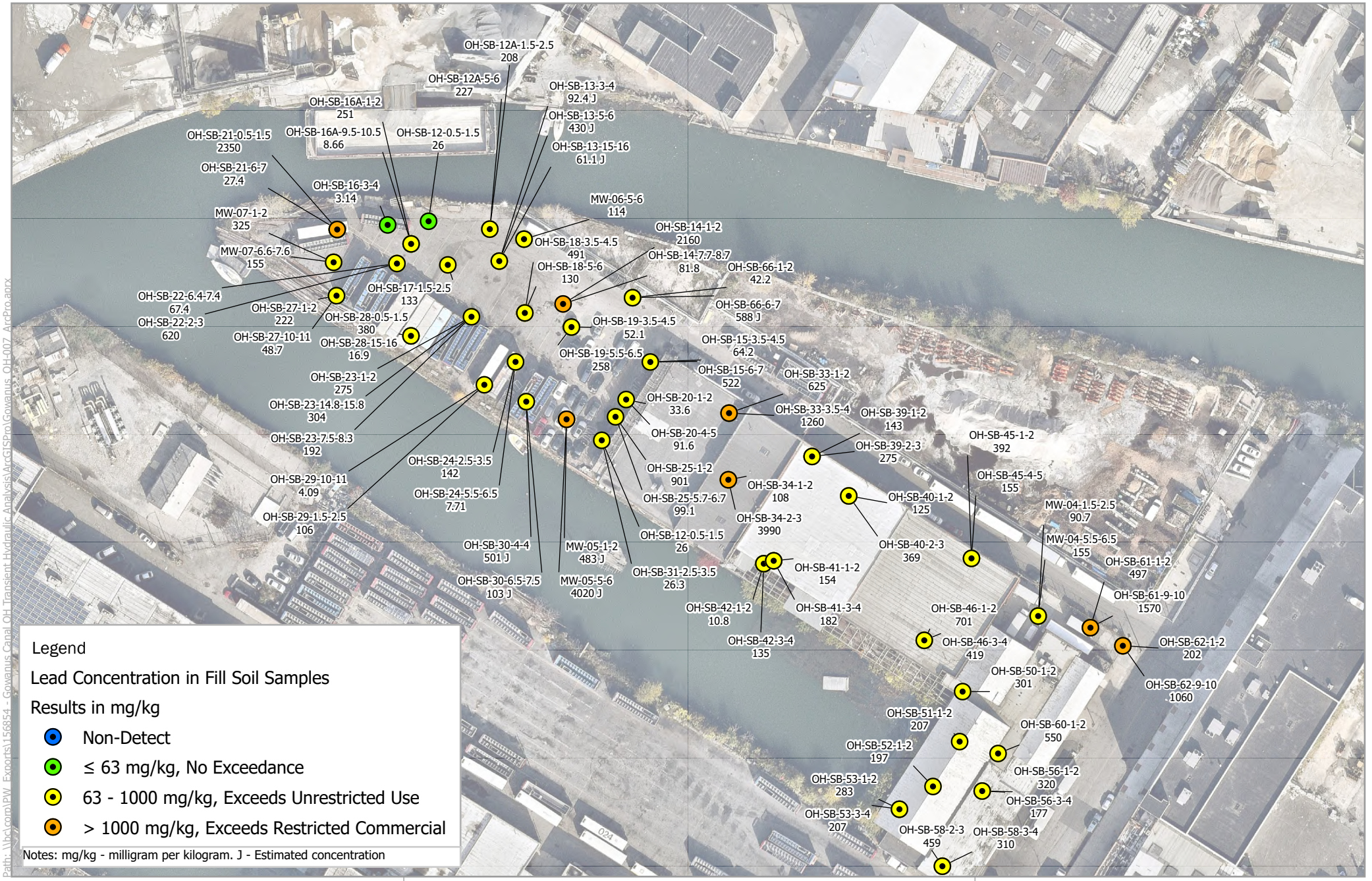
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100
Feet

FIGURE 17
TOTAL PCBS IN SOIL
PHASE II INVESTIGATION REPORT



Legend

Lead Concentration in Fill Soil Samples

Results in mg/kg

- Non-Detect
- ≤ 63 mg/kg, No Exceedance
- 63 - 1000 mg/kg, Exceeds Unrestricted Use
- > 1000 mg/kg, Exceeds Restricted Commercial

Notes: mg/kg - milligram per kilogram. J - Estimated concentration

Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 10:38 AM

Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 18
LEAD CONCENTRATIONS IN SOIL - FILL
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

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Brooklyn, New York

Date: 11/20/2024 10:38 AM

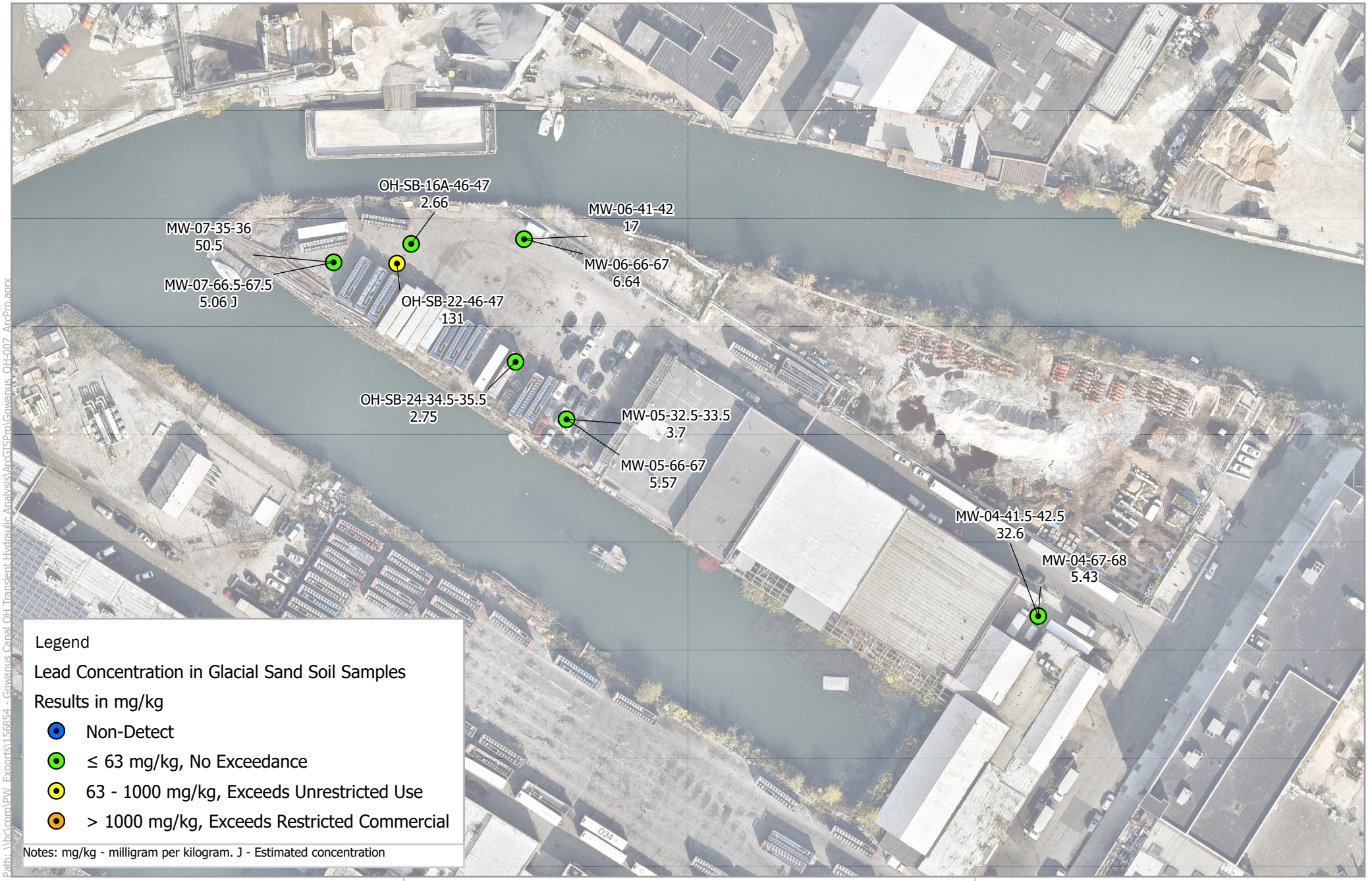
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 19
LEAD CONCENTRATIONS IN SOIL - MEADOW MAT
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 10:38 AM

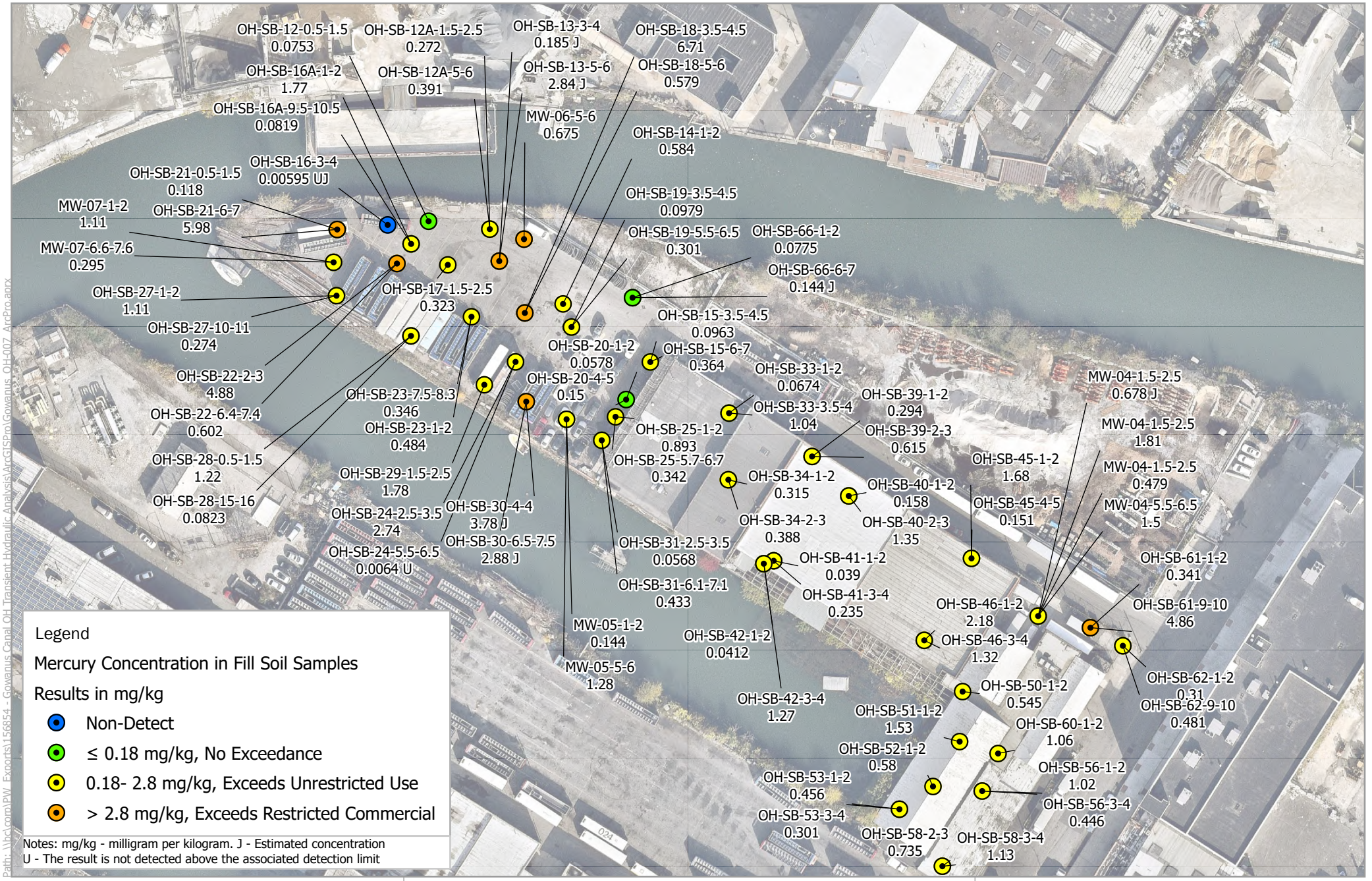
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 20
LEAD CONCENTRATIONS IN SOIL - GLACIAL SAND
PHASE II INVESTIGATION REPORT



Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 10:38 AM

Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 21
MERCURY CONCENTRATIONS IN SOIL - FILL
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 10:38 AM

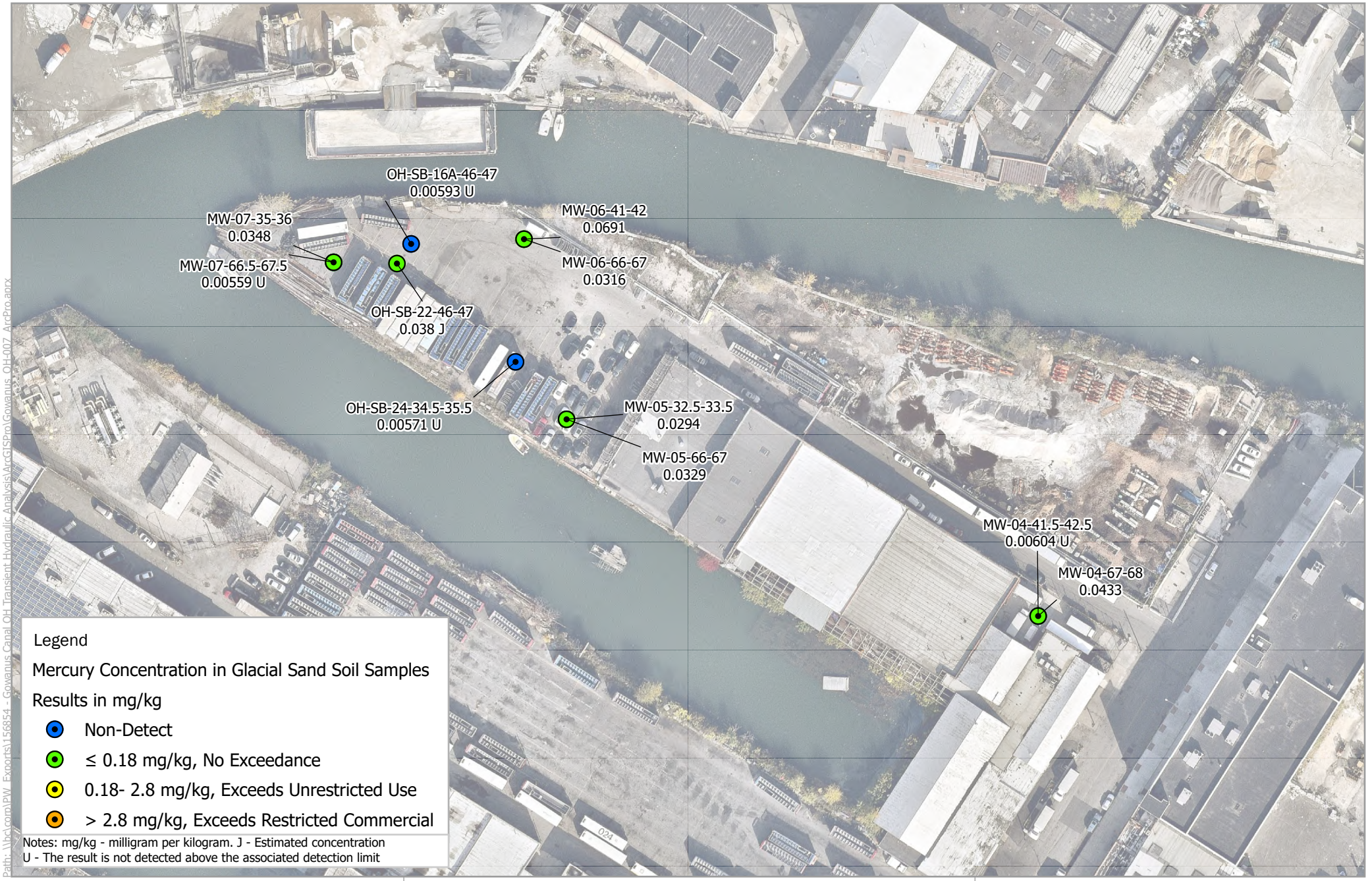
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

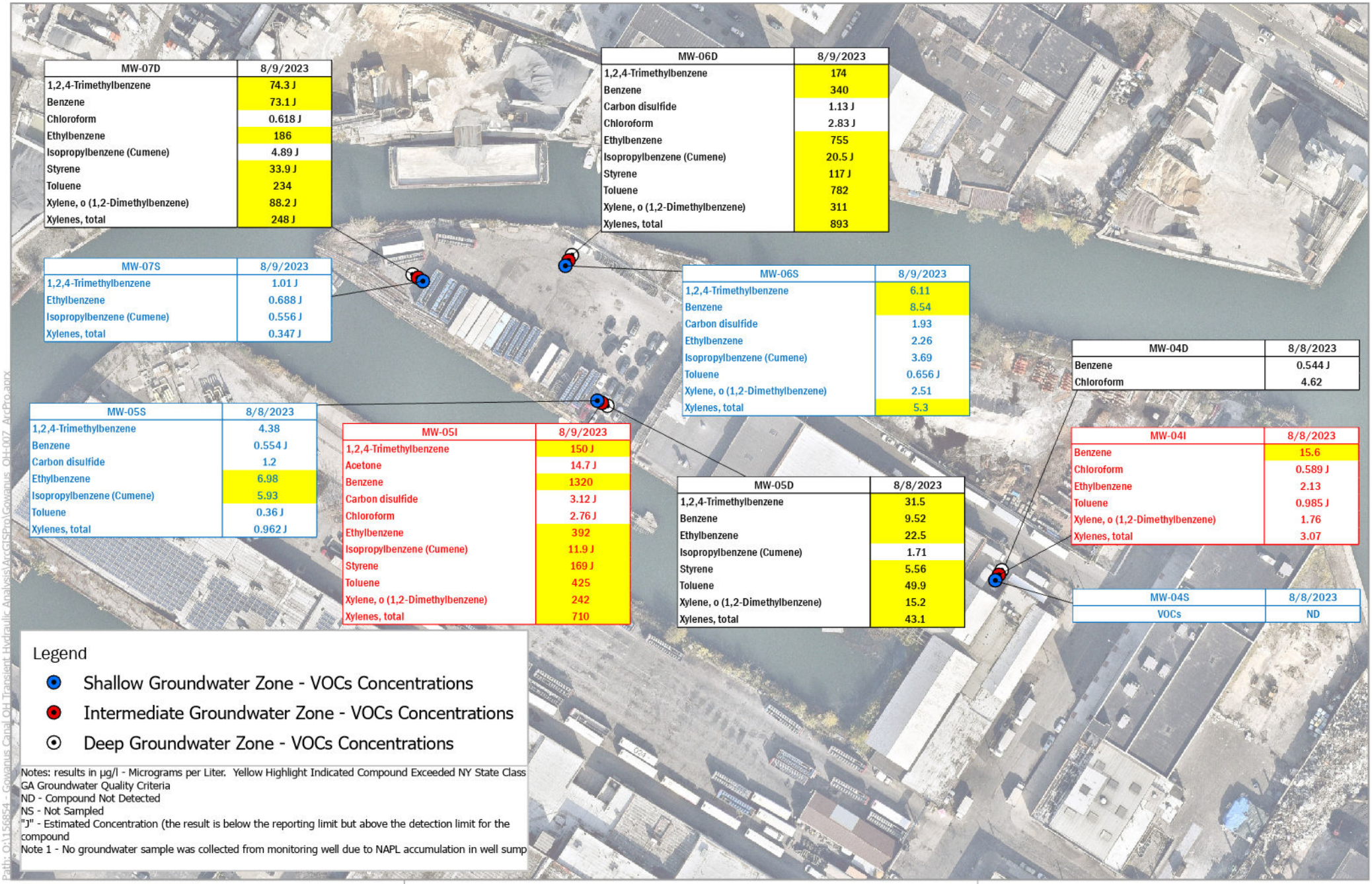
Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 22
MERCURY CONCENTRATIONS IN SOIL - MEADOW MAT
PHASE II INVESTIGATION REPORT


OH-SB-16A-46-47
0.00593 U
MW-07-35-36
0.0348
MW-06-41-42
0.0691
MW-07-66.5-67.5
0.00559 U
MW-06-66-67
0.0316
OH-SB-22-46-47
0.038 J
OH-SB-24-34.5-35.5
0.00571 U
MW-05-32.5-33.5
0.0294
MW-05-66-67
0.0329
MW-04-41.5-42.5
0.00604 U
MW-04-67-68
0.0433
Legend
Mercury Concentration in Glacial Sand Soil Samples
Results in mg/kg
Non-Detect
≤ 0.18 mg/kg, No Exceedance
0.18- 2.8 mg/kg, Exceeds Unrestricted Use
> 2.8 mg/kg, Exceeds Restricted Commercial
Notes: mg/kg - milligram per kilogram. J - Estimated concentration
U - The result is not detected above the associated detection limit
Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx
Brown AND Caldwell
156854
Gowanus Canal CSO
Facility
Brooklyn, New York
Date: 11/20/2024 10:38 AM
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"
N
0
50
100
Feet
FIGURE 23
MERCURY CONCENTRATIONS IN SOIL
- GLACIAL SAND
PHASE II INVESTIGATION REPORT



MW-07D	8/9/2023
1,2,4-Trimethylbenzene	74.3 J
Benzene	73.1 J
Chloroform	0.618 J
Ethylbenzene	186
Isopropylbenzene (Cumene)	4.89 J
Styrene	33.9 J
Toluene	234
Xylene, o (1,2-Dimethylbenzene)	88.2 J
Xylenes, total	248 J

MW-06D	8/9/2023
1,2,4-Trimethylbenzene	174
Benzene	340
Carbon disulfide	1.13 J
Chloroform	2.83 J
Ethylbenzene	755
Isopropylbenzene (Cumene)	20.5 J
Styrene	117 J
Toluene	782
Xylene, o (1,2-Dimethylbenzene)	311
Xylenes, total	893

MW-07S	8/9/2023
1,2,4-Trimethylbenzene	1.01 J
Ethylbenzene	0.688 J
Isopropylbenzene (Cumene)	0.556 J
Xylenes, total	0.347 J

MW-06S	8/9/2023
1,2,4-Trimethylbenzene	6.11
Benzene	8.54
Carbon disulfide	1.93
Ethylbenzene	2.26
Isopropylbenzene (Cumene)	3.69
Toluene	0.656 J
Xylene, o (1,2-Dimethylbenzene)	2.51
Xylenes, total	5.3

MW-04D	8/8/2023
Benzene	0.544 J
Chloroform	4.62

MW-05S	8/8/2023
1,2,4-Trimethylbenzene	4.38
Benzene	0.554 J
Carbon disulfide	1.2
Ethylbenzene	6.98
Isopropylbenzene (Cumene)	5.93
Toluene	0.36 J
Xylenes, total	0.962 J

MW-05I	8/9/2023
1,2,4-Trimethylbenzene	150 J
Acetone	14.7 J
Benzene	1320
Carbon disulfide	3.12 J
Chloroform	2.76 J
Ethylbenzene	392
Isopropylbenzene (Cumene)	11.9 J
Styrene	169 J
Toluene	425
Xylene, o (1,2-Dimethylbenzene)	242
Xylenes, total	710

MW-05D	8/8/2023
1,2,4-Trimethylbenzene	31.5
Benzene	9.52
Ethylbenzene	22.5
Isopropylbenzene (Cumene)	1.71
Styrene	5.56
Toluene	49.9
Xylene, o (1,2-Dimethylbenzene)	15.2
Xylenes, total	43.1

MW-04I	8/8/2023
Benzene	15.6
Chloroform	0.589 J
Ethylbenzene	2.13
Toluene	0.985 J
Xylene, o (1,2-Dimethylbenzene)	1.76
Xylenes, total	3.07

MW-04S	8/8/2023
VOCs	ND

Legend

- Shallow Groundwater Zone - VOCs Concentrations
- Intermediate Groundwater Zone - VOCs Concentrations
- Deep Groundwater Zone - VOCs Concentrations

Notes: results in µg/l - Micrograms per Liter. Yellow Highlight Indicated Compound Exceeded NY State Class GA Groundwater Quality Criteria
ND - Compound Not Detected
NS - Not Sampled
"J" - Estimated Concentration (the result is below the reporting limit but above the detection limit for the compound
Note 1 - No groundwater sample was collected from monitoring well due to NAPL accumulation in well sump

Path: O:\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 2/24/2025 1:43 PM

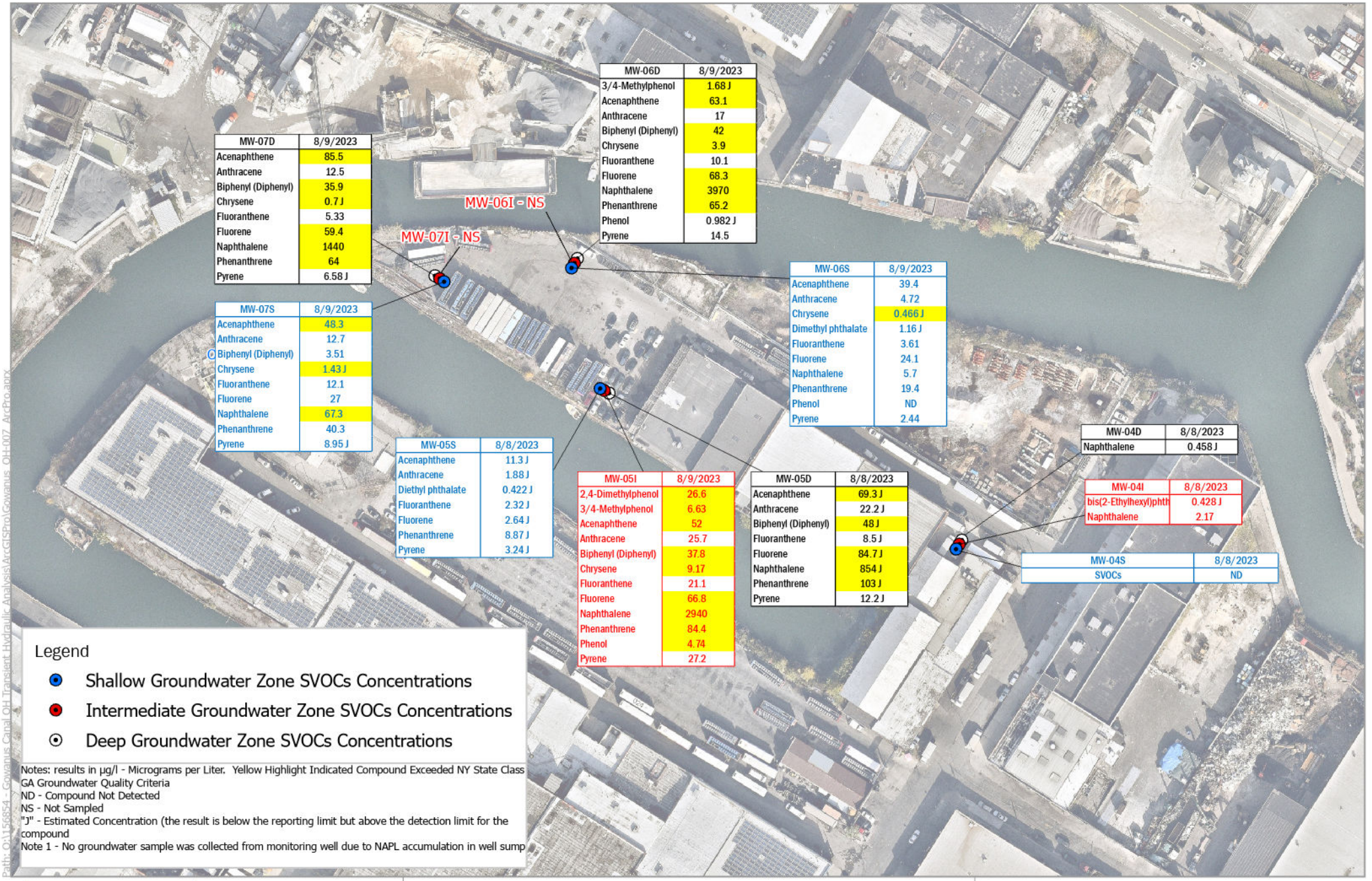
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 60 120 Feet

FIGURE 24
CONCENTRATIONS OF VOCS IN GROUNDWATER
PHASE II INVESTIGATION REPORT



Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 2/24/2025 1:43 PM

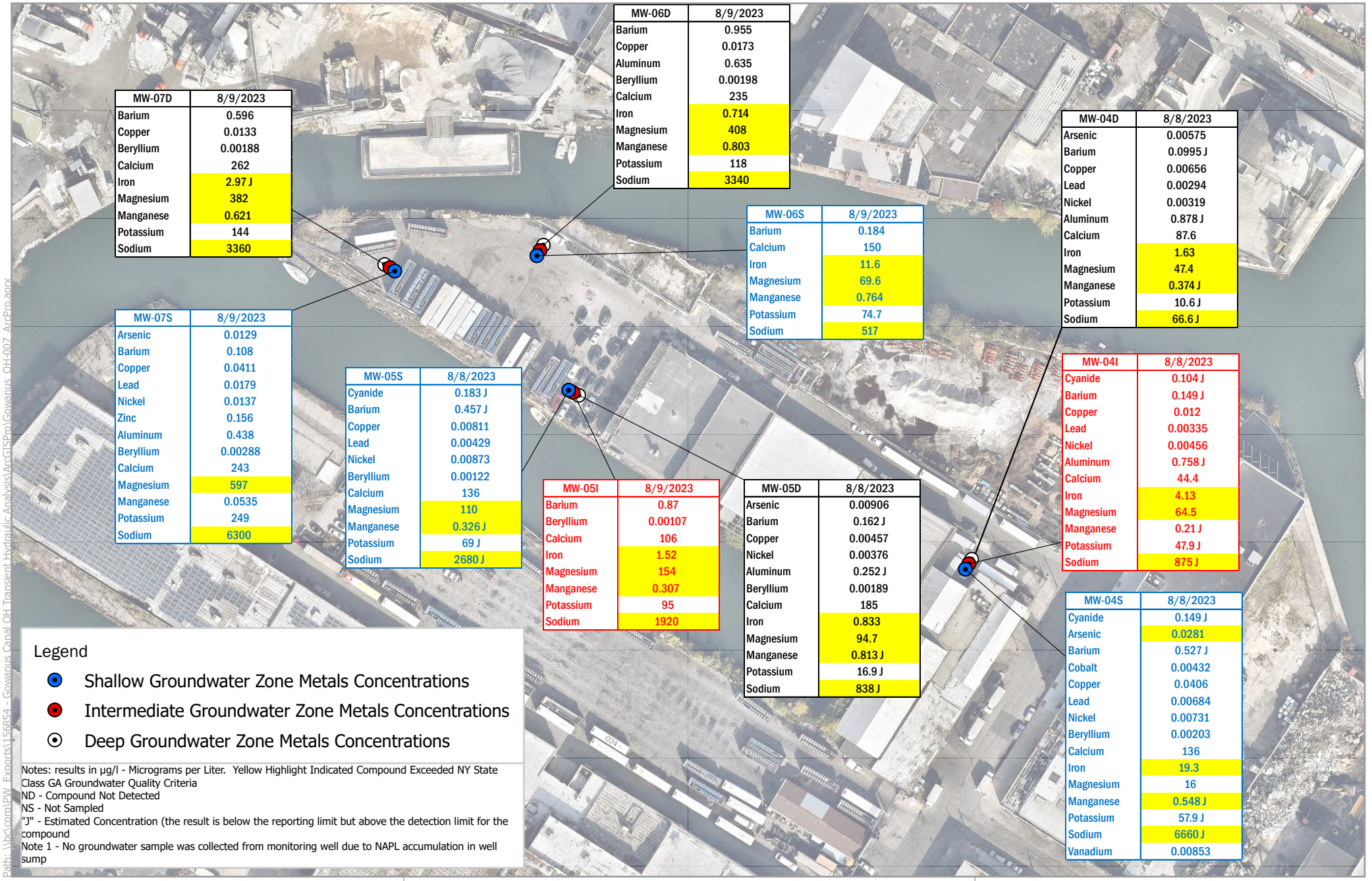
Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 60 120
Feet

FIGURE 25
CONCENTRATIONS OF SVOCS IN GROUNDWATER
PHASE II INVESTIGATION REPORT



Path: \\bcl.com\PW_Exports\156854 - Gowanus Canal OH Transient Hydraulic Analysis\ArcGISPro\Gowanus_OH-007_ArcPro.aprx

Brown AND Caldwell

156854
Gowanus Canal CSO Facility
Brooklyn, New York

Date: 11/20/2024 11:34 AM

Spatial Reference:
Name: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Aerial photography source - Nearmap, photograph date 10/26/2015 0.075 meters/pixel"

N

0 50 100 Feet

FIGURE 26
CONCENTRATIONS OF METALS IN GROUNDWATER
PHASE II INVESTIGATION REPORT

Appendix A: Soil Boring and Monitoring Well Construction logs

Use of contents on this sheet is subject to the limitations specified at the end of this document.
CSO-GC-SFS-DES-R-PHASE II INVESTIGATION-20250220.DOCX

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-04D **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	70.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/7/23 - 6/22/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 7.87 ft.	**Easting:** 986526.4 ft. **Northing:** 185220.7 ft. **TOC Elev:** 7.46 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
			Concrete Slab		1			*Surface completion consist of flushmount roadbox.*
		SW GW	**FILL**		2			
	5	SW	Black cmf SAND and f GRAVEL.		3			1.5-2.5' BGS: Sample MW-04-1.5-2.5_20230607 collected.
			Black cmf SAND, trace mf Gravel (misc. fill).		4			
					5			
5		SW GW	Black/tan cmf SAND and GRAVEL, some organics (wood).		6		0.0	
		SW GW	Black mf SAND and GRAVEL, some Silt, moist.					5.5-6.5' BGS: Sample MW-04-5.5-6.5_20230607 collected.
	0							
10		CL ML	**MEADOW MAT**		7		0.0	
		CL ML	Grey, Clayey SILT. Grey Clayey SILT and Organics (roots, phragmites).					
	-5							
15		CL ML	Grey Silty CLAY and Organics (roots, phragmites, shells).		8		0.0	
	-10							
20		SW	Grey mf SAND, saturated.		9		0.0	*1.0-58.0' bgs: Cement/Bentonite Grout.*
		SP	Grey f SAND, trace Silt, micaceous, moist.					
	-15							
25		CL ML	Grey Silty CLAY, moist. @ 26.2' BGS mf Sand lense.		10		0.0	
	-20	CL ML	Brown Clayey SILT.					
30		SP	Brown f SAND, trace Silt, moist.		11		0.0	*0-60.0' bgs: 2" Scheduled 40*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-04D** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	PID Readings (ppm)	Remarks
		SW	**GLACIAL OUTWASH**					*PVC Riser.*
		SW	Brown cmf SAND.					
	-25	SW	Brown mf SAND, trace Silt, moist.					
			Brown mf SAND, trace Silt, micaceous.					
35		SW	Brown mf SAND, micaceous, moist.		12		0.0	
		SP	Brown f SAND, trace Silt, saturated. @36.6-36.7' BGS and 37.5' BGS grey Clay lense.					
	-30							
		SW	Brown mf SAND, micaceous, moist.					
40		SW	Brown mf SAND, micaceous, moist. @42.3' BGS grey Clay lense.		13		0.0	
	-35							41.5-42.5' BGS: Sample MW-04-41.5-42.5 collected.
45		SW	Brown mf SAND, micaceous, moist.		14		0.0	
	-40							
50					15		0.0	
	-45							
55		SW	Brown mf SAND, trace coarse to fine Gravel. @ 55.9' BGS grey Clay lense.		16		0.0	*55.0-58.0' bgs: Hydrated Bentonite Seal.*
	-50							*58.0-70.0' bgs: #1 Filter Sand.*
60		SW	Brown mf SAND and cmf GRAVEL.		17		0.0	
	-55							
65		SW GW	Brown cmf SAND and GRAVEL.		18			*60.0-70.0' bgs: 2" Scheduled 40 Slotted PVC Screen.*
	-60							67.0-68.0' BGS: Sample MW-04-67.0-68.0 collected.
70								

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-04I **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	38.5 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/21/23 - 6/21/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 7.92 ft.	**Easting:** 986523.7 ft. **Northing:** 185216.4 ft. **TOC Elev:** 7.12 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
0	5		See Boring Log MW-04D for soil descriptions.								*Surface completion consist of flushmount roadbox.*
5	0										
10	-5										*1-24.5' bgs: Cement/Bentonite Grout.*
15	-10										
20	-15										
25	-20										*24.5-26.5' bgs: Hydrated Bentonite Seal.*
30											*26.5-38.5' bgs: #1 Filter*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-04I** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
	-25										*Sand.*
35											*28.5-38.5' bgs: 2" Scheduled 40 PVC Slotted Screen.*
	-30										

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-04S** **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	10.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/21/23 - 6/21/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 7.98 ft.	**Easting:** 986520.3 ft. **Northing:** 185211.2 ft. **TOC Elev:** 7.70 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
5	5		See Boring Log MW-04D for soil descriptions.						Traffic Rated Vault Box		*Surface completion consist of flushmount roadbox.* *1-3' bgs: Cement/Bentonite Grout.* *3-10' bgs: #1 Filter Sand.* *4-10' bgs: 2" Scheduled 40 PVC Slotted screen.*
0	0										
10											

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-05D **Page** 1 **of** 3

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	75.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/5/23 - 6/27/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 5.47 ft.	**Easting:** 986153.5 ft. **Northing:** 185376.2 ft. **TOC Elev:** 5.06 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
	5	SW	Asphalt		1			*Surface completion consist of flushmount roadbox.*
		SW	**FILL**		2			1.0-2.0' BGS: Sample MW-05-1.0-2.0_20230605 collected.
		GW SW GW	Black/brown cmf SAND and GRAVEL (miscellaneous fill). Pulverised concrete. Browncmf SAND and GRAVEL (miscellaneous fill).		3 4 5			
5	0	SW SW	Brown cmf SAND, trace Silt, trace m Gravel, saturated.		6			5.0-6.0' BGS: Sample MW-05-5.0-6.0_20230605 collected.
		SW	Black mf SAND and Organics (wood). Black/grey mf SAND, some Silt.					*1-24.5' bgs: Cement/Bentonite Grout.*
10	-5	CL	**MEADOW MAT**		7			
		ML CL ML CL ML CL ML	Grey Clayey SILT and Organics (roots, phragmites). Grey Silty CLAY. Grey Clayey SILT and Organics (roots, phragmites). Grey Silty CLAY.					
15	-10	SW CL ML CL ML CL ML	Black mf SAND and Organics (phragmites), trace Silt. Grey Silty CLAY. Grey Clayey SILT and Organics (roots, phragmites). Grey Silty CLAY, trace Organics (phragmites).		8			
20	-15	CL ML CL ML SW	Dark grey, Silty CLAY Brown, CLAYEY SILT and Organics (roots, phragmites) Grey mf SAND, little Silt.		9			21.0-22.4' BGS: Black staining and strong fuel-like odor.
25	-20	SW	**GLACIAL OUTWASH**		10			25.0-25.9' BGS: Sporadic black staining and strong fuel-like odor.
		SW SW	Grey cmf SAND. Grey mf SAND, trace Silt. Dark grey mf SAND, little (+) Silt.					25.9-26.6' BGS: Strong fuel/mothball-like odor. 26.7-28.5' BGS: NAPL saturation, strong fuel/mothball-like odor.
30	-25	SW	Dark grey cmf SAND, little (+) Silt,		11		370.8	30.0-31.7' BGS: NAPL

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-05D** **Page** 2 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	PID Readings (ppm)	Remarks
			saturated.					saturation and sheen, strong fuel/mothball-like odor.
		SW	Black cmf SAND, little mf Gravel.					32.5-33.5' BGS: Sample MW-05-32.5-33.5 collected.
		SW	Dark grey mf SAND, little Silt, saturated.					31.4-33.2' BGS: Strong fuel/mothball-like odor.
35	-30	SW	Brown mf SAND, little Silt, micaceous. @35.2' and 38.2' BGS one-inch thick grey Clay lense.		12		17.8	35.0-38.5' BGS: Sporadic NAPL blebs/sheen, faint fuel/mothball-like odor.
40	-35	SW	Brown cmf SAND, trace f Gravel, micaceous.		13			
45	-40	SW	Brown cmf SAND, micaceous. @ 46.3' BGS, 47.1-47.3' BGS, and 47.5' BGS Clay lense.		14			
50	-45	SW	Brown mf SAND, micaceous, saturated. @50.4' BGS Clay lense.		15			
		SP	Brown f SAND, trace Silt, saturated.					
55	-50	SM ML SP	Brown f SAND and SILT, trace Clay, saturated. Brown f SAND, micaceous, saturated.		16			*56-58' bgs: Bentonite Seal.*
								58-72' bgs: #1 Filter Sand.
60	-55	SW	Grey/green cmf SAND, saturated.		17		66.2	60.0-65.0' BGS: Stained, strong mothball-like odor.
65	-60	SW	Grey/green cmf SAND.		18		279.3	*60-70' bgs: 2" Scheduled 40 PVC Slotted Screen.*
		SW	Black/brown cmf SAND.					65.0-67.5' BGS: Stained, strong mothball-like odor.
		SW	Brown mf SAND, trace Silt, micaceous, saturated. @67.7' BGS one-inch thick Clay lense.					66.0-67.0' BGS: Sample MW-05-66.0-67.0 collected.
		SW	Brown mf SAND, little cmf Gravel.					

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-05D** **Page** 3 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
		SW	Brown cmf SAND, saturated.		19						70.0-72.3' BGS: Sheen, faint mothball-like odor. *70-72' bgs: 2" PVC Sump.*
		SW	Brown mf SAND, trace Silt and Gravel, saturated.								
75											

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-05I **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	36.0 ft.

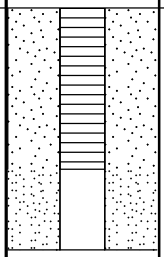
Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/15/23 - 6/26/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 5.46 ft.	**Easting:** 986148.3 ft. **Northing:** 185378.9 ft. **TOC Elev:** 5.17 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
	5		See Boring Log MW-05D for soil descriptions.						Traffic Rated Vault Box		*Surface completion consist of flushmount roadbox. 1-21' bgs: Cement/Bentonite Grout.*
5	0										
10	-5										
15	-10										
20	-15										*21-23' bgs: Bentonite Seal.*
											23-37' bgs: #1 Filter Sand.
25	-20										*25-35' bgs: 2" Scheduled 40 PVC Slotted Screen.*
30	-25										

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-05I** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
35	-30										*35-37' bgs: 2" PVC Sump.*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-05S **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	10.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/15/23 - 6/23/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986143.9 ft.
C. Migliore	HSA	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185381.0 ft.
			Ground Surface Elev: 5.43 ft.	**TOC Elev:** 5.04 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
	5		See Boring Log MW-04D for soil descriptions.						Traffic Rated Vault Box		*Surface completion consist of flushmount roadbox.* *1-2' bgs: Hydrated Bentonite Seal.* *2-10' bgs: #1 Filter Sand.* *3-10' bgs: 2" Scheduled 40 PVC Slotted Screen.*
5	0										
10											

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-06D **Page** 1 **of** 3

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	72.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/1/23 - 6/29/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 5.54 ft.	**Easting:** 986119.9 ft. **Northing:** 185518.6 ft. **TOC Elev:** 5.24 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
	5		Asphalt		1		21.2	*Surface completion consist of flushmount roadbox.*
		SW GW	**FILL** Brown cmf SAND and GRAVEL (fill material/brick).		2		0.0	0-1.5' BGS: Faint diesel-like odor.
		SW	Brown cmf SAND, little (-) mf Gravel.		3		5.6	
5	0	SW	@4.5' BGS wood (misc. fill). Brown Organics (wood), SAND (misc. fill).		4		0.5	4.5' BGS: Faint fuel-like odor.
		SW CL ML	Grey cmf SAND, little Silt (fill material/concrete).					5.0-6.0' BGS: Sample MW-06-5.0-6.0_20230601 collected
		CL ML	**MEADOW MAT** Grey Clayey SILT, trace organics.					7.2-7.3' BGS: Trace mothball-like odor.
		CL	Grey Clayey SILT.					
		ML	Black Clayey SILT.					
10	-5	CL ML	Grey Clayey SILT, trace organics (shells).		5		47	*1-55' bgs: Cement/Bentonite Grout.*
		CL ML	Black Clayey SILT.					12.5-12.7' BGS: Moderate mothball/fuel-like odor.
15	-10	CL ML	Grey Clayey SILT, little (-) organics (shells).		6		79.2	15.0-17.9' BGS: Mothball/fuel-like odor.
		SW ML	Grey cmf SAND. Black Clayey SILT.					
20	-15	CL ML	Dark grey/black Clayey SILT, trace Organics (shells). @22.1' BGS one-inch thick lense of cmf SAND.		7		70	20.3' BGS: Mothball/fuel-like odor. 21.4-21.5' BGS: Mothball/fuel-like odor.
25	-20	CL ML	Grey Clayey SILT, trace organics (wood, shells).		8		0.9	25.0-26.3' BGS: Faint mothball-like odor.
		SW SM	Grey Clayey SILT, trace Organics (wood, shells).					
30	-25	SW/SM	Grey Clayey SILT, trace Organics (wood,		9		498.2	

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-06D** **Page** 2 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	PID Readings (ppm)	Remarks
		CL	shells).					30.6-30.9' BGS: Moderate mothball-like odor.
		ML	Black Clayey SILT and Organics (wood).					
		SW	**GLACIAL OUTWASH**					
		SM	Brown mf SAND, some (+) Silt.					
		SP	Brown f SAND, some Silt.					33.2-33.6' BGS: NAPL blebs, strong fuel-like odor.
		SM	Brown cmf SAND, trace Silt.					
35	-30	SW	Brown cmf SAND, little Silt, trace f Gravel.		10		30	35.0-35.2' BGS: Sheen.
		SM	Brown mf SAND, little Silt, trace mica.					
		SW						36.8-37.9' BGS: Faint fuel-like odor.
		GW						
		SW						37.9-39.4' BGS: NAPL blebs, Faint fuel-like odor.
40	-35	SW	Brown cmf SAND, some Silt, trace mica.		11		10,000	
		SM	Grey mf SAND, some Silt and trace mica, saturated.					40.0-44.9' BGS: NAPL blebs/coating. Strong mothball-like odor. 41.0-42.0' BGS: Sample MW-06-41.0-42.0 collected.
		SW						
		SM						
45	-40	SW	Brown cmf SAND, some Silt, trace mica.		12		1100	
		SM						
		SW	Grey mf SAND, some Silt with mica, saturated.					47.3-47.7' BGS: Trace sheen and faint to moderate fuel-like odor. 49.0-49.9' bgs: Moderate mothball-like odor.
		SM						
50	-45		No Recovery.		13			
55	-50	SW	Grey mf SAND, trace Silt and mica.		14			*55-58' bgs: Hydrated Bentonite Seal.*
								58-70' bgs: #1 Filter Sand.
60	-55	SP	Brown f SAND, trace Silt with mica.		15			
65	-60	SP	Brown f SAND, some Silt, saturated.		16		12	*60-70' bgs: 2" Scheduled 40 PVC Slotted Screen.* 66.0-67.0' BGS: Sample MW-06-66.0-67.0 collected.
		SM						

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-06D** **Page** 3 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
	-65										*70-72' bgs: 2" PVC Sump.*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-06I **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	47.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/1/23 - 6/28/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 5.68 ft.	**Easting:** 986116.7 ft. **Northing:** 185513.6 ft. **TOC Elev:** 5.18 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
0	5		See Boring Log MW-06D for soil descriptions.								*Surface completion consist of flushmount roadbox. 1-31' bgs: Cement/Bentonite Grout*
5	0										
10	-5										
15	-10										
20	-15										
25	-20										
30	-25										

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-06I** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
35	-30										*31-33' bgs: Bentonite chip seal* *33-47' bgs: #1 Sand filter pack* *35-45' bgs: 2" Schedule 40 PVC 0.020" screen*
40	-35										
45	-40										*45-47' bgs: Sump*

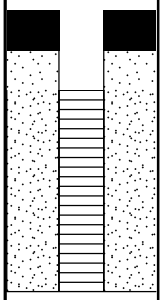
WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-06S **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	8.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/1/23 - 6/28/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986113.7 ft.
C. Migliore	HSA	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185508.5 ft.
			Ground Surface Elev: 5.77 ft.	**TOC Elev:** 5.40 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
5	5		See Boring Log MW-06D for soil descriptions.								*Surface completion consist of flushmount roadbox.* *1-2' bgs: Bentonite chip seal* *2-8' bgs: #1 Sand filter pack* *3-8' bgs: 2" Schedule 40 PVC 0.020" screen*
	0										

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-07D **Page** 1 **of** 3

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	70.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/2/23 - 7/5/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 7.44 ft.	**Easting:** 985969.3 ft. **Northing:** 185500.3 ft. **TOC Elev:** 6.88 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
			Asphalt		1			*Surface completion consist of flushmount roadbox.*
		SW GW	**FILL** Dark brown/ black cmf SAND and GRAVEL (misc. fill, some fabric and shells).		2			1.0-2.0' BGS: Sample MW-07-1.0-2.0_20230602 collected.
	5							*1-56' bgs: Cement/Bentonite Grout.*
5		SW	Black cmf SAND and misc. fill (wood).		3			
		SW	White cmf SAND and misc. fill (wood), some fabric-like material.					
	0	SW GW	Red cmf SAND and GRAVEL (brick).					6.6-7.6' BGS: Sample MW-07-6.6-7.6_20230602 collected.
		SW GW GW	Brown cmf SAND, some mf Gravel, some Silt.					7.2-7.9' BGS:Fuel-like odor.
		SW SW SM	Black mf GRAVEL, little (-) cmf SAND, some Silt, saturated. Black cmf SAND, some Organics (wood), some Silt.		4			
10			No Recovery					
	-5							
15		CL ML	**MEADOW MAT** Grey Clayey SILT, trace Organics (phragmites).		5			
	-10							
		CL ML SW SM CL ML CL ML	Black Silty CLAY, some (-) Organics (shells). Grey cmf SAND and SILT. Grey Silty CLAY, trace Organics (shells). Grey Silty CLAY, trace Organics (shells).					17.4-17.8' BGS: Faint fuel-like odor.
20					6			
	-15							
25		CL ML	Grey Clayey SILT.		7			
		SW	Grey cmf SAND, trace Silt.					
	-20	SW CL ML SP SM	Grey mf SAND. Grey Clayey SILT. Black f SAND, some (-) Silt, trace Organics (wood).					27.2-27.4' BGS: Faint fuel-like odor.
30		SW	**GLACIAL OUTWASH**		8		48.7	30.0-31.8' BGS: NAPL

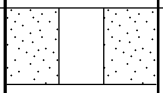
WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-07D** **Page** 2 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	PID Readings (ppm)	Remarks
		SW	Brown cmf SAND, saturated.					coating/ staining, fuel-like odor.
	-25	SP	Brown mf SAND, trace Silt.					31.8-32.1' BGS: Faint fuel-like odor.
		SM	Brown f SAND, little Silt.					32.1-35.3' BGS: Slight staining, moderate fuel-like odor.
		SW	Brown cmf SAND, little Silt.					
35		SM						
		SW	Brown cmf SAND, little Silt.		9		464.2	35.0-36.0' BGS: Sample MW-07-35.0-36.0 collected.
		SM	Brown f SAND, trace Silt, micacious.					35.3-37.6' BGS: Sporadic NAPL coating/staining, fuel/mothball-like odor.
	-30	SP						
		SW	Brown mf SAND, trace Silt.					37.6-38.3' BGS: Sporadic NAPL coating/staining, fuel/mothball-like odor.
		SW	Brown cmf SAND.					
40								
		SW	Brown cmf SAND, micaceous.		10		16.8	
	-35							41.3-42.2' BGS: Faint fuel/mothball-like odor.
								42.2-43.5' BGS: Faint fuel/mothball-like odor.
45								
		SW	Brown cmf SAND, micaceous.		11		4.2	45.0-46.2' BGS: Faint fuel/mothball-like odor.
	-40							46.2-46.8' BGS: Faint fuel/mothball-like odor.
								46.8-47.5' BGS: Faint fuel/mothball-like odor.
50								
		SW	Black mf SAND, micaceous. Color change to Brown at 53.4" BGS.		12		338.1	50-53.4' BGS: Staining, strong mothball-like odor.
	-45							
								53.4-55.0' BGS: Sporadic NAPL coating/staining and moderate mothball-like odor.
55		SW	Brown mf SAND, micaceous.		13		540.6	
		SW	Brown mf SAND, some Silt, micaceous.					55.0-56.1' BGS: NAPL coating/staining, strong mothball-like odor.
	-50							*56-58' bgs: Hydrated Bentonite Seal.*
60								56.1-58.5' BGS: Faint mothball-like odor.
		SW	Brown mf SAND, some Silt, micaceous.		14		0.2	*58-70' bgs: #1 Filter Sand.*
		SP	Brown f SAND & SILT.					*60-70' bgs: 2" Scheduled 40 PVC Slotted Screen.*
	-55	SM	Brown mf SAND, little (-) Silt, micaceous.					
		SW						
65								
		SW	Brown mf SAND, trace Silt and fine Gravel, micaceous.		15			
		SP	Brown/grey f SAND, little Silt, micaceous.					66.5-67.5' BGS: Sample MW-07-66.5-67.5 collected.
	-60	SM						
		SW	Brown cmf SAND, trace Gravel.					
70								

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-07D** **Page** 3 **of** 3

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
											*70-72' bgs: 2" PVC Sump.*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-07I **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	43.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/2/23 - 7/3/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 7.54 ft.	**Easting:** 985974.3 ft. **Northing:** 185497.2 ft. **TOC Elev:** 7.19 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
0 5 10 15 20 25 30	5 0 -5 -10 -15 -20		See Boring Log MW-07D for soil descriptions.								*Surface completion consist of flushmount roadbox.* *1-27' bgs: Cement/Bentonite Grout.* *27-29' bgs: Hydrated Bentonite Seal.* *29-41' bgs: #1 Filter Sand.*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** **MW-07I** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
	-25										*31-41' bgs: 2" Scheduled 40 PVC Slotted Screen.*
35											
	-30										
40											
	-35										*41-43' bgs: 2" PVC Sump.*

WELL LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Well No.** MW-07S **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	6"	2" PVC	.010"	11.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/2/23 - 6/30/23	Aquifer Drilling and Testing	**Hammer Type:** NA	Pump and Surge

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	HSA	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 7.60 ft.	**Easting:** 985978.9 ft. **Northing:** 185494.0 ft. **TOC Elev:** 7.18 ft.

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
5	5		See Boring Log MW-07D for soil descriptions.						Traffic Rated Vault Box		*Surface completion consist of flushmount roadbox.* *1-3' bgs: Cement/Bentonite Grout.* *3-4' bgs: Hydrated Bentonite Seal.* *4-11' bgs: #1 Filter Sand.* *6-11' bgs: 2" Scheduled 40 PVC Slotted Screen.*
0	0										
10											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-12 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	29.3 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/31/23 - 5/31/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	Direct-push	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 5.89 ft.	**Easting:** 986092.8 ft. **Northing:** 185526.5 ft. **TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Asphalt		1						
		SW GW	**FILL** Brown cmf SAND and GRAVEL (bricks).		2 3						1.5-2.5' BGS: Sample OH-SB-12(A)-1.5-2.5 collected.
		SW GW	Black/Grey cmf SAND and GRAVEL, misc. fill (bricks, pieces of wood).		4 5						
5	0	SW GW	Black cmf SAND and GRAVEL, misc. fill. **MEADOW MAT**		6					5.3	5.0-6.0' BGS: Sample OH-SB-12(A)-5.0-6.0 collected.
		ML CL CL ML SW SM CL	Grey Clayey SILT. Black Silty CLAY. Black mf SAND and SILT. Black Silty CLAY. Grey Clayey SILT. @7.8' BGS 1-inch thick lens of Silty CLAY.								7.8' BGS: Faint mothball-like odor.
10	-5	ML CL ML CL ML	Grey Clayey SILT. @12.5' BGS Color change to Black.		7					6.5	11.8' BGS: Faint mothball-like odor. 12.5-13' BGS: Faint mothball-like odor.
15	-10	ML CL CL ML ML CL	Black Clayey SILT, trace fine Gravel, trace Organics (shells). Black Silty CLAY, some (+) Organics (shells). Grey Clayey SILT, some Organics (shells, phragmites), trace f Gravel.		8					3	15-16.1' BGS: Faint mothball-like odor. 17.1-18.5' BGS: Moderate mothball-like odor.
20	-15	ML CL	Black Clayey SILT, trace Organics (shells).		9					7.7	20.0-24.5' BGS: Faint mothball-like odor.
25	-20	CL ML ML CL ML CL	Black Silty CLAY. Black Clayey SILT. Grey/black Clayey SILT, trace Organics (shells).		10					7.7	25.6-25.7' BGS: Moderate mothball-like odor.
		ML CL	Black Clayey SILT, trace f Gravel, some Organics (wood).								

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-13 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	20.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/16/23 - 5/16/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986100.3 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185501.2 ft.
			Ground Surface Elev: 5.80 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5	GW SW	Asphalt **FILL** Black/red cmf GRAVEL and SAND (miscellaneous fill/brick).		1 2 3					0.0 0.0 0.0	
5	0	GW SW Fill CL ML	Black/red cmf GRAVEL and SAND (miscellaneous fill/brick). Black cmf SAND w/ pieces of wood (misc. fill). **MEADOW MAT** Grey Clayey SILT, trace cmf Sand, trace f Gravel.		4					0.0	3-4' BGS: Sample OH-SB-13_3.0-4.0 collected. 5-6' BGS: Sample OH-SB-13_5.0-6.0 collected.
		CL ML	Grey Silty CLAY, trace Organics(shells).								
10	-5	ML	Grey/black SILT, trace f Sand.		5					0.0	
		CL ML	Grey Silty CLAY, trace Organics (shells).								
		ML CL	Black Clayey SILT, trace mf Sand.								
15	-10	ML CL ML CL ML	Black SILT, some cmf Sand, saturated. Black Clayey SILT, trace Organice (shells). Grey Silty CLAY, trace Organics (shells).		6					0.9	15-16' BGS: Sample OH-SB-13_15.0-16.0 collected.
20											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-14 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/17/23 - 5/17/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986150.8 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185467.4 ft.
			Ground Surface Elev: 5.41 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5	SW	Asphalt		1					0.0	
			FILL		2					0.0	
			Black cmf SAND and red GRAVEL (brick/miscellaneous fill material).		3					0.0	Sample OH-SB-14_1.0-2.0 Collected.
					4					0.0	
					5					0.0	
5	0	SW	Brown cmf SAND, some (+) cmf Gravel, trace Silt, Saturated @ 5.5' BGS.		6					0.0	
		SW	Brown cmf SAND and GRAVEL, saturated.		7					0.0	
		ML									
		CL									
			MEADOW MAT								
		SW	Grey Clayey SILT, trace f Sand.								
		SM	Brown f SAND and ORGANICS (roots).								Sample OH-SB-14_7.7-8.7 Collected.
		ML									
10		CL	Black Clayey SILT, little f Sand.								
	-5	ML	Grey Clayey SILT, trace Organics (shells).		8					0.0	
		CL	Grey Clayey SILT, trace Organics (shells).								
		ML	Grey Clayey SILT, some Organics (wood).								
		CL	Grey Clayey SILT, trace organics (shells).								
		ML									
		CL	Grey Silty CLAY, trace Organics (phragmites).								
		ML									
15		CL									

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-15 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/15/23 - 5/15/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986219.7 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185421.5 ft.
			Ground Surface Elev: 5.61 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Asphalt		1					0.0	
		SW	**FILL** Black cmf SAND, some grey cmf Gravel (sub angular).		2					0.0	
			Concrete slab								
		SW GW	Black cmf SAND and cmf GRAVEL (brick).		3					0.0	3.5-4.5' BGS: Sample OH-SB-15_3.5-4.5 collected.
5	0	SW	Black cmf SAND, some mf Gravel, (cinders, slag), wet.		4					0.0	5-7' BGS: Sheen. 6-7' BGS: Sample OH-SB-15_6.0-7.0 collected.
		SW	Black cmf SAND, some red cmf Gravel (red brick @ 7.8' BGS).								
		ML CL	**MEADOW MAT** Grey Clayey SILT, trace Organics (roots).								
10	-5	ML CL	Grey Clayey SILT, little (-) f Sand, trace Organics (phragmites).		5					0.0	
		CL ML	Light Grey, Silty CLAY, little f Sand, trace Organics (phragmites and shells).								
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-16 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	12.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/24/23 - 5/25/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986012.0 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185529.8 ft.
			Ground Surface Elev: 6.49 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
	5	SW GW	**FILL** Black/grey cmf SAND and GRAVEL, dry.		2					0.0	
			Concrete		3					0.0	
		SW GW	Red/brown cmf SAND and Gravel (misc. fill/brick).		4					0.0	3.0-4.0' BGS: Sample OH-SB-16-3.0-4.0 collected.
					5					0.0	
5					6					0.0	
	0	SM SL	Brown SILT and cmf SAND (pulverized cement), saturated at 5.5' BGS.		7					0.0	
		ML	Tan mf SAND, little Silt, saturated.								
		ML	Black/grey SILT.								
10					8						
	-5										12' BGS: Refusal.

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-16A **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	50.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/25/23 - 5/25/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986030.6 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185514.8 ft.
			Ground Surface Elev: 6.57 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
	5	SW GW	**FILL** Black cmf SAND and GRAVEL (misc. fill material).		2					0.0	*1.0-2.0' BGS: Sample OH-SB-16A-1.0-2.0 collected.*
		SW GW	Black cmf SAND, some cmf Gravel.		3					0.0	
					4					0.0	
		SW GW	Red, cmf SAND and GRAVEL (brick).		5					0.0	
5		SW GW	Brown/grey cmf SAND, some (+) mf Gravel (fill material/brick).		6					1.9	
	0	SW GW	Brown cmf SAND, trace f Gravel.								
		GW	Black/grey mf GRAVEL, trace cm Sand.								
		GW	Brown, Organics (wood), trace cm Sand.								
		SW GW	Brown cmf SAND, trace Silt. Color change to Grey @ 8.55' BGS.								
10		GM ML CL	White cmf GRAVEL, some SILT andSAND, trace organics (wood), pulverized concrete, saturated @10' BGS.		7					9.8	*9.5-10.5' BGS: Sample OH-SB-16A-9.5-10.5 collected.* *10-10.5' BGS: NAPL blebs and faint mothball-like odor.*
	-5		**MEADOW MAT**								*12.0-13.8' BGS: Faint mothball-like odor.*
		ML CL	Grey Clayey SILT, trace Organics (phragmites).								
			Black/grey Clayey SILT, trace Organics (phragmites and shells).								
15		ML CL	Black/grey Clayey SILT, trace Organics (shells).		8					5.7	
	-10	ML CL	Grey, Silty CLAY, trace Organics (phragmites).								*15.0-16.6' BGS: Faint mothball-like odor.*
20					9					0.4	
	-15										
25		ML CL	Grey Clayey SILT, trace Organics (phragmites).		10					136	
	-20										
		SW	**GLACIAL OUTWASH** Brown cmf SAND, saturated.								
30		SW	Brown cm SAND, saturated.		11					144	*30.0-30.4' BGS: NAPL*

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** **OH-SB-16A** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Backfill	PID Readings (ppm)	Remarks
	-25	SP	Brown f SAND, some Silt.								*coating.*
		SM	Brown cmf SAND, some Silt.								*31.2-31.9' BGS: Faint fuel-like odor.*
		SW SM SW SM	Brown cmf SAND, trace Silt and mf Gravel.								*31.9-34.4' BGS: Heavily coated with NAPL.*
35		SW	Brown cmf SAND (micaceous), saturated.		12					263.5	
	-30										*37.8-37.9' BGS: NAPL coating.*
40		SW	Brown cmf SAND (micaceous), saturated.		13					228.1	
	-35										
45					14					195	
	-40										*46.0-47.0' BGS: Sheen and black staining.* *46.0-47.0' BGS: Sample OH-SB-16A-46.0-47.0 collected.*
		SW SM	Brown mf SAND (micaceous), trace Silt, saturated.								*48.7-50' BGS: Moderate fuel-like odor.*
50											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-17 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/18/23 - 5/18/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986059.6 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185498.2 ft.
			Ground Surface Elev: 6.32 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
	5	GW	**FILL**		2					0.0	1.5-2.5' BGS: Sample OH-SB-17_1.5-2.5 collected.
		SW	Grey cmf GRAVEL and SAND.		3					0.0	
		SW	Brown cmf SAND and GRAVEL (brick, misc. fill).		4					0.0	
		GW			5					0.0	
5											
		SW	Brown/black cmf SAND, some cmf Gravel		6					0.0	
	0	GW	(brick).								
		SW	Red, Organics (wood), some cmf Sand.								
		ML	Green/grey, SILT and mf SAND.								
		SW	Red, Organics (wood), some cmf Sand.								
		SM	Grey cmf SAND, little (-) Silt, moist.								
		SW	Grey cmf SAND and GRAVEL, moist.								
		GW									
10		SW	Brown cmf SAND, saturated.		7					11.4	
	-5	GW	**MEADOW MAT**								
		CL	Grey Silty CLAY.								*10.7-12.2' BGS: Staining and mothball-like odor*
		ML	Black Clayed SILT, trace f Sand and								10.8-11.8' BGS: Sample OH-SB-17_10.8-11.8 collected.
		ML	Organics.								
		CL	Grey Silty CLAY, trace Organics (shells).								
		CL									
		ML									
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-18 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/17/23 - 5/18/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986120.5 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185460.3 ft.
			Ground Surface Elev: 5.54 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5	SW	Asphalt		1					0.0	
		GW	**FILL**		2					0.0	
		SW	Pulverised concrete.		3					0.0	
		GW	Brown/red cmf SAND and GRAVEL (brick/fill).		4					0.0	
		GW			5					0.0	3.5-4.5' BGS: Sample OH-SB-18_3.5-4.5 collected.
		SW	Cmf GRAVEL and SAND (cobblestone).		6					0.0	5-6' BGS: Sample OH-SB-18_5.0-6.0 collected.
		SW	Black cmf SAND, red Organics.		7					0.0	
5		SP	Green SILT and f SAND, saturated @5.0' BGS.								
	0	SM									
		SW	Brown/black cmf SAND, trace mf Gravel and Silt, moist.								
		SW									
		SP	Brown cmf SAND, little (-) cmf Gravel (brick), moist.								
		SM									
			MEADOW MAT								
			Grey brown, ClayeySILT, trace f Sand.								
10	-5	CL	Grey Silty CLAY, trace f Sand and Organics (shells).		8					1.2	
		ML									
		CL	Grey/black Silty CLAY, little (-) f Sand.								
		ML	Grey Silty CLAY.								
		CL	Grey/black Clayey SILT, trace f Sand.								
		ML									
		CL	Grey Clayey SILT, little (-) Organics (phragmites) and f Sand.								
15		ML									
		CL									
		ML									

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-19 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/17/23 - 5/17/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986157.4 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185449.1 ft.
			Ground Surface Elev: 5.31 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
		SW GW	**FILL** Brown cmf SAND and grey/red GRAVEL (brick/fill material).		2					1.0	
		SW	Concrete.		3					0.0	
		GW SW	Grey cmf SAND and GRAVEL, trace Silt (misc. fill).		4					0.0	
5	0	GW	Black cmf SAND and GRAVEL, little (+) Silt, saturated @ 4.0' BGS.		5					0.0	Sample OH-SB-19_3.5-4.5 collected.
		SW GW	Black cmf SAND and GRAVEL, little (+) Silt, saturated.		6					0.0	
		GW	Red cmf GRAVEL, some cmf Sand (brick).		7					0.0	Sample OH-SB-19_5.5-6.5 collected.
		ML ML CL	Brown/Grey, SILT and cmf SAND, some (-) mf Gravel.								
10	-5		**MEADOW MAT**								
		ML CL	Grey Clayey SILT, trace Organics (phragmites).		8					0.0	
			Grey Clayey SILT, trace Organics (phragmites).								
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-20 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/15/23 - 5/15/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**		
C. Migliore	Direct-push	Geoprobe ® 7822	**Horiz Datum/Proj:** NAD83 **Vert Datum:** NAVD88 **Ground Surface Elev:** 5.42 ft.	**Easting:** 986200.6 ft. **Northing:** 185391.8 ft. **TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Asphalt		1					0.0	
		SW	**FILL** Black cmf SAND, some grey Gravel (sub-angular).		2					0.0	
		SW	Concrete slab.		3					0.0	0-1' BGS: Sample OH-SB-20-1.0-2.0 collected.
		SW	Brown cmf SAND, little cmf Gravel, trace Silt.		4						
		SW	Black cmf SAND, little cmf Gravel, trace Silt.		5					24.8	4-6' BGS: NAPL coating.
5	0	SP	Black cmf SAND, some mf Gravel (brick), trace Silt, saturated @5.0' BGS.		6					4.8	4-5' BGS: Sample OH-SB-20-4.0-5.0 collected.
			Black cmf SAND, some mf Gravel (brick), trace Silt, saturated.								
			Black f SAND, little (-) Silt, saturated.								
10	-5	SP	Black f SAND, little (-) Silt, saturated.		7					0.0	
		SP	**MEADOW MAT** Grey f SAND, little (+) Organics (roots).								
		CL	Grey Silty CLAY, little (+) Organics (phragmites, shells).								
		ML									
		CL	Grey Silty CLAY, trace Organics (shells).								
		ML									
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-21 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	3.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/22/23 - 5/23/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 985972.1 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185526.2 ft.
			Ground Surface Elev: 6.83 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
1	6	SW GW	Asphalt		1					0.0	
	5		**FILL**		2					0.0	
2			Brown cmf SAND and GRAVEL (bricks, fill material).		3					0.0	
3	4		Concrete		4					0.0	3.5' BGS: Refusal on concrete.

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-21A **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	6.5 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/23/23 - 5/23/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 985964.4 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185533.8 ft.
			Ground Surface Elev: 6.77 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
		SW/GW	**FILL**		2					0.0	0.5-1.5' BGS: Sample OH-SB-21-0.5-1.5 collected.
	5		Dark brown cmf SAND and GRAVEL (bricks, wood).		3					0.0	
					4					0.0	
		SW/GW	Brown cmf SAND, little (-) cmf Gravel.		5					0.0	
		SW/GW	Brown/red cmf SAND and GRAVEL (brick).		6					0.0	
5		SW/GW	Black cmf SAND, some cmf Gravel, trace white pasty-like material.		7					0.0	6.0-7.0' BGS: Sample OH-SB-21-6.0-7.0 collected.
		GW/SW SM	Black cmf GRAVEL, some (-) cmf Sand.								6.5' BGS: Refusal
			Grey/tan SILT and mf SAND, saturated.								

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-22 **Page** 1 **of** 2

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	50.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/23/23 - 5/24/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986019.4 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185499.3 ft.
			Ground Surface Elev: 6.88 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
			Concrete		2					0.0	
	5		Asphalt								
		SW	**FILL**		3					0.0	
		GW SW	Brown cmf SAND, some (+) cmf Gravel (misc. fill, brick).		4					0.0	2.0-3.0' BGS: Sample OH-SB-22-2.0-3.0 collected.
		GW SW	Grey cmf SAND, little (-) cmf Gravel (brick, concrete).		5						
5		GW SW	Dark brown/tan cmf SAND, little cmf Gravel (brick).		6					4.7	
	0	GW SW SM	Brown cmf SAND, some cmf Gravel (fill material), moist.								6.6-7.6' BGS: Sample OH-SB-22-46.0-47.0 collected.
		SW	Black cmf SAND, little (-) Silt.								*6.5-7.6' BGS: Sheen and faint mothball-like odor*
		SM SW	Black cmf SAND, little (-) Silt and cmf Gravel (brick), moist.								6.6-7.6' BGS: Sample OH-SB-22-6.6-7.6 collected.
10		SW	Brown cmf SAND.		7						*7.6-8.9' BGS: Sporadic blebs of NAPL and faint odor*
		SM	White/grey SILT and cmf SAND, little (+) mf Gravel.								
	-5										
15		ML	Grey Clayey SILT, trace cmf Gravel.		8						*15.0-15.3' BGS: NAPL blebs and strong mothball-like odor*
		CL	**MEADOW MAT**								*16.5-17.5' BGS: Faint mothball-like odor*
	-10	ML	Grey Clayey SILT, trace Organics (phragmites).								*18.0-18.4' BGS: Faint mothball-like odor*
		CL ML	Black Clayey SILT, trace Organics (shells).								
		CL SW	Grey cmf SAND, little (-) Silt.								
		SM	Black Silty CLAY.								
20		ML	Grey Silty CLAY, trace Organics (shell).		9					37.5	
		CL ML	Grey Silty CLAY, trace Organics (shell).								
	-15	CL									
		ML CL									
25		SM	Grey SILT, some f Sand.		10					7.6	
		ML	Grey Clayey SILT, trace Organics.								
	-20	CL SW	Grey SILT, some (+) mf Sand.								
		SM	Grey Silty CLAY, trace Organics.								
		CL ML									
30		CL	Grey Clayey SILT, trace f Sand.		11					154.7	

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-22 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	-25	ML									
		SW	**GLACIAL OUTWASH**								
		SM	Grey cmf SAND, little (-) Silt, moist.								
		SW	Grey cmf SAND, some Silt.								
		SM									
35		SW	Grey cmf SAND, some (+) mf Gravel.		12					373.2	*35.0-36.0' BGS: Moderate NAPL coating and strong fuel-like odor*
		GW									*36.0-36.9' BGS: NAPL coating on outside of core and moderate sheen*
	-30	ML	Grey, SILT.								*36.9-38' BGS: NAPL coating and moderate fuel-like odor*
		SW	Grey cmf SAND, trace Silt.								*38.0-38.5' BGS: Sheen and moderate fuel-like odor*
		SW	Grey, coarse to medium SAND (micaceous)								*40-45' BGS: Light coating of NAPL and strong fuel-like odor*
40		SW	Grey cmf SAND (micaceous), moist.		13					858.0	
	-35										
45		SW	Grey cmf SAND (micaceous), moist.		14					4228.0	*45-46.9' BGS: Heavy coating of NAPL and strong fuel-like odor*
	-40										*46.9-47.8' BGS: Faint fuel-like odor*
		SP	Brown, f SAND, trace Silt.								*47.8-48.2' BGS: Heavy coating of NAPL and strong fuel-like odor*
		SW	Brown cmf SAND.								*48.2-50' BGS: Faint fuel-like odor*
		SP	Brown, f SAND, trace Silt.								
50											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-23 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	20.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/18/23 - 5/18/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986078.3 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185457.2 ft.
			Ground Surface Elev: 6.06 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
	5	SW GW	**FILL** Brown cmf SAND and GRAVEL (brick, misc. fill).		2					0.0	*1-2' BGS: Sample OH-SB-23_1-2 collected*
		SW GW	Dark brown cmf SAND, little (-) cmf Gravel.		3					0.0	
		SW	Concrete slab.		4					0.0	
5		GW SW	Dark brown cmf SAND, some (+) Organics, trace mf Gravel, saturated @ 5' BGS.		5					0.0	
	0	SM SW	Black SILT and mf SAND, moist.		6					0.0	
		GW SW	Black cmf SAND and GRAVEL, some (+) Silt, saturated.								*7.5-8.3' BGS: Sample OH-SB-23_7.5-8.3 collected*
		GW GW SW	Black cm SAND and cmf GRAVEL, saturated.								
10		ML CL	Tan cmf GRAVEL, some cmf Sand, trace Silt, moist.		7					0.9	
	-5	ML	**MEADOW MAT** Brown Clayey SILT and Organics.								
			Grey Silty CLAY, trace Organics (phragmites).								
		CL ML	Black Silty CLAY, trace Organics.								
15		ML	Black Clayey SILT, trace Organics (shells).		8					9.6	*15-15.9' BGS: Mothball-like odor* *14.8-15.8' BGS: Sample OH-SB-23_14.8-15.8 collected*
	-10	CL CL ML	Grey Silty CLAY, trace Organics (shells).								
20											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-24 **Page** 1 **of** 2

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	50.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/26/23 - 5/26/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986113.2 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185421.6 ft.
			Ground Surface Elev: 5.51 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Asphalt		1					0.0	
			Concrete		2					0.0	
		SW	**FILL**		3					0.0	
		GW	Grey cmf SAND, some cmf Gravel.		4					1.3	2.5-3.5' BGS: Sample OH-SB-24-2.5-3.5 collected.
		SW SM	Black cmf SAND, trace Silt.		5					24.5	
5	0	SW SM	Black cmf SAND and SILT, saturated @ 5.0' BGS.		6					1.7	5.5-6.5' BGS: Sample OH-SB-24-5.5-6.5 collected.
		SW SM	Tan cmf SAND, some Silt, saturated.								
		SW SM	Grey cmf SAND and SILT, trace Organics (wood).								
10	-5	ML CL ML CL ML CL ML CL	**MEADOW MAT** Grey Clayey SILT, trace f Sand. Grey Clayey SILT, trace Organics. Grey Clayey SILT, some Organics. Grey Clayey SILT, trace Organics (phragmites).		7					0.2	
15	-10	ML CL	Grey Clayey SILT, trace Organics (phragmites).		8					0.0	
20	-15	ML CL SM	Grey Clayey SILT, little Organics (peat). Grey SILT, some f Sand.		9					0.1	
		SW SM	**GLACIAL OUTWASH** Grey mf SAND, little (-) Silt.								
25	-20	SW	Grey cmf SAND, trace f Gravel.		10					7.2	*25.0-29.7' BGS: Faint fuel-like odor.*
30	-25	SW	Brown cmf SAND, little (-) Silt, saturated.		11					220.6	*30-33.5' BGS: Light NAPL*

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-24 **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
		SM									*coating, sheen, and strong fuel-like odor.*
		SW	Brown mf SAND, trace Silt.								
		SM	Brown cmf SAND, little (-) Silt.								
35	-30	SW	Brown cmf SAND, trace Silt.		12					102.7	*33.5-34.0' BGS: NAPL blebs, sheen.*
		SM	Brown mf SAND, little (-) Silt.								*34.0-35.0' BGS: Heavy NAPL coating.*
		SW									*35-35.7' BGS: Moderate NAPL coating.*
		SM	Brown f SAND (micaceous).								34.5-35.5' BGS: Sample OH-SB-24-34.5-35.5 collected.
		SW									*35.7-37.0' BGS: Slight NAPL coating, sheen.*
		SM									
		SP									
40	-35	SW	Brown mf SAND (micaceous).		13					11.2	
45	-40	SW	Brown cmf SAND (micaceous), saturated.		14					3.4	
50											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-25 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/22/23 - 5/22/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986192.2 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185378.2 ft.
			Ground Surface Elev: 5.37 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
			FILL Black cmf SAND and GRAVEL (fill, brick). Concrete.		2					1.4	
					3					0.0	1.0-2.0' BGS: Sample OH-SB-25_1.0-2.0 collected.
		SW GW	Brown cmf SAND and GRAVEL (concrete, brick), saturated @ 4' BGS.		4					0.0	
5	0	SW SM	Black/brown cmf SAND, little (-) Silt, trace Gravel.		5					0.6	
		GW SW SW ML CL	Black cmf GRAVEL, little (-) cmf Sand, trace Silt, saturated. Brown cmf SAND, trace Organics. **MEADOW MAT** Grey Clayey SILT, trace Organics (shells, peat).								*5.7-6.5' BGS: Faint mothball-like odor* 5.7-6.7' BGS: Sample OH-SB-25_5.7-6.7 collected.
10	-5	ML CL	Grey Clayey SILT, trace Organics (roots).		6					1.9	*10.0-15.0' BGS: NAPL coating on drill rod.*
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-27 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	20.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/19/23 - 5/19/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 985971.6 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185473.9 ft.
			Ground Surface Elev: 6.62 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
		SW	**FILL**		1					0.0	
		GW	Brown cmf SAND and GRAVEL (brick, fill								
	5	SW	material).		2					0.0	
		GW	Red cmf SAND and GRAVEL (brick/fill material).		3					0.0	1.0-2.0' BGS: Sample OH-SB-27-1.0-2.0 collected.
					4					0.0	
					5					0.0	
5					6					0.0	
	0	SW	Brown cmf SAND and greyish-white		7					1.7	
		GW	GRAVEL.								
		SW	Brown/black cmf SAND, little (-) cmf								
		SW	Gravel and Silt.								
		GW	Brown cmf GRAVEL, little cmf Sand, trace Silt, saturated.								
10		SW	Brown/black cmf SAND, some (+) red cmf		8					18.1	*10.0-10.9' BGS: NAPL coating.*
		GW	Gravel (brick), saturated.								
	-5	SW	Brown cmf SAND, little cmf Gravel, moist.								10.0-11.0' BGS: Sample OH-SB-27-10.0-11.0 collected.
		GW	Brown cmf SAND, trace cmf Gravel, moist.								
		SW	Brown/tan cm SAND.								
		GW	Brown SILT, some grey cmf Sand, trace								
		SW	Organics (wood).								
		SM									
15		SW	Brown cmf SAND, trace f Gravel.								
		SW	Brown cmf SAND, trace f Gravel.		9					0.0	
	-10	CL	**MEADOW MAT**								
		ML	Grey Silty CLAY.								
		CL									
		ML	Grey Silty CLAY, some (+) Organics								
		CL	(wood).								
		ML	Light grey Silty CLAY, little Organics (phragmites, shells).								
20											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-28 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	20.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/19/23 - 5/19/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986030.5 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185442.1 ft.
			Ground Surface Elev: 6.19 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
		SW	Asphalt		1					0.0	
	5	GW	**FILL**		2					0.0	0.5-1.5' BGS: Sample OH-SB-28-0.5-1.5 collected.
		GW	Brown cmf SAND and GRAVEL (glass, brick, floor tile).		3					0.0	
		SW	Red cmf GRAVEL and SAND (brick).		4					0.0	
					5					0.0	
5		SW	Black cmf SAND, little Silt, saturated @ 5.5' BGS.		6					0.0	
	0	SM									
		SW	Black cmf SAND and mf GRAVEL, saturated.		7						
		GW									
		SW	Grey cmf SAND, some mf Gravel, wet.								
		GW									
10		SW	Grey cmf SAND, some mf Gravel, saturated.		8						
	-5	GW									
15		SW	Grey cmf SAND, some mf Gravel, saturated.		9						15-16' BGS: Sample OH-SB-28-15-16 collected.
	-10	GW									
		SW	Brown/grey cmf SAND, trace Gravel and Silt.								
		GW									
		CL	**MEADOW MAT**								
		ML	Grey Silty CLAY, little (-) Organics (phragmites).								
20											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-29 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/18/23 - 5/19/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986088.5 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185403.5 ft.
			Ground Surface Elev: 5.54 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Asphalt		1					0.0	
			Concrete slab.		2					0.0	
			Brown/black cmf GRAVEL (brick) and SAND.		3					0.0	1.5-2.5' BGS: Sample OH-SB-29_1.5-2.5 collected.
			Concrete slab.		4					0.0	
		SW GW SW	**FILL** Brown/red cmf SAND and GRAVEL (fill).		5					0.0	
5	0	GW SM	Black/grey mf SAND and cmf GRAVEL (brick), saturated @ 5' BGS.		6					0.0	
			Green mf SAND, little Silt, w/ pieces of wood.								
10	-5	SP	**MEADOW MAT** Grey f SAND, trace Organics (roots).		7					0.0	10.0-11.0' BGS: Sample OH-SB-29_10-11 collected.
		CL ML ML CL	Grey Silty CLAY, trace f Sand and Organics (roots, shells). Grey Clayey SILT, trace f Sand and Organics (roots, shells).								
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-30 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/16/23 - 5/16/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986121.6 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185390.2 ft.
			Ground Surface Elev: 5.46 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Asphalt		1					0.0	
		SW GW	**FILL** Brown cmf SAND and GRAVEL, dry.		2					0.0	
		SW GW	White/grey, Concrete.		3					0.0	
		SW GW	Black cmf SAND and GRAVEL (asphalt).		4					0.0	
			White/grey pulverized concrete.		5					0.0	3-4' BGS: Sample OH-SB-30_3.0-4.0 collected.
5	0	SW GW SW GW	Black cmf SAND and GRAVEL (fill/brick), saturated @ 4' bgs. Brown/red GRAVEL (brick) and cmf SAND, saturated. Brown cmf SAND, some (-) mf Gravel, saturated.		6					0.0	6.5-7.5' BGS: Sample OH-SB-30_6.5-7.5 collected.
			Brown/red, GRAVEL (brick), some cmf Sand, saturated.								
10	-5	ML CL	**MEADOW MAT** Grey Clayey SILT, trace Organics (phragmites).		7					0.0	
		SW	Brown cmf SAND, little (-) Organics.								
		ML CL	Grey Clayey SILT, trace Organics (phragmites).								
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-31 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
5/22/23 - 5/22/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986181.3 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185359.6 ft.
			Ground Surface Elev: 5.29 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Asphalt		1					0.0	
		SW GW	**FILL** Pulverized concrete.		2					0.0	
					3					0.0	
		SW GW	Brown cmf SAND and GRAVEL (brick).		4					0.0	2.5-3.5' BGS: Sample OH-SB-31-2.5-3.5 collected.
		SW GW	Black cmf SAND and GRAVEL, moist.								
5	0	SW GW	Black cmf SAND, trace cmf Gravel, moist.		5					0.4	
		SM	White SILT and SAND.								*6.1-6.5' BGS: faint mothball-like odor*
		SW	Black cmf SAND and SILT, saturated.								6.1-7.1' BGS: Sample OH-SB-31-6.1-7.1 collected.
		SM CL ML	**MEADOW MAT** Grey Silty CLAY, trace Organics (phragmites).								
10	-5	ML	Grey Clayey SILT, some mf SAND, trace Organics (phragmites), Saturated.		6					0.0	
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-61 **Page** 1 **of** 1

Inspector/Office	**Checked By:**	**Borehole Diameter:**	**Screen Diameter and Type:**	**Slot Size:**	**Total Boring Depth (ft)**
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	**Drilling Contractor:**	**Sampling:** Continuous Core	**Development Method:**
6/13/23 - 6/13/23	Aquifer Drilling and Testing	**Hammer Type:** NA	NA

Driller:	**Drilling Method:**	**Drilling Equipment:**	**Horiz Datum/Proj:** NAD83	**Easting:** 986567.8 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	**Vert Datum:** NAVD88	**Northing:** 185211.5 ft.
			Ground Surface Elev: 7.40 ft.	**TOC Elev:** --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			FILL Concrete Pavement.		1					0.0	
			Asphalt.		2					0.0	
	5		Pulverized concrete.		3					0.0	1.0-2.0' BGS: Sample OH-SB-61-1.0-2.0 collected.
			Brown/black cmf SAND and GRAVEL (misc. fill).		4					0.0	
5			Black cmf SAND and GRAVEL (misc. fill).		5					18.7	
	0										
10		ML CL	**MEADOW MAT** Black Clayey SILT.		6					0.0	9.0-10.0' BGS: Sample OH-SB-61-9.0-10.0 collected.
		ML CL	Green Clayey SILT and Organics (phragmites).								
	-5										
		ML CL	Grey Silty CLAY.								
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-62 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
H. Simbliaris/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
6/12/23 - 6/12/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986593.4 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185197.2 ft.
			Ground Surface Elev: 7.11 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
			Concrete		1					0.0	
			FILL		2					0.0	1.0-2.0' BGS: Sample OH-SB-62-1.0-2.0 collected.
	5	SW GW	Black cmf SAND, and GRAVEL (brick, concrete, misc. fill).		3					0.0	
			Black cmf SAND and GRAVEL.		4					0.0	
					5					0.0	
5		SW GW	Black cmf SAND and GRAVEL.		6					3.6	
	0	SW	White cmf SAND and f GRAVEL, saturated.								
											9.0-10.0' BGS: Sample OH-SB-62-9.0-10.0 collected.
10		SW/GW	Brown mf SAND and cmf GRAVEL.		7					0.0	
		PT	**MEADOW MAT**								
	-5	CL	Peat, trace grey Clayey Silt.								
		ML	Grey Silty CLAY, little Organics (peat).								
15											

BORING LOG

Brown AND Caldwell	**Project Name:** Gowanus OH-007 Phase II Investigation **Project Number:** 156854/2.08 **Project Location:** Brooklyn, NY	**Permit Number:** NA	**Boring No.** OH-SB-66 **Page** 1 **of** 1

Inspector/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
M. Maroney/Ramsey, NJ	T. Chaturgan	3"	NA	NA"	15.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Continuous Core	Development Method:
5/15/23 - 5/15/23	Aquifer Drilling and Testing	Hammer Type: NA	NA

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NAD83	Easting: 986205.7 ft.
C. Migliore	Direct-push	Geoprobe ® 7822	Vert Datum: NAVD88	Northing: 185472.3 ft.
			Ground Surface Elev: 5.89 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Backfill	PID Readings (ppm)	Remarks
	5		Aspalt		1					0.0	
			FILL		2					0.0	
			Grey cmf SAND and GRAVEL (brick).								1-2' BGS: Sample OH_SB-66_1.0-2.0 collected.
5	0		Grey cmf SAND and GRAVEL (brick).		3					0.0	
			Black cmf SAND, some mf Gravel (cinders, slag).								
		ML									
		CL	Grey Clayey SILT, trace Organics (decomposed roots).								6-7' BGS: Sample OH-66_6.0-7.0 collected.
		SW	Black cmf SAND, trace Silt.								
		SM									
10		SW	Black cmf SAND, trace Silt, red brick @ 10.2' BGS.		4					0.0	
	-5	SM									
		ML	**MEADOW MAT**								
		CL	Grey Clayey SILT, trace cmf Sand, trace Organics (shells).								
		ML	Brown Clayey SILT, trace organics (wood).								
		CL									
15		ML	Dark grey Silty CLAY, trace Organics (shells).								
		CL									

Appendix B: Laboratory Data Packages and Data Usability Reports

Use of contents on this sheet is subject to the limitations specified at the end of this document.
CSO-GC-SFS-DES-R-PHASE II INVESTIGATION-20250220.DOCX

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2323973, L2325081, L2325082, 23E0029, 23E0181, 23E0109
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: September 25, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-50-1.0-2.0-05012023	23E0029-01	5/01/2023	Soil
OH-SB-52-1.0-2.0-20230502	23E0109-01	5/02/2023	Soil
FB-20230502	23E0109-02	5/02/2023	Water
TB-20230502	23E0109-03	5/02/2023	Water
OH-SB-51_1.0-2.0_20230503	23E0181-01	5/03/2023	Soil
OH-SB-60-1.0-2.0_20230503	23E0181-02	5/03/2023	Soil
FB_20230503	23E0181-03	5/03/2023	Water
TB_20230503	23E0181-04	5/03/2023	Water

Data validation was performed on the analytical data for eight (8) samples collected between May 1 and May 3, 2023 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020

- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Certain poor responding SVOC results were rejected due to major recovery issues associated with matrix spike/matrix spike duplicates and laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, matrix spike/matrix spike duplicates, laboratory control samples, serial dilutions, and laboratory duplicates.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample OH-SB-50-1.0-2.0-20230501 on the chain of custody was logged in as OH-SB-50-1.0-2.0-05012023.
- Samples FB-20230502 and FB_20230503 were listed for Alkylated PAH analysis; these samples were not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for the following analytes.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	TB-20230502	4-Bromofluorobenzene	%R < CL	UJ	3L
	TB_20230503	4-Bromofluorobenzene	%R < CL	UJ	3L

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for the following analytes.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230502 FB_20230503 TB_20230503	Bromomethane	%R < CL	UJ	6L

- Compounds not listed were above control limits; where LCS/LCSD percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits with the following exceptions.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	0H-SB-50-1.0-2.0-05012023	1,2-Dibromo-3-chloropropane	ICV %D > 20% (decrease in response)	UJ	SL
	FB-20230502	2-Butanone Bromomethane Chloromethane Dichlorodifluoromethane trans-1,3-Dichloropropene			
	TB-20230502	1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene			
	0H-SB-52-1.0-2.0-20230502	1,2-Dibromo-3-chloropropane 2-Butanone Acetone Dichlorodifluoromethane			
	0H-SB-51_1.0-2.0_20230503 0H-SB-60-1.0-2.0_20230503	Dichlorodifluoromethane			

- Compounds not listed were above control limits; where CCV percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Method, Trip, and Field Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with Sample OH-SB-52-1.0-2.0-20230502 had a TIC detection of Hexadecanoic acid, butyl ester. The sample detection was less than five times the method blank detection and qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	OH-SB-51_1.0-2.0_20230503 OH-SB-60-1.0-2.0_20230503	2,4-Dinitrophenol	%R < 10%	R (non-detects) J (detects)	6L

- Compounds associated with OH-SB-52-1.0-2.0-20230502 were above control limits; where LCS/LCSD percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for the analytes presented in the following table.

Method	Sample	Analytes	Exceedance	Qualification	Reason Code
8270E	OH-SB-50-1.0-2.0-05012023	2,4-Dinitrophenol 3,3'-Dichlorobenzidine 4,6-Dinitro-2-methylphenol	%R < 10%	R (non-detects) J (detects)	4L
		Benzo(a)anthracene Benzo(a)pyrene Chrysene	%R < CL	UJ/J	4L
	OH-SB-51_1.0-2.0_20230503	2,4-Dinitrophenol 3,3'-Dichlorobenzidine 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene	%R < 10%	R (non-detects) J (detects)	4L
		Phenanthrene Acenaphthene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Carbazole Chrysene Dibenzofuran Fluoranthene Fluorene Naphthalene Pyrene	%R > CL	J	4H

- Other analytes exhibited recoveries outside control limits; however, the sample concentration exceeds the spike concentration by a factor and therefore no qualification was required.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met with the following exceptions.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	0H-SB-50-1.0-2.0-05012023 0H-SB-52-1.0-2.0-20230502 0H-SB-51_1.0-2.0_20230503 0H-SB-60-1.0-2.0_20230503	Benz[a]anthracene	%RSD >20%	UJ/J	Q
		Perylene			
		Indeno[1,2,3-cd]pyrene			
		Dibenz[ah] & [a,c]anthracene			
		Benzo[g,h,i]perylene			

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits with the following exceptions.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	0H-SB-50-1.0-2.0-05012023	1,4-Dioxane Benzaldehyde 4-Chloroaniline bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	0H-SB-52-1.0-2.0-20230502	4-Nitrophenol Benzaldehyde Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	FB-20230502	4-Nitrophenol Benzaldehyde Hexachlorocyclopentadiene			
	0H-SB-51_1.0-2.0_20230503 0H-SB-60-1.0-2.0_20230503	1,4-Dioxane 4-Chloroaniline Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene bis(2-chloroethoxy)methane Phenol			
	FB_20230503	4-Nitrophenol Benzaldehyde Hexachlorocyclopentadiene			
8270D-SIM	0H-SB-50-1.0-2.0-05012023 0H-SB-52-1.0-2.0-20230502 0H-SB-51_1.0-2.0_20230503 0H-SB-60-1.0-2.0_20230503	Indeno[1,2,3-cd]pyrene			

- Other compounds not listed were above control limits; where CCV percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Reporting Limits and Compound Quantitation

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for the following analytes.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-51_1.0-2.0_20230503 OH-SB-60-1.0-2.0_20230503	Decachlorobiphenyl	%R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-51_1.0-2.0_20230503	Decachlorobiphenyl	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-52-1.0-2.0-20230502				
8081B	OH-SB-51_1.0-2.0_20230503 OH-SB-60-1.0-2.0_20230503	Decachlorobiphenyl	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	OH-SB-51_1.0-2.0_20230503 OH-SB-60-1.0-2.0_20230503	Endosulfan II	%R < CL	UJ	6L

- Other compounds not listed were above control limits; where LCS/LCSD percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits with the following exceptions.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8082A	0H-SB-50-1.0-2.0-05012023 0H-SB-52-1.0-2.0-20230502	Aroclor 1016	CCV %D > 20% (increase in response)	J (detects)	SH

- Other compounds not listed were above control limits; however, where CCV percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Reporting Limits and Compound Quantitation

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- Method 7473: CCBs had detections that were less than five times the associated sample concentration. No qualification was required.

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for the following analytes.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-52-1.0-2.0-20230502	Thallium	%R < CL	UJ	6L
6010D	OH-SB-51_1.0-2.0_20230503 OH-SB-60-1.0-2.0_20230503	Silver	%R < CL	J/UJ	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for the analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-50-1.0-2.0-05012023	Aluminum	%R < CL	UJ/J	4L
		Antimony	%R < CL	UJ/J	4L
		Beryllium	%R < CL	UJ/J	4L
		Chromium	%R > CL	J (detects)	4H
		Iron	%R < CL	UJ/J	4L
		Magnesium	%R > CL	J (detects)	4H
		Nickel	%R < CL	UJ/J	4L
		Potassium	%R < CL	UJ/J	4L
		Selenium	%R < CL	UJ/J	4L
		Silver	%R < CL	UJ/J	4L
		Thallium	%R < CL	UJ/J	4L
		Vanadium	%R > CL	J (detects)	4H

- Other analytes exhibited recoveries outside control limits; however, the sample concentration exceeds the spike concentration by a factor and therefore no qualification was required.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis performed on OH-SB-50-1.0-2.0-05012023 exhibited recoveries outside control limits for chromium and magnesium. Associated sample detections are qualified as estimated, J, reason code D.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis performed on OH-SB-50-1.0-2.0-05012023 exhibited recoveries outside control limits for sodium. Associated sample detections are qualified as estimated, J, reason code AA.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- Analyte detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Dated: September 25, 2023 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0029

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jun 23, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E0029

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-50-1.0-2.0-05012023	23E0029-01	Soil	05/01/2023 11:15	05/01/2023 16:23

PN: 23E0029

APL 23E0029

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: Yu & Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive	ADDRESS: " "
3rd Floor, Elmwood Park, NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Siwang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MHM

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ✓ NY State Category B

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
~~OH-SB~~ 23E0029-01	OH-SB-50-1.0-2.0 20123	05/01/23	1115	✓		S	5	DI, methanol	VOCs, SVOCs PCBs, Pesticides, Herbicides TAL metals, Total cyanide, Free cyanide (amenable) Alkylated PAHs by 8270 GC/MS-SIM

RELINQUISHED BY (Print) Max Mpong	DATE 05/01/23	RECEIVED BY (Print) MSMR (Fed)	5/1/23 1429
Signature	Time 1436	Signature	
RELINQUISHED BY (Print) MSMR (Fed)	DATE 5/1/23	RECEIVED BY (Print) Rose Nap	5-1-23
Signature	Time 1623	Signature	1623
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS All Samples Run for VOCs...ele and Alkylated PAHs

Cooler Temp. upon receipt at lab 4.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 7473 / 9014]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low and high). The blank spikes met all QC criteria.

Methods 7473 / 9014:
Sample 23E0029-01 met all QC criteria.

ANALYSIS: Herbicides [8151A]

Sample 23E0029-01 met all QC criteria.

ANALYSIS: PCBs [8082A]

Sample 23E0029-01 met all QC criteria.

ANALYSIS: PESTICIDES [8081B]

Sample 23E0029-01 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAE0086-CCV1) was outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.



Reviewed By: _____ (SK) 7/24/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-05012023**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1248 [2C]	1.85		0.00591	0.0366	mg/kg dry	1	5/9/23 8:13
Total PCBs	1.85		0.00342	0.0366	mg/kg dry	1	5/9/23 8:13

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.545		0.00555	0.0222	mg/kg dry	1	5/2/23 13:12

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4620		0.166	2.79	mg/kg dry	1	5/14/23 9:57
Antimony	1.71		0.152	1.39	mg/kg dry	1	5/14/23 9:57
Arsenic	10.2		0.0995	1.39	mg/kg dry	1	5/14/23 9:57
Barium	454	D	0.422	5.58	mg/kg dry	10	5/15/23 8:45
Beryllium	0.460		0.00323	0.0279	mg/kg dry	1	5/14/23 9:57
Cadmium	2.12		0.0544	0.279	mg/kg dry	1	5/14/23 9:57
Calcium	32600	D	31.4	279	mg/kg dry	10	5/15/23 8:45
Chromium	42.9		0.0315	0.279	mg/kg dry	1	5/14/23 9:57
Cobalt	5.99		0.0285	0.223	mg/kg dry	1	5/14/23 9:57
Copper	122		0.0780	0.279	mg/kg dry	1	5/14/23 9:57
Iron	21000		0.790	5.58	mg/kg dry	1	5/14/23 9:57
Lead	301		0.116	1.39	mg/kg dry	1	5/14/23 9:57
Magnesium	3240		9.85	55.8	mg/kg dry	1	5/14/23 9:57
Manganese	178		0.0347	0.279	mg/kg dry	1	5/14/23 9:57
Nickel	15.1		0.0245	0.139	mg/kg dry	1	5/14/23 9:57
Potassium	1110		33.2	112	mg/kg dry	1	5/14/23 9:57
Silver	0.315		0.0474	0.167	mg/kg dry	1	5/14/23 9:57
Sodium	1200		5.32	55.8	mg/kg dry	1	5/14/23 9:57
Vanadium	30.9		0.0641	0.558	mg/kg dry	1	5/14/23 9:57
Zinc	789	D	0.852	8.36	mg/kg dry	10	5/15/23 8:45

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.468	D	0.0708	0.444	mg/kg dry	2	5/5/23 22:50
Acenaphthene	1.99	D	0.0168	0.295	mg/kg dry	2	5/5/23 22:50
Acenaphthylene	0.638	D	0.0103	0.295	mg/kg dry	2	5/5/23 22:50
Anthracene	3.95	D	0.0428	0.295	mg/kg dry	2	5/5/23 22:50
Benzo(a)anthracene	9.39	D	0.0297	0.295	mg/kg dry	2	5/5/23 22:50
Benzo(a)pyrene	10.0	D	0.0515	0.295	mg/kg dry	2	5/5/23 22:50
Benzo(b)fluoranthene	12.9	D	0.0415	0.295	mg/kg dry	2	5/5/23 22:50
Benzo(g,h,i)perylene	4.24	D	0.0240	0.295	mg/kg dry	2	5/5/23 22:50
Benzo(k)fluoranthene	3.61	D	0.0340	0.295	mg/kg dry	2	5/5/23 22:50

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-05012023**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Biphenyl	0.157	J, D	0.0260	0.295	mg/kg dry	2	5/5/23 22:50
Carbazole	1.42	D	0.0568	0.739	mg/kg dry	2	5/5/23 22:50
Chrysene	9.30	D	0.0202	0.295	mg/kg dry	2	5/5/23 22:50
Dibenzo(a,h)anthracene	1.12	D	0.0293	0.295	mg/kg dry	2	5/5/23 22:50
Dibenzofuran	1.22	D	0.0176	0.295	mg/kg dry	2	5/5/23 22:50
Fluoranthene	26.3	D	0.139	1.48	mg/kg dry	10	5/9/23 23:17
Fluorene	1.52	D	0.0246	0.295	mg/kg dry	2	5/5/23 22:50
Indeno(1,2,3-cd)pyrene	3.58	D	0.0317	0.295	mg/kg dry	2	5/5/23 22:50
Naphthalene	0.666	D	0.0219	0.295	mg/kg dry	2	5/5/23 22:50
Phenanthrene	21.3	D	0.194	1.48	mg/kg dry	10	5/9/23 23:17
Pyrene	21.2	D	0.109	1.48	mg/kg dry	10	5/9/23 23:17
TIC_2-Pentanone, 4-hydroxy-4-methyl-	136	J, D			mg/kg dry	2	5/5/23 22:50
TIC_Naphthalene, 2-phenyl-	1.61	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (01)	2.33	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (02)	1.98	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (03)	2.84	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (04)	1.31	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (05)	5.23	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (06)	1.17	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (07)	1.23	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (08)	0.695	J, D			mg/kg dry	2	5/5/23 22:50
TIC_unknown (09)	0.709	J, D			mg/kg dry	2	5/5/23 22:50

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	0.124		0.000724	0.00188	mg/kg dry	1	5/3/23 20:48

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.922		0.00732	0.0615	mg/kg dry	1	5/8/23 12:43

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0029
Date to Lab: 5/1/2023 4:23:00PM

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-050 12023** Collected: **5/1/2023 11:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00491	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1221	ND	U	0.00966	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1232	ND	U	0.0123	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1242	ND	U	0.00720	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1248 [2C]	**1.85**		**0.00591**	**0.0366**	**mg/kg**	**1**	**5/9/23 8:13**	J, RC:3H,SH
Aroclor-1254	ND	U	0.00591	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1260	ND	U	0.00458	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1262	ND	U	0.00985	0.0366	mg/kg	1	5/9/23 8:13	
Aroclor-1268	ND	U	0.00443	0.0366	mg/kg	1	5/9/23 8:13	
Total PCBs	**1.85**		**0.00342**	**0.0366**	**mg/kg**	**1**	**5/9/23 8:13**	J, RC:3H,SH

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	5/9/23 13:20
2,4-D	ND	U	0.0184	0.111	mg/kg	1	5/9/23 13:20

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.545**		**0.00555**	**0.0222**	**mg/kg**	**1**	**5/2/23 13:12**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**4620**		**0.166**	**2.79**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L
Antimony	**1.71**		**0.152**	**1.39**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L
Arsenic	**10.2**		**0.0995**	**1.39**	**mg/kg**	**1**	**5/14/23 9:57**	
Barium	**454**	D	**0.422**	**5.58**	**mg/kg**	**10**	**5/15/23 8:45**	
Beryllium	**0.460**		**0.00323**	**0.0279**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L
Cadmium	**2.12**		**0.0544**	**0.279**	**mg/kg**	**1**	**5/14/23 9:57**	
Calcium	**32600**	D	**31.4**	**279**	**mg/kg**	**10**	**5/15/23 8:45**	
Chromium	**42.9**		**0.0315**	**0.279**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4H,D
Cobalt	**5.99**		**0.0285**	**0.223**	**mg/kg**	**1**	**5/14/23 9:57**	
Copper	**122**		**0.0780**	**0.279**	**mg/kg**	**1**	**5/14/23 9:57**	
Iron	**21000**		**0.790**	**5.58**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L
Lead	**301**		**0.116**	**1.39**	**mg/kg**	**1**	**5/14/23 9:57**	
Magnesium	**3240**		**9.85**	**55.8**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4H,D
Manganese	**178**		**0.0347**	**0.279**	**mg/kg**	**1**	**5/14/23 9:57**	
Nickel	**15.1**		**0.0245**	**0.139**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L
Potassium	**1110**		**33.2**	**112**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0029
Date to Lab: 5/1/2023 4:23:00PM

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-050 12023** Collected: **5/1/2023 11:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.268	1.39	mg/kg	1	5/14/23 9:57	UJ, RC:4L
Silver	**0.315**		**0.0474**	**0.167**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4L
Sodium	**1200**		**5.32**	**55.8**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:AA
Thallium	ND	U	0.0938	1.39	mg/kg	1	5/14/23 9:57	UJ, RC:4L
Vanadium	**30.9**		**0.0641**	**0.558**	**mg/kg**	**1**	**5/14/23 9:57**	J, RC:4H
Zinc	**789**	D	**0.852**	**8.36**	**mg/kg**	**10**	**5/15/23 8:45**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000660	0.00144	mg/kg	1	5/6/23 1:35
4,4'-DDE	ND	U	0.000789	0.00144	mg/kg	1	5/6/23 1:35
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	5/6/23 1:35
Aldrin	ND	U	0.000684	0.00144	mg/kg	1	5/6/23 1:35
alpha-BHC	ND	U	0.000429	0.00144	mg/kg	1	5/6/23 1:35
beta-BHC	ND	U	0.000689	0.00144	mg/kg	1	5/6/23 1:35
Chlordane	ND	U	0.000641	0.00144	mg/kg	1	5/6/23 1:35
delta-BHC	ND	U	0.000670	0.00144	mg/kg	1	5/6/23 1:35
Dieldrin	ND	U	0.000755	0.00144	mg/kg	1	5/6/23 1:35
Endosulfan I	ND	U	0.000681	0.00144	mg/kg	1	5/6/23 1:35
Endosulfan II	ND	U	0.000656	0.00144	mg/kg	1	5/6/23 1:35
Endosulfan sulfate	ND	U	0.000543	0.00144	mg/kg	1	5/6/23 1:35
Endosulfans, Total (alpha and beta)	ND	U	0.000656	0.00144	mg/kg	1	5/6/23 1:35
Endrin	ND	U	0.000498	0.00144	mg/kg	1	5/6/23 1:35
Endrin aldehyde	ND	U	0.000575	0.00144	mg/kg	1	5/6/23 1:35
Endrin ketone	ND	U	0.000508	0.00144	mg/kg	1	5/6/23 1:35
gamma-BHC (Lindane)	ND	U	0.000457	0.00144	mg/kg	1	5/6/23 1:35
Heptachlor	ND	U	0.000386	0.00144	mg/kg	1	5/6/23 1:35
Heptachlor Epoxide	ND	U	0.000728	0.00144	mg/kg	1	5/6/23 1:35
Methoxychlor	ND	U	0.000423	0.00144	mg/kg	1	5/6/23 1:35
Toxaphene	ND	U	0.0695	0.0732	mg/kg	1	5/6/23 1:35

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00834	0.0739	mg/kg	2	5/5/23 22:50	UJ, RC:SL
2,3,4,6-Tetrachlorophenol	ND	U	0.0455	0.295	mg/kg	2	5/5/23 22:50	
2,4,5-Trichlorophenol	ND	U	0.0402	0.295	mg/kg	2	5/5/23 22:50	
2,4,6-Trichlorophenol	ND	U	0.0185	0.295	mg/kg	2	5/5/23 22:50	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0029
Date to Lab: 5/1/2023 4:23:00PM

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-050 12023** Collected: **5/1/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0297	0.295	mg/kg	2	5/5/23 22:50	
2,4-Dimethylphenol	ND	U	0.0291	0.295	mg/kg	2	5/5/23 22:50	
2,4-Dinitrophenol	ND	U	0.0426	1.48	mg/kg	2	5/5/23 22:50	R,RC:4L
2,4-Dinitrotoluene	ND	U	0.0315	0.295	mg/kg	2	5/5/23 22:50	
2,6-Dinitrotoluene	ND	U	0.0706	0.295	mg/kg	2	5/5/23 22:50	
2-Chloronaphthalene	ND	U	0.0340	0.295	mg/kg	2	5/5/23 22:50	
2-Chlorophenol	ND	U	0.0391	0.295	mg/kg	2	5/5/23 22:50	
2-Methylnaphthalene	**0.468**	D	**0.0708**	**0.444**	**mg/kg**	**2**	**5/5/23 22:50**	
2-Methylphenol	ND	U	0.0584	0.295	mg/kg	2	5/5/23 22:50	
2-Nitroaniline	ND	U	0.0237	0.295	mg/kg	2	5/5/23 22:50	
2-Nitrophenol	ND	U	0.0328	0.295	mg/kg	2	5/5/23 22:50	
3,3'-Dichlorobenzidine	ND	U	0.0311	0.295	mg/kg	2	5/5/23 22:50	R,RC:4L
3+4-Methylphenol	ND	U	0.0541	0.295	mg/kg	2	5/5/23 22:50	
3-Nitroaniline	ND	U	0.0548	0.295	mg/kg	2	5/5/23 22:50	
4,6-Dinitro-2-methylphenol	ND	U	0.0557	0.739	mg/kg	2	5/5/23 22:50	R,RC:4L
4-Bromophenyl-phenyl ether	ND	U	0.0422	0.295	mg/kg	2	5/5/23 22:50	
4-Chloro-3-methylphenol	ND	U	0.0466	0.295	mg/kg	2	5/5/23 22:50	
4-Chloroaniline	ND	U	0.0103	0.295	mg/kg	2	5/5/23 22:50	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.0160	0.295	mg/kg	2	5/5/23 22:50	
4-Nitroaniline	ND	U	0.148	0.295	mg/kg	2	5/5/23 22:50	
4-Nitrophenol	ND	U	0.0189	0.295	mg/kg	2	5/5/23 22:50	
Acenaphthene	**1.99**	D	**0.0168**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Acenaphthylene	**0.638**	D	**0.0103**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Acetophenone	ND	U	0.0293	0.295	mg/kg	2	5/5/23 22:50	
Anthracene	**3.95**	D	**0.0428**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Atrazine	ND	U	0.0277	0.295	mg/kg	2	5/5/23 22:50	
Benzaldehyde	ND	U	0.0908	0.295	mg/kg	2	5/5/23 22:50	UJ, RC:SL
Benzo(a)anthracene	**9.39**	D	**0.0297**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	J,RC:4L
Benzo(a)pyrene	**10.0**	D	**0.0515**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	J,RC:4L
Benzo(b)fluoranthene	**12.9**	D	**0.0415**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Benzo(g,h,i)perylene	**4.24**	D	**0.0240**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Benzo(k)fluoranthene	**3.61**	D	**0.0340**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Biphenyl	**0.157**	J, D	**0.0260**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
bis(2-chloroethoxy)methane	ND	U	0.0408	0.295	mg/kg	2	5/5/23 22:50	
bis(2-chloroethyl)ether	ND	U	0.0324	0.295	mg/kg	2	5/5/23 22:50	
bis(2-chloroisopropyl)ether	ND	U	0.106	0.295	mg/kg	2	5/5/23 22:50	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0590	0.295	mg/kg	2	5/5/23 22:50	
Butylbenzylphthalate	ND	U	0.0269	0.295	mg/kg	2	5/5/23 22:50	

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0029
Date to Lab: 5/1/2023 4:23:00PM

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-050 12023** Collected: **5/1/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0382	0.295	mg/kg	2	5/5/23 22:50	
Carbazole	**1.42**	D	**0.0568**	**0.739**	**mg/kg**	**2**	**5/5/23 22:50**	
Chrysene	**9.30**	D	**0.0202**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	J,RC:4L
Dibenzo(a,h)anthracene	**1.12**	D	**0.0293**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Dibenzofuran	**1.22**	D	**0.0176**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Diethylphthalate	ND	U	0.0573	0.295	mg/kg	2	5/5/23 22:50	
Dimethylphthalate	ND	U	0.0183	0.295	mg/kg	2	5/5/23 22:50	
Di-n-butylphthalate	ND	U	0.121	0.295	mg/kg	2	5/5/23 22:50	
Di-n-octylphthalate	ND	U	0.0606	0.295	mg/kg	2	5/5/23 22:50	
Fluoranthene	**26.3**	D	**0.139**	**1.48**	**mg/kg**	**10**	**5/9/23 23:17**	
Fluorene	**1.52**	D	**0.0246**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Hexachlorobenzene	ND	U	0.0386	0.295	mg/kg	2	5/5/23 22:50	
Hexachlorobutadiene	ND	U	0.142	0.295	mg/kg	2	5/5/23 22:50	
Hexachlorocyclopentadiene	ND	U	0.123	0.739	mg/kg	2	5/5/23 22:50	UJ, RC:SL
Hexachloroethane	ND	U	0.0324	0.295	mg/kg	2	5/5/23 22:50	
Indeno(1,2,3-cd)pyrene	**3.58**	D	**0.0317**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Isophorone	ND	U	0.0194	0.295	mg/kg	2	5/5/23 22:50	
Naphthalene	**0.666**	D	**0.0219**	**0.295**	**mg/kg**	**2**	**5/5/23 22:50**	
Nitrobenzene	ND	U	0.0502	0.295	mg/kg	2	5/5/23 22:50	
n-Nitroso-di-n-propylamine	ND	U	0.0158	0.295	mg/kg	2	5/5/23 22:50	
n-Nitrosodiphenylamine	ND	U	0.0630	0.295	mg/kg	2	5/5/23 22:50	
Pentachlorophenol	ND	U	0.0406	0.739	mg/kg	2	5/5/23 22:50	UJ, RC:SL
Phenanthrene	**21.3**	D	**0.194**	**1.48**	**mg/kg**	**10**	**5/9/23 23:17**	
Phenol	ND	U	0.0240	0.295	mg/kg	2	5/5/23 22:50	
Pyrene	**21.2**	D	**0.109**	**1.48**	**mg/kg**	**10**	**5/9/23 23:17**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	136	5.23	J, D	mg/kg	2	5/5/23 22:50
Naphthalene, 2-phenyl-	1.61	12.25	J, D	mg/kg	2	5/5/23 22:50
unknown (01)	2.33	5.96	J, D	mg/kg	2	5/5/23 22:50
unknown (02)	1.98	11.96	J, D	mg/kg	2	5/5/23 22:50
unknown (03)	2.84	11.99	J, D	mg/kg	2	5/5/23 22:50
unknown (04)	1.31	12.04	J, D	mg/kg	2	5/5/23 22:50
unknown (05)	5.23	12.09	J, D	mg/kg	2	5/5/23 22:50
unknown (06)	1.17	12.30	J, D	mg/kg	2	5/5/23 22:50
unknown (07)	1.23	12.53	J, D	mg/kg	2	5/5/23 22:50
unknown (08)	0.695	13.22	J, D	mg/kg	2	5/5/23 22:50

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0029
Date to Lab: 5/1/2023 4:23:00PM

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-050 12023** Collected: **5/1/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (09)	0.709	13.64	J, D	mg/kg	2	5/5/23 22:50
TIC Total	**155**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000275	0.00188	mg/kg	1	5/3/23 20:48	
1,1,2,2-Tetrachloroethane	ND	U	0.000260	0.00188	mg/kg	1	5/3/23 20:48	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000805	0.00188	mg/kg	1	5/3/23 20:48	
1,1,2-Trichloroethane	ND	U	0.000317	0.00188	mg/kg	1	5/3/23 20:48	
1,1-Dichloroethane	ND	U	0.000275	0.00188	mg/kg	1	5/3/23 20:48	
1,1-Dichloroethene	ND	U	0.000348	0.00188	mg/kg	1	5/3/23 20:48	
1,2,3-Trichlorobenzene	ND	U	0.000406	0.00188	mg/kg	1	5/3/23 20:48	
1,2,4-Trichlorobenzene	ND	U	0.000501	0.00188	mg/kg	1	5/3/23 20:48	
1,2,4-Trimethylbenzene	ND	U	0.000260	0.00188	mg/kg	1	5/3/23 20:48	
1,2-Dibromo-3-chloropropane	ND	U	0.000459	0.00188	mg/kg	1	5/3/23 20:48	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000237	0.00188	mg/kg	1	5/3/23 20:48	
1,2-Dichlorobenzene	ND	U	0.000332	0.00188	mg/kg	1	5/3/23 20:48	
1,2-Dichloroethane	ND	U	0.000265	0.00188	mg/kg	1	5/3/23 20:48	
1,2-Dichloropropane	ND	U	0.000308	0.00188	mg/kg	1	5/3/23 20:48	
1,3-Dichlorobenzene	ND	U	0.000138	0.00188	mg/kg	1	5/3/23 20:48	
1,4-Dichlorobenzene	ND	U	0.000271	0.00188	mg/kg	1	5/3/23 20:48	
2-Butanone	ND	U	0.000307	0.00470	mg/kg	1	5/3/23 20:48	
2-Hexanone	ND	U	0.000176	0.00188	mg/kg	1	5/3/23 20:48	
4-Methyl-2-pentanone	ND	U	0.000235	0.00188	mg/kg	1	5/3/23 20:48	
Acetone	ND	U	0.000570	0.00470	mg/kg	1	5/3/23 20:48	
Benzene	ND	U	0.000171	0.00188	mg/kg	1	5/3/23 20:48	
Bromochloromethane	ND	U	0.000347	0.00188	mg/kg	1	5/3/23 20:48	
Bromodichloromethane	ND	U	0.000236	0.00188	mg/kg	1	5/3/23 20:48	
Bromoform	ND	U	0.000330	0.00188	mg/kg	1	5/3/23 20:48	
Bromomethane	ND	U	0.000543	0.00188	mg/kg	1	5/3/23 20:48	
Carbon disulfide	ND	U	0.000270	0.00188	mg/kg	1	5/3/23 20:48	
Carbon Tetrachloride	ND	U	0.000283	0.00188	mg/kg	1	5/3/23 20:48	
Chlorobenzene	ND	U	0.000273	0.00188	mg/kg	1	5/3/23 20:48	
Chlorodibromomethane	ND	U	0.000231	0.00188	mg/kg	1	5/3/23 20:48	
Chloroethane	ND	U	0.000321	0.00188	mg/kg	1	5/3/23 20:48	
Chloroform	ND	U	0.000316	0.00188	mg/kg	1	5/3/23 20:48	
Chloromethane	**0.124**		**0.000724**	**0.00188**	**mg/kg**	**1**	**5/3/23 20:48**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0029
Date to Lab: 5/1/2023 4:23:00PM

23E0029-01 (Soil) Sample Name: **OH-SB-50-1.0-2.0-050 12023** Collected: **5/1/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
cis-1,2-Dichloroethene	ND	U	0.0000909	0.00188	mg/kg	1	5/3/23 20:48
cis-1,3-Dichloropropene	ND	U	0.000238	0.00188	mg/kg	1	5/3/23 20:48
Cyclohexane	ND	U	0.000417	0.00188	mg/kg	1	5/3/23 20:48
Dichlorodifluoromethane	ND	U	0.000635	0.00188	mg/kg	1	5/3/23 20:48
EthylBenzene	ND	U	0.000255	0.00188	mg/kg	1	5/3/23 20:48
Isopropylbenzene	ND	U	0.000295	0.00188	mg/kg	1	5/3/23 20:48
m+p-Xylenes	ND	U	0.000475	0.00376	mg/kg	1	5/3/23 20:48
Methyl Acetate	ND	U	0.000249	0.00188	mg/kg	1	5/3/23 20:48
Methyl tert-Butyl Ether	ND	U	0.000318	0.00188	mg/kg	1	5/3/23 20:48
Methylcyclohexane	ND	U	0.000303	0.00188	mg/kg	1	5/3/23 20:48
Methylene Chloride	ND	U	0.000565	0.00188	mg/kg	1	5/3/23 20:48
o-Xylene	ND	U	0.000242	0.00188	mg/kg	1	5/3/23 20:48
Styrene	ND	U	0.000269	0.00188	mg/kg	1	5/3/23 20:48
tert-Butyl alcohol	ND	U	0.00395	0.0188	mg/kg	1	5/3/23 20:48
Tetrachloroethene	ND	U	0.000186	0.00188	mg/kg	1	5/3/23 20:48
Toluene	ND	U	0.000151	0.00188	mg/kg	1	5/3/23 20:48
Total Xylenes	ND	U	0.000242	0.00188	mg/kg	1	5/3/23 20:48
trans-1,2-Dichloroethene	ND	U	0.000255	0.00188	mg/kg	1	5/3/23 20:48
trans-1,3-Dichloropropene	ND	U	0.000359	0.00188	mg/kg	1	5/3/23 20:48
Trichloroethene	ND	U	0.000276	0.00188	mg/kg	1	5/3/23 20:48
Trichlorofluoromethane	ND	U	0.000216	0.00188	mg/kg	1	5/3/23 20:48
Vinyl chloride	ND	U	0.000357	0.00188	mg/kg	1	5/3/23 20:48

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.1**				**%**	**1**	**5/2/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.922**		**0.00732**	**0.0615**	**mg/kg**	**1**	**5/8/23 12:43**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0109

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jul 10, 2023

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APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E0109

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-52-1.0-2.0-20230502	23E0109-01	Soil	05/02/2023 10:40	05/02/2023 15:30
FB-20230502	23E0109-02	Ground Water	05/02/2023 11:55	05/02/2023 15:30
TB-20230502	23E0109-03	Ground Water	05/02/2023 00:00	05/02/2023 15:30

PN: 23E0109

APL 23E0109

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: Yu & Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive, 3rd Floor	ADDRESS: " "
Elmwood Park, NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Covanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MLM

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ___

PWSID# ___

NY State Category B

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0109 -01	OH-SB-52-10-20-20230502	05/02/23	1040	✓		S	5	DI. Methanol	VOCs, SVOCs, PCBs, Pesticides, Herbicides, Tal metals, total cyanide (Amenable),
Hold Sample	OH-SB-52-30-40-20230502	↓	1110	✓		S	5		Alkylated PAHs by 8270 GC/MS-SIM
-02	FB-20230502		1155	✓		S, DI	10	HNO3 NaOH	SAME AS Above
-03	TB-20230502		LAB	✓		DI	2	HCL	VOC

RELINQUISHED BY (Print) Max Moore	DATE 05/02/23	RECEIVED BY (Print) MSMA (Lab)	5/2/23 1405
Signature	Time 1405	Signature	
RELINQUISHED BY (Print) MSMA (Lab)	DATE 5/2/23	RECEIVED BY (Print) Rose Nap	
Signature	Time 1530	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS All Samples Analysis for both VOCs, Etc and Alkylated PAHs. Hold OH-SB-52.30-40.0-20230502

Cooler Temp. upon receipt at lab 3.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16 / SM 4500-CN C-16 plus G-16]

Method 6010D:
The percent recovery for Thallium was outside of the QC limits for the blank spike (low).
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low and high).

Methods 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16 / SM 4500-CN C-16 plus G-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

All samples met the QC criteria.

ANALYSIS: PCBs [8082A]

Sample 23E0109-02 (FB) has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (low).

ANALYSIS: PESTICIDES [8081B]

Sample 23E0109-01 has one surrogate (Decachlorobiphenyl) outside of the QC limits (high), due to matrix interference.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

Sample 23E0109-03 (TB) has one surrogate (4-Bromofluorobenzene) outside of the QC limits (slightly low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

Reviewed By: _____ (SK) 7/25/2023

Sudip Pradhan - Laboratory Director — Date

Positive Results Only Summary

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-20230502**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.580		0.00555	0.0222	mg/kg dry	1	5/3/23 14:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7250		0.161	2.71	mg/kg dry	1	5/14/23 10:39
Antimony	1.36		0.148	1.35	mg/kg dry	1	5/14/23 10:39
Arsenic	8.48		0.0966	1.35	mg/kg dry	1	5/14/23 10:39
Barium	66.3		0.0410	0.542	mg/kg dry	1	5/14/23 10:39
Beryllium	0.843		0.00314	0.0271	mg/kg dry	1	5/14/23 10:39
Cadmium	0.488		0.0528	0.271	mg/kg dry	1	5/14/23 10:39
Calcium	24100		3.05	27.1	mg/kg dry	1	5/14/23 10:39
Chromium	17.3		0.0306	0.271	mg/kg dry	1	5/14/23 10:39
Cobalt	6.15		0.0277	0.217	mg/kg dry	1	5/14/23 10:39
Copper	83.2		0.0758	0.271	mg/kg dry	1	5/14/23 10:39
Iron	22400		0.768	5.42	mg/kg dry	1	5/14/23 10:39
Lead	197		0.113	1.35	mg/kg dry	1	5/14/23 10:39
Magnesium	4960		9.57	54.2	mg/kg dry	1	5/14/23 10:39
Manganese	247		0.0337	0.271	mg/kg dry	1	5/14/23 10:39
Nickel	24.3		0.0238	0.135	mg/kg dry	1	5/14/23 10:39
Potassium	1650		32.2	108	mg/kg dry	1	5/14/23 10:39
Silver	0.442		0.0461	0.163	mg/kg dry	1	5/14/23 10:39
Sodium	1470		5.17	54.2	mg/kg dry	1	5/14/23 10:39
Vanadium	20.3		0.0623	0.542	mg/kg dry	1	5/14/23 10:39
Zinc	113		0.0828	0.813	mg/kg dry	1	5/14/23 10:39

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.260		0.0354	0.222	mg/kg dry	1	5/9/23 2:13
Acenaphthene	0.376		0.00843	0.148	mg/kg dry	1	5/9/23 2:13
Acenaphthylene	2.20		0.00514	0.148	mg/kg dry	1	5/9/23 2:13
Acetophenone	0.181		0.0147	0.148	mg/kg dry	1	5/9/23 2:13
Anthracene	1.27		0.0214	0.148	mg/kg dry	1	5/9/23 2:13
Benzo(a)anthracene	6.44		0.0149	0.148	mg/kg dry	1	5/9/23 2:13
Benzo(a)pyrene	6.03		0.0258	0.148	mg/kg dry	1	5/9/23 2:13
Benzo(b)fluoranthene	7.96		0.0208	0.148	mg/kg dry	1	5/9/23 2:13
Benzo(g,h,i)perylene	4.56		0.0120	0.148	mg/kg dry	1	5/9/23 2:13
Benzo(k)fluoranthene	2.97		0.0170	0.148	mg/kg dry	1	5/9/23 2:13
Carbazole	0.172	J	0.0284	0.370	mg/kg dry	1	5/9/23 2:13
Chrysene	6.89		0.0101	0.148	mg/kg dry	1	5/9/23 2:13
Dibenzo(a,h)anthracene	1.21		0.0147	0.148	mg/kg dry	1	5/9/23 2:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-20230502**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzofuran	0.213		0.00881	0.148	mg/kg dry	1	5/9/23 2:13
Fluoranthene	8.62		0.0139	0.148	mg/kg dry	1	5/9/23 2:13
Indeno(1,2,3-cd)pyrene	3.67		0.0159	0.148	mg/kg dry	1	5/9/23 2:13
Naphthalene	0.499		0.0110	0.148	mg/kg dry	1	5/9/23 2:13
Phenanthrene	4.99		0.0194	0.148	mg/kg dry	1	5/9/23 2:13
Pyrene	11.2	D	0.109	1.48	mg/kg dry	10	5/12/23 16:08
TIC_1H-Indene, 1-methyl-	1.35	J			mg/kg dry	1	5/9/23 2:13
TIC_Benzene, (1-bromoethyl)-	2.37	J			mg/kg dry	1	5/9/23 2:13
TIC_Benzene, 1-ethenyl-4-methyl-	5.92	J			mg/kg dry	1	5/9/23 2:13
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	1.54	J			mg/kg dry	1	5/9/23 2:13
TIC_Benzene, 2-propenyl-	2.09	J			mg/kg dry	1	5/9/23 2:13
TIC_Hexadecanoic acid, butyl ester	2.99	J, B			mg/kg dry	1	5/9/23 2:13
TIC_Indene	3.88	J			mg/kg dry	1	5/9/23 2:13
TIC_Naphthalene, 1,2-dihydro-4-phenyl-	1.21	J			mg/kg dry	1	5/9/23 2:13
TIC_Pentadecanoic acid	1.88	J			mg/kg dry	1	5/9/23 2:13
TIC_unknown (01)	1.33	J			mg/kg dry	1	5/9/23 2:13
TIC_unknown (02)	2.07	J			mg/kg dry	1	5/9/23 2:13
TIC_unknown (03)	1.49	J			mg/kg dry	1	5/9/23 2:13
TIC_unknown (04)	2.52	J			mg/kg dry	1	5/9/23 2:13
TIC_unknown (05)	2.86	J			mg/kg dry	1	5/9/23 2:13
TIC_unknown (06)	2.85	J			mg/kg dry	1	5/9/23 2:13

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.00760		0.000569	0.00397	mg/kg dry	1	5/10/23 1:22
TIC_Ethyl Chloride	0.0125	J			mg/kg dry	1	5/10/23 1:22
TIC_Heptane, 2,2,4,6,6-pentamethyl-	0.0146	J			mg/kg dry	1	5/10/23 1:22

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	1.19		0.00811	0.0681	mg/kg dry	1	5/8/23 19:33

ND - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-202 30502** Collected: **5/2/2023 10:40:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00492	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1221	ND	U	0.00967	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1232	ND	U	0.0123	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1242	ND	U	0.00720	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1248	ND	U	0.00753	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1254	ND	U	0.00592	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1260	ND	U	0.00459	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1262	ND	U	0.00986	0.0367	mg/kg	1	5/9/23 9:19
Aroclor-1268	ND	U	0.00443	0.0367	mg/kg	1	5/9/23 9:19
Total PCBs	ND	U	0.00342	0.0367	mg/kg	1	5/9/23 9:19

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	5/9/23 13:44
2,4-D	ND	U	0.0184	0.111	mg/kg	1	5/9/23 13:44

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.580**		**0.00555**	**0.0222**	**mg/kg**	**1**	**5/3/23 14:50**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7250**		**0.161**	**2.71**	**mg/kg**	**1**	**5/14/23 10:39**
Antimony	**1.36**		**0.148**	**1.35**	**mg/kg**	**1**	**5/14/23 10:39**
Arsenic	**8.48**		**0.0966**	**1.35**	**mg/kg**	**1**	**5/14/23 10:39**
Barium	**66.3**		**0.0410**	**0.542**	**mg/kg**	**1**	**5/14/23 10:39**
Beryllium	**0.843**		**0.00314**	**0.0271**	**mg/kg**	**1**	**5/14/23 10:39**
Cadmium	**0.488**		**0.0528**	**0.271**	**mg/kg**	**1**	**5/14/23 10:39**
Calcium	**24100**		**3.05**	**27.1**	**mg/kg**	**1**	**5/14/23 10:39**
Chromium	**17.3**		**0.0306**	**0.271**	**mg/kg**	**1**	**5/14/23 10:39**
Cobalt	**6.15**		**0.0277**	**0.217**	**mg/kg**	**1**	**5/14/23 10:39**
Copper	**83.2**		**0.0758**	**0.271**	**mg/kg**	**1**	**5/14/23 10:39**
Iron	**22400**		**0.768**	**5.42**	**mg/kg**	**1**	**5/14/23 10:39**
Lead	**197**		**0.113**	**1.35**	**mg/kg**	**1**	**5/14/23 10:39**
Magnesium	**4960**		**9.57**	**54.2**	**mg/kg**	**1**	**5/14/23 10:39**
Manganese	**247**		**0.0337**	**0.271**	**mg/kg**	**1**	**5/14/23 10:39**
Nickel	**24.3**		**0.0238**	**0.135**	**mg/kg**	**1**	**5/14/23 10:39**
Potassium	**1650**		**32.2**	**108**	**mg/kg**	**1**	**5/14/23 10:39**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-202 30502** Collected: **5/2/2023 10:40:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.260	1.35	mg/kg	1	5/14/23 10:39	
Silver	**0.442**		**0.0461**	**0.163**	**mg/kg**	**1**	**5/14/23 10:39**	
Sodium	**1470**		**5.17**	**54.2**	**mg/kg**	**1**	**5/14/23 10:39**	
Thallium	ND	U	0.0912	1.35	mg/kg	1	5/14/23 10:39	UJ, RC:6L
Vanadium	**20.3**		**0.0623**	**0.542**	**mg/kg**	**1**	**5/14/23 10:39**	
Zinc	**113**		**0.0828**	**0.813**	**mg/kg**	**1**	**5/14/23 10:39**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000661	0.00144	mg/kg	1	5/6/23 0:53
4,4'-DDE	ND	U	0.000790	0.00144	mg/kg	1	5/6/23 0:53
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	5/6/23 0:53
Aldrin	ND	U	0.000684	0.00144	mg/kg	1	5/6/23 0:53
alpha-BHC	ND	U	0.000430	0.00144	mg/kg	1	5/6/23 0:53
beta-BHC	ND	U	0.000690	0.00144	mg/kg	1	5/6/23 0:53
Chlordane	ND	U	0.000642	0.00144	mg/kg	1	5/6/23 0:53
delta-BHC	ND	U	0.000671	0.00144	mg/kg	1	5/6/23 0:53
Dieldrin	ND	U	0.000755	0.00144	mg/kg	1	5/6/23 0:53
Endosulfan I	ND	U	0.000682	0.00144	mg/kg	1	5/6/23 0:53
Endosulfan II	ND	U	0.000657	0.00144	mg/kg	1	5/6/23 0:53
Endosulfan sulfate	ND	U	0.000543	0.00144	mg/kg	1	5/6/23 0:53
Endosulfans, Total (alpha and beta)	ND	U	0.000657	0.00144	mg/kg	1	5/6/23 0:53
Endrin	ND	U	0.000499	0.00144	mg/kg	1	5/6/23 0:53
Endrin aldehyde	ND	U	0.000575	0.00144	mg/kg	1	5/6/23 0:53
Endrin ketone	ND	U	0.000509	0.00144	mg/kg	1	5/6/23 0:53
gamma-BHC (Lindane)	ND	U	0.000458	0.00144	mg/kg	1	5/6/23 0:53
Heptachlor	ND	U	0.000387	0.00144	mg/kg	1	5/6/23 0:53
Heptachlor Epoxide	ND	U	0.000729	0.00144	mg/kg	1	5/6/23 0:53
Methoxychlor	ND	U	0.000423	0.00144	mg/kg	1	5/6/23 0:53
Toxaphene	ND	U	0.0696	0.0733	mg/kg	1	5/6/23 0:53

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00418	0.0370	mg/kg	1	5/9/23 2:13
2,3,4,6-Tetrachlorophenol	ND	U	0.0228	0.148	mg/kg	1	5/9/23 2:13
2,4,5-Trichlorophenol	ND	U	0.0201	0.148	mg/kg	1	5/9/23 2:13
2,4,6-Trichlorophenol	ND	U	0.00925	0.148	mg/kg	1	5/9/23 2:13

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-202 30502** Collected: **5/2/2023 10:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0149	0.148	mg/kg	1	5/9/23 2:13	
2,4-Dimethylphenol	ND	U	0.0146	0.148	mg/kg	1	5/9/23 2:13	
2,4-Dinitrophenol	ND	U	0.0213	0.741	mg/kg	1	5/9/23 2:13	
2,4-Dinitrotoluene	ND	U	0.0158	0.148	mg/kg	1	5/9/23 2:13	
2,6-Dinitrotoluene	ND	U	0.0353	0.148	mg/kg	1	5/9/23 2:13	
2-Chloronaphthalene	ND	U	0.0170	0.148	mg/kg	1	5/9/23 2:13	
2-Chlorophenol	ND	U	0.0196	0.148	mg/kg	1	5/9/23 2:13	
2-Methylnaphthalene	**0.260**		**0.0354**	**0.222**	**mg/kg**	**1**	**5/9/23 2:13**	
2-Methylphenol	ND	U	0.0292	0.148	mg/kg	1	5/9/23 2:13	
2-Nitroaniline	ND	U	0.0119	0.148	mg/kg	1	5/9/23 2:13	
2-Nitrophenol	ND	U	0.0164	0.148	mg/kg	1	5/9/23 2:13	
3,3'-Dichlorobenzidine	ND	U	0.0156	0.148	mg/kg	1	5/9/23 2:13	
3+4-Methylphenol	ND	U	0.0271	0.148	mg/kg	1	5/9/23 2:13	
3-Nitroaniline	ND	U	0.0274	0.148	mg/kg	1	5/9/23 2:13	
4,6-Dinitro-2-methylphenol	ND	U	0.0279	0.370	mg/kg	1	5/9/23 2:13	
4-Bromophenyl-phenyl ether	ND	U	0.0211	0.148	mg/kg	1	5/9/23 2:13	
4-Chloro-3-methylphenol	ND	U	0.0233	0.148	mg/kg	1	5/9/23 2:13	
4-Chloroaniline	ND	U	0.00518	0.148	mg/kg	1	5/9/23 2:13	
4-Chlorophenyl phenyl ether	ND	U	0.00799	0.148	mg/kg	1	5/9/23 2:13	
4-Nitroaniline	ND	U	0.0740	0.148	mg/kg	1	5/9/23 2:13	
4-Nitrophenol	ND	U	0.00946	0.148	mg/kg	1	5/9/23 2:13	UJ, RC:SL
Acenaphthene	**0.376**		**0.00843**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Acenaphthylene	**2.20**		**0.00514**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Acetophenone	**0.181**		**0.0147**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Anthracene	**1.27**		**0.0214**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Atrazine	ND	U	0.0139	0.148	mg/kg	1	5/9/23 2:13	
Benzaldehyde	ND	U	0.0454	0.148	mg/kg	1	5/9/23 2:13	UJ, RC:SL
Benzo(a)anthracene	**6.44**		**0.0149**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Benzo(a)pyrene	**6.03**		**0.0258**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Benzo(b)fluoranthene	**7.96**		**0.0208**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Benzo(g,h,i)perylene	**4.56**		**0.0120**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Benzo(k)fluoranthene	**2.97**		**0.0170**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Biphenyl	ND	U	0.0130	0.148	mg/kg	1	5/9/23 2:13	
bis(2-chloroethoxy)methane	ND	U	0.0204	0.148	mg/kg	1	5/9/23 2:13	
bis(2-chloroethyl)ether	ND	U	0.0162	0.148	mg/kg	1	5/9/23 2:13	
bis(2-chloroisopropyl)ether	ND	U	0.0532	0.148	mg/kg	1	5/9/23 2:13	
bis(2-ethylhexyl)phthalate	ND	U	0.0295	0.148	mg/kg	1	5/9/23 2:13	
Butylbenzylphthalate	ND	U	0.0134	0.148	mg/kg	1	5/9/23 2:13	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-202 30502** Collected: **5/2/2023 10:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0191	0.148	mg/kg	1	5/9/23 2:13	
Carbazole	**0.172**	J	**0.0284**	**0.370**	**mg/kg**	**1**	**5/9/23 2:13**	
Chrysene	**6.89**		**0.0101**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Dibenzo(a,h)anthracene	**1.21**		**0.0147**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Dibenzofuran	**0.213**		**0.00881**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Diethylphthalate	ND	U	0.0287	0.148	mg/kg	1	5/9/23 2:13	
Dimethylphthalate	ND	U	0.00918	0.148	mg/kg	1	5/9/23 2:13	
Di-n-butylphthalate	ND	U	0.0604	0.148	mg/kg	1	5/9/23 2:13	
Di-n-octylphthalate	ND	U	0.0303	0.148	mg/kg	1	5/9/23 2:13	
Fluoranthene	**8.62**		**0.0139**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Fluorene	ND	U	0.0123	0.148	mg/kg	1	5/9/23 2:13	
Hexachlorobenzene	ND	U	0.0193	0.148	mg/kg	1	5/9/23 2:13	
Hexachlorobutadiene	ND	U	0.0710	0.148	mg/kg	1	5/9/23 2:13	
Hexachlorocyclopentadiene	ND	U	0.0617	0.370	mg/kg	1	5/9/23 2:13	UJ, RC:SL
Hexachloroethane	ND	U	0.0162	0.148	mg/kg	1	5/9/23 2:13	
Indeno(1,2,3-cd)pyrene	**3.67**		**0.0159**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Isophorone	ND	U	0.00969	0.148	mg/kg	1	5/9/23 2:13	
Naphthalene	**0.499**		**0.0110**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Nitrobenzene	ND	U	0.0251	0.148	mg/kg	1	5/9/23 2:13	
n-Nitroso-di-n-propylamine	ND	U	0.00792	0.148	mg/kg	1	5/9/23 2:13	
n-Nitrosodiphenylamine	ND	U	0.0315	0.148	mg/kg	1	5/9/23 2:13	
Pentachlorophenol	ND	U	0.0203	0.370	mg/kg	1	5/9/23 2:13	UJ, RC:SL
Phenanthrene	**4.99**		**0.0194**	**0.148**	**mg/kg**	**1**	**5/9/23 2:13**	
Phenol	ND	U	0.0120	0.148	mg/kg	1	5/9/23 2:13	
Pyrene	**11.2**	D	**0.109**	**1.48**	**mg/kg**	**10**	**5/12/23 16:08**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1H-Indene, 1-methyl-	1.35	7.12	J	mg/kg	1	5/9/23 2:13	
Benzene, (1-bromoethyl)-	2.37	6.89	J	mg/kg	1	5/9/23 2:13	
Benzene, 1-ethenyl-4-methyl-	5.92	5.89	J	mg/kg	1	5/9/23 2:13	
Benzene, 1-methyl-4-(1-methylethyl)-	1.54	7.52	J	mg/kg	1	5/9/23 2:13	
Benzene, 2-propenyl-	2.09	5.93	J	mg/kg	1	5/9/23 2:13	
Hexadecanoic acid, butyl ester	~~2.99~~	11.95	~~J, B~~	mg/kg	1	5/9/23 2:13	R,RC:2
Indene	3.88	6.32	J	mg/kg	1	5/9/23 2:13	
Naphthalene, 1,2-dihydro-4-phenyl-	1.21	11.67	J	mg/kg	1	5/9/23 2:13	
Pentadecanoic acid	1.88	11.06	J	mg/kg	1	5/9/23 2:13	

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-20230502** Collected: **5/2/2023 10:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	1.33	7.07	J	mg/kg	1	5/9/23 2:13
unknown (02)	2.07	7.59	J	mg/kg	1	5/9/23 2:13
unknown (03)	1.49	8.81	J	mg/kg	1	5/9/23 2:13
unknown (04)	2.52	11.23	J	mg/kg	1	5/9/23 2:13
unknown (05)	2.86	13.24	J	mg/kg	1	5/9/23 2:13
unknown (06)	2.85	15.59	J	mg/kg	1	5/9/23 2:13
TIC Total	**36.4**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000579	0.00397	mg/kg	1	5/10/23 1:22	
1,1,2,2-Tetrachloroethane	ND	U	0.000547	0.00397	mg/kg	1	5/10/23 1:22	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00170	0.00397	mg/kg	1	5/10/23 1:22	
1,1,2-Trichloroethane	ND	U	0.000668	0.00397	mg/kg	1	5/10/23 1:22	
1,1-Dichloroethane	ND	U	0.000579	0.00397	mg/kg	1	5/10/23 1:22	
1,1-Dichloroethene	ND	U	0.000734	0.00397	mg/kg	1	5/10/23 1:22	
1,2,3-Trichlorobenzene	ND	U	0.000857	0.00397	mg/kg	1	5/10/23 1:22	
1,2,4-Trichlorobenzene	ND	U	0.00106	0.00397	mg/kg	1	5/10/23 1:22	
1,2,4-Trimethylbenzene	ND	U	0.000547	0.00397	mg/kg	1	5/10/23 1:22	
1,2-Dibromo-3-chloropropane	ND	U	0.000968	0.00992	mg/kg	1	5/10/23 1:22	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000500	0.00397	mg/kg	1	5/10/23 1:22	
1,2-Dichlorobenzene	ND	U	0.000700	0.00397	mg/kg	1	5/10/23 1:22	
1,2-Dichloroethane	ND	U	0.000559	0.00397	mg/kg	1	5/10/23 1:22	
1,2-Dichloropropane	ND	U	0.000651	0.00397	mg/kg	1	5/10/23 1:22	
1,3-Dichlorobenzene	ND	U	0.000292	0.00397	mg/kg	1	5/10/23 1:22	
1,4-Dichlorobenzene	ND	U	0.000571	0.00397	mg/kg	1	5/10/23 1:22	
2-Butanone	ND	U	0.000647	0.0198	mg/kg	1	5/10/23 1:22	UJ, RC:SL
2-Hexanone	ND	U	0.000371	0.00397	mg/kg	1	5/10/23 1:22	
4-Methyl-2-pentanone	ND	U	0.000496	0.00397	mg/kg	1	5/10/23 1:22	
Acetone	ND	U	0.00120	0.0992	mg/kg	1	5/10/23 1:22	UJ, RC:SL
Benzene	ND	U	0.000361	0.00397	mg/kg	1	5/10/23 1:22	
Bromochloromethane	ND	U	0.000732	0.00397	mg/kg	1	5/10/23 1:22	
Bromodichloromethane	ND	U	0.000498	0.00397	mg/kg	1	5/10/23 1:22	
Bromoform	ND	U	0.000696	0.00397	mg/kg	1	5/10/23 1:22	
Bromomethane	ND	U	0.00114	0.00397	mg/kg	1	5/10/23 1:22	
Carbon disulfide	**0.00760**		**0.000569**	**0.00397**	**mg/kg**	**1**	**5/10/23 1:22**	
Carbon Tetrachloride	ND	U	0.000597	0.00397	mg/kg	1	5/10/23 1:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-202 30502** Collected: **5/2/2023 10:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.000575	0.00397	mg/kg	1	5/10/23 1:22	
Chlorodibromomethane	ND	U	0.000488	0.00397	mg/kg	1	5/10/23 1:22	
Chloroethane	ND	U	0.000676	0.00397	mg/kg	1	5/10/23 1:22	
Chloroform	ND	U	0.000667	0.00397	mg/kg	1	5/10/23 1:22	
Chloromethane	ND	U	0.00153	0.00397	mg/kg	1	5/10/23 1:22	
cis-1,2-Dichloroethene	ND	U	0.000192	0.00397	mg/kg	1	5/10/23 1:22	
cis-1,3-Dichloropropene	ND	U	0.000502	0.00397	mg/kg	1	5/10/23 1:22	
Cyclohexane	ND	U	0.000879	0.00397	mg/kg	1	5/10/23 1:22	
Dichlorodifluoromethane	ND	U	0.00134	0.00397	mg/kg	1	5/10/23 1:22	UJ, RC:SL
EthylBenzene	ND	U	0.000538	0.00397	mg/kg	1	5/10/23 1:22	
Isopropylbenzene	ND	U	0.000623	0.00397	mg/kg	1	5/10/23 1:22	
m+p-Xylenes	ND	U	0.00100	0.00793	mg/kg	1	5/10/23 1:22	
Methyl Acetate	ND	U	0.000526	0.00397	mg/kg	1	5/10/23 1:22	
Methyl tert-Butyl Ether	ND	U	0.000670	0.00397	mg/kg	1	5/10/23 1:22	
Methylcyclohexane	ND	U	0.000639	0.00397	mg/kg	1	5/10/23 1:22	
Methylene Chloride	ND	U	0.00119	0.00992	mg/kg	1	5/10/23 1:22	
o-Xylene	ND	U	0.000510	0.00397	mg/kg	1	5/10/23 1:22	
Styrene	ND	U	0.000567	0.00397	mg/kg	1	5/10/23 1:22	
tert-Butyl alcohol	ND	U	0.00833	0.0397	mg/kg	1	5/10/23 1:22	
Tetrachloroethene	ND	U	0.000393	0.00397	mg/kg	1	5/10/23 1:22	
Toluene	ND	U	0.000319	0.00397	mg/kg	1	5/10/23 1:22	
Total Xylenes	ND	U	0.000510	0.00397	mg/kg	1	5/10/23 1:22	
trans-1,2-Dichloroethene	ND	U	0.000538	0.00397	mg/kg	1	5/10/23 1:22	
trans-1,3-Dichloropropene	ND	U	0.000758	0.00397	mg/kg	1	5/10/23 1:22	
Trichloroethene	ND	U	0.000583	0.00397	mg/kg	1	5/10/23 1:22	
Trichlorofluoromethane	ND	U	0.000456	0.00397	mg/kg	1	5/10/23 1:22	
Vinyl chloride	ND	U	0.000754	0.00397	mg/kg	1	5/10/23 1:22	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Ethyl Chloride	0.0125	3.91	J	mg/kg	1	5/10/23 1:22
Heptane, 2,2,4,6,6-pentamethyl-	0.0146	16.68	J	mg/kg	1	5/10/23 1:22
TIC Total	**0.027**					

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-01 (Soil) Sample Name: **OH-SB-52-1.0-2.0-20230502** Collected: **5/2/2023 10:40:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.0**				**%**	**1**	**5/3/23 11:12**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**1.19**		**0.00811**	**0.0681**	**mg/kg**	**1**	**5/8/23 19:33**

23E0109-02 (Ground Water) Sample Name: **FB-20230502** Collected: **5/2/2023 11:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/14/23 12:56
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/14/23 12:56
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/14/23 12:56
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/14/23 12:56
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/14/23 12:56
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/14/23 12:56
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/14/23 12:56
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/14/23 12:56
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/14/23 12:56
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/14/23 12:56

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	5/24/23 11:32
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	5/24/23 11:32
2,4-D	ND	U	0.0300	1.00	ug/L	1	5/24/23 11:32

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/9/23 15:16

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/5/23 14:43
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/5/23 14:43
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/5/23 14:43
Barium	ND	U	0.000558	0.0200	mg/L	1	5/5/23 14:43

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-02 (Ground Water) Sample Name: **FB-20230502** Collected: **5/2/2023 11:55:00AM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/5/23 14:43
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/5/23 14:43
Calcium	ND	U	0.256	1.00	mg/L	1	5/5/23 14:43
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/5/23 14:43
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/5/23 14:43
Copper	ND	U	0.00177	0.0100	mg/L	1	5/5/23 14:43
Iron	ND	U	0.0580	0.200	mg/L	1	5/5/23 14:43
Lead	ND	U	0.00510	0.0500	mg/L	1	5/5/23 14:43
Magnesium	ND	U	0.681	2.00	mg/L	1	5/5/23 14:43
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/5/23 14:43
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/5/23 14:43
Potassium	ND	U	2.41	4.00	mg/L	1	5/5/23 14:43
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/5/23 14:43
Silver	ND	U	0.00465	0.0200	mg/L	1	5/5/23 14:43
Sodium	ND	U	0.205	2.00	mg/L	1	5/5/23 14:43
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/5/23 14:43
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/5/23 14:43
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/5/23 14:43

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/11/23 16:46
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/11/23 16:46
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/11/23 16:46
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/11/23 16:46
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/11/23 16:46
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/11/23 16:46
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/11/23 16:46
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/11/23 16:46
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/11/23 16:46
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/11/23 16:46
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/11/23 16:46
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/11/23 16:46
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/11/23 16:46
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/11/23 16:46
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/11/23 16:46
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/11/23 16:46
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/11/23 16:46
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/11/23 16:46

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-02 (Ground Water) Sample Name: **FB-20230502** Collected: **5/2/2023 11:55:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/11/23 16:46
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/11/23 16:46

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/12/23 23:04	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/12/23 23:04	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/12/23 23:04	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/12/23 23:04	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/12/23 23:04	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/12/23 23:04	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/12/23 23:04	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/12/23 23:04	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/12/23 23:04	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/12/23 23:04	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/12/23 23:04	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/12/23 23:04	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/12/23 23:04	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/12/23 23:04	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/12/23 23:04	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/12/23 23:04	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/12/23 23:04	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/12/23 23:04	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/12/23 23:04	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/12/23 23:04	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/12/23 23:04	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/12/23 23:04	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/12/23 23:04	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/12/23 23:04	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/12/23 23:04	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/12/23 23:04	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/12/23 23:04	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/12/23 23:04	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/12/23 23:04	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/12/23 23:04	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/12/23 23:04	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/12/23 23:04	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/12/23 23:04	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/12/23 23:04	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-02 (Ground Water) Sample Name: **FB-20230502** Collected: **5/2/2023 11:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/12/23 23:04	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/12/23 23:04	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/12/23 23:04	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/12/23 23:04	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/12/23 23:04	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/12/23 23:04	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/12/23 23:04	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/12/23 23:04	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/12/23 23:04	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/12/23 23:04	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/12/23 23:04	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/12/23 23:04	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/12/23 23:04	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/12/23 23:04	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/12/23 23:04	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/12/23 23:04	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/12/23 23:04	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/12/23 23:04	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/12/23 23:04	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/12/23 23:04	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/12/23 23:04	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/12/23 23:04	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/12/23 23:04	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/4/23 21:26
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/4/23 21:26
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/4/23 21:26
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/4/23 21:26
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/4/23 21:26
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/4/23 21:26
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/4/23 21:26
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/4/23 21:26

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-02 (Ground Water) Sample Name: **FB-20230502** Collected: **5/2/2023 11:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/4/23 21:26	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/4/23 21:26	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/4/23 21:26	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/4/23 21:26	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/4/23 21:26	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/4/23 21:26	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/4/23 21:26	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/4/23 21:26	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/4/23 21:26	UJ, RC:SL
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/4/23 21:26	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/4/23 21:26	
Acetone	ND	U	10.0	10.0	ug/L	1	5/4/23 21:26	
Benzene	ND	U	0.129	1.00	ug/L	1	5/4/23 21:26	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/4/23 21:26	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/4/23 21:26	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/4/23 21:26	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/4/23 21:26	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/4/23 21:26	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/4/23 21:26	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/4/23 21:26	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/4/23 21:26	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/4/23 21:26	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/4/23 21:26	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/4/23 21:26	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/4/23 21:26	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/4/23 21:26	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/4/23 21:26	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/4/23 21:26	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/4/23 21:26	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/4/23 21:26	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/4/23 21:26	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/4/23 21:26	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/4/23 21:26	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/4/23 21:26	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/4/23 21:26	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/4/23 21:26	
Styrene	ND	U	0.176	1.00	ug/L	1	5/4/23 21:26	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/4/23 21:26	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/4/23 21:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0109
Project: Owls Head Phase 2 **Date to Lab:** 5/2/2023 3:30:00PM

23E0109-02 (Ground Water) Sample Name: FB-20230502 Collected: 5/2/2023 11:55:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Toluene	ND	U	0.205	1.00	ug/L	1	5/4/23 21:26	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/4/23 21:26	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/4/23 21:26	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/4/23 21:26	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/4/23 21:26	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/4/23 21:26	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/4/23 21:26	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/9/23 16:17

SM 4500-CN C-16 plus G-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide (amenable)	ND	U	0.00500	0.0100	mg/L	1	5/9/23 13:00

23E0109-03 (Ground Water) Sample Name: TB-20230502 Collected: 5/2/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/4/23 23:48	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/4/23 23:48	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/4/23 23:48	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/4/23 23:48	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/4/23 23:48	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/4/23 23:48	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/4/23 23:48	RC:SL
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/4/23 23:48	RC:SL
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/4/23 23:48	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/4/23 23:48	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/4/23 23:48	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/4/23 23:48	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/4/23 23:48	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/4/23 23:48	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-03 (Ground Water) Sample Name: **TB-20230502** Collected: **5/2/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/4/23 23:48	UJ, RC:3L
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/4/23 23:48	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/4/23 23:48	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/4/23 23:48	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/4/23 23:48	
Acetone	ND	U	10.0	10.0	ug/L	1	5/4/23 23:48	
Benzene	ND	U	0.129	1.00	ug/L	1	5/4/23 23:48	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/4/23 23:48	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/4/23 23:48	
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Bromomethane	ND	U	0.702	10.0	ug/L	1	5/4/23 23:48	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/4/23 23:48	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/4/23 23:48	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/4/23 23:48	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/4/23 23:48	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/4/23 23:48	
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Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/4/23 23:48	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/4/23 23:48	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/4/23 23:48	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/4/23 23:48	
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Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/4/23 23:48	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/4/23 23:48	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/4/23 23:48	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/4/23 23:48	
Styrene	ND	U	0.176	1.00	ug/L	1	5/4/23 23:48	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/4/23 23:48	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/4/23 23:48	
Toluene	ND	U	0.205	1.00	ug/L	1	5/4/23 23:48	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/4/23 23:48	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/4/23 23:48	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/4/23 23:48	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/4/23 23:48	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/4/23 23:48	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0109
Date to Lab: 5/2/2023 3:30:00PM

23E0109-03 (Ground Water) Sample Name: **TB-20230502** Collected: **5/2/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/4/23 23:48	UJ, RC:3L

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0181

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jul 25, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E0181

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-51_1.0-2.0_20230503	23E0181-01	Soil	05/03/2023 08:00	05/03/2023 14:04
OH-SB-60-1.0-2.0_20230503	23E0181-02	Soil	05/03/2023 11:00	05/03/2023 14:04
FB_20230503	23E0181-03	Ground Water	05/03/2023 11:30	05/03/2023 14:04
TB_20230503	23E0181-04	Ground Water	05/03/2023 00:00	05/03/2023 14:04

PN: 23E0181

APL 23E0181

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive 3rd floor	ADDRESS: " "
Elmwood Park NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MHM/HAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

- NY state category B

CONTAMINATION LEVEL
[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0181 -01	OH-SB-S1_1.0-2.0_20230503	5/3/23	800	✓		S	5	DI Methanol	VOCs, SVOCs, PCBs, Pest, Herb, TAL Metals, TCN, FCN, Alk PAHs by 8270 SIM
	OH-SB-S1_4.0-5.0_20230503	5/3/23	850	✓		S	5	DI Methanol	" "
-02	OH-SB-G0_1.0-2.0_20230503		1100	✓		S	5	DI Methanol	" "
-03	FB-20230503		1130	✓		DI	10	HCl HNO3 NaOH	" "
-04	TB-20230503		LAB	✓		DI	2	HCl	VOCs

RELINQUISHED BY (Print) Max Marone	DATE 05/03/23	RECEIVED BY (Print) MPIN APHA	05/03/23 12:47
Signature	Time 1250	Signature	
RELINQUISHED BY (Print) MPIN APHA	DATE 05/03/23	RECEIVED BY (Print) Rose Nap	
Signature	Time 14:04	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS Hold OH-SB-S1-4.0-5.0-20230503

Cooler Temp. upon receipt at lab 4.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high).

Methods 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

All samples met the QC criteria.

ANALYSIS: PCBs [8082A]

Samples 23E0181-01 and -02 have one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interferences.
Sample 23E0109-03 (FB) has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (slightly low).

ANALYSIS: PESTICIDES [8081B]

The percent recoveries for several compounds were outside of the QC limits for the blank spike, matrix spike, and matrix spike duplicate (low and high).

Samples 23E0181-01 and -02 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibration (SAE0235-CCV1) was outside of the QC limits for Dichlorodifluoromethane (low).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

Sample 23E0819-04 (TB) has one surrogate (4-Bromofluorobenzene) outside of the QC limits (slightly low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike, and matrix spike duplicate (low and high).

Reviewed By: _____ (SK) 7/26/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.53		0.00549	0.0220	mg/kg dry	1	5/10/23 14:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6720		0.166	2.80	mg/kg dry	1	5/17/23 15:05
Antimony	1.65		0.153	1.40	mg/kg dry	1	5/17/23 15:05
Arsenic	7.94		0.0999	1.40	mg/kg dry	1	5/17/23 15:05
Barium	178		0.0423	0.560	mg/kg dry	1	5/17/23 15:05
Beryllium	0.611		0.00324	0.0280	mg/kg dry	1	5/17/23 15:05
Calcium	19600		3.15	28.0	mg/kg dry	1	5/17/23 15:05
Chromium	15.9		0.0316	0.280	mg/kg dry	1	5/17/23 15:05
Cobalt	10.2		0.0286	0.224	mg/kg dry	1	5/17/23 15:05
Copper	52.1		0.0783	0.280	mg/kg dry	1	5/17/23 15:05
Iron	13500		0.793	5.60	mg/kg dry	1	5/17/23 15:05
Lead	207		0.117	1.40	mg/kg dry	1	5/17/23 15:05
Magnesium	4070		9.89	56.0	mg/kg dry	1	5/17/23 15:05
Manganese	187		0.0348	0.280	mg/kg dry	1	5/17/23 15:05
Nickel	19.0		0.0246	0.140	mg/kg dry	1	5/17/23 15:05
Potassium	1350		33.3	112	mg/kg dry	1	5/17/23 15:05
Silver	0.549		0.0476	0.168	mg/kg dry	1	5/17/23 15:05
Sodium	1220		5.34	56.0	mg/kg dry	1	5/17/23 15:05
Vanadium	22.2		0.0644	0.560	mg/kg dry	1	5/17/23 15:05
Zinc	187		0.0856	0.840	mg/kg dry	1	5/17/23 15:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.252		0.0350	0.220	mg/kg dry	1	5/9/23 22:54
Acenaphthene	0.854		0.00833	0.146	mg/kg dry	1	5/9/23 22:54
Acenaphthylene	0.514		0.00508	0.146	mg/kg dry	1	5/9/23 22:54
Anthracene	1.73		0.0212	0.146	mg/kg dry	1	5/9/23 22:54
Benzo(a)anthracene	4.24		0.0147	0.146	mg/kg dry	1	5/9/23 22:54
Benzo(a)pyrene	4.30		0.0255	0.146	mg/kg dry	1	5/9/23 22:54
Benzo(b)fluoranthene	5.95		0.0205	0.146	mg/kg dry	1	5/9/23 22:54
Benzo(g,h,i)perylene	2.01		0.0119	0.146	mg/kg dry	1	5/9/23 22:54
Benzo(k)fluoranthene	1.65		0.0168	0.146	mg/kg dry	1	5/9/23 22:54
Biphenyl	0.0798	J	0.0128	0.146	mg/kg dry	1	5/9/23 22:54
Carbazole	0.679		0.0281	0.366	mg/kg dry	1	5/9/23 22:54
Chrysene	4.18		0.0100	0.146	mg/kg dry	1	5/9/23 22:54
Dibenzo(a,h)anthracene	0.505		0.0145	0.146	mg/kg dry	1	5/9/23 22:54
Dibenzofuran	0.505		0.00871	0.146	mg/kg dry	1	5/9/23 22:54

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluoranthene	10.1	D	0.137	1.46	mg/kg dry	10	5/12/23 17:11
Fluorene	0.667		0.0122	0.146	mg/kg dry	1	5/9/23 22:54
Indeno(1,2,3-cd)pyrene	1.75		0.0157	0.146	mg/kg dry	1	5/9/23 22:54
Naphthalene	0.400		0.0108	0.146	mg/kg dry	1	5/9/23 22:54
Phenanthrene	7.63		0.0192	0.146	mg/kg dry	1	5/9/23 22:54
Pyrene	7.73		0.0107	0.146	mg/kg dry	1	5/9/23 22:54
TIC_2-Pentanone, 4-hydroxy-4-methyl-	102	J			mg/kg dry	1	5/9/23 22:54
TIC_unknown (01)	2.19	J			mg/kg dry	1	5/9/23 22:54
TIC_unknown (02)	0.828	J			mg/kg dry	1	5/9/23 22:54
TIC_unknown (03)	1.36	J			mg/kg dry	1	5/9/23 22:54
TIC_unknown (04)	2.14	J			mg/kg dry	1	5/9/23 22:54
TIC_unknown (05)	0.724	J			mg/kg dry	1	5/9/23 22:54

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	1.48		0.00711	0.0597	mg/kg dry	1	5/8/23 12:43

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.06		0.00616	0.0246	mg/kg dry	1	5/10/23 14:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6140		0.184	3.10	mg/kg dry	1	5/17/23 15:07
Antimony	2.96		0.169	1.55	mg/kg dry	1	5/17/23 15:07
Arsenic	14.0		0.110	1.55	mg/kg dry	1	5/17/23 15:07
Barium	1740	D	0.468	6.19	mg/kg dry	10	5/17/23 15:29
Beryllium	0.783		0.00358	0.0310	mg/kg dry	1	5/17/23 15:07
Cadmium	0.854		0.0603	0.310	mg/kg dry	1	5/17/23 15:07
Calcium	14300		3.48	31.0	mg/kg dry	1	5/17/23 15:07
Chromium	28.0		0.0349	0.310	mg/kg dry	1	5/17/23 15:07
Cobalt	4.83		0.0316	0.248	mg/kg dry	1	5/17/23 15:07
Copper	165		0.0866	0.310	mg/kg dry	1	5/17/23 15:07
Iron	22100		0.877	6.19	mg/kg dry	1	5/17/23 15:07
Lead	550		0.129	1.55	mg/kg dry	1	5/17/23 15:07
Magnesium	2110		10.9	61.9	mg/kg dry	1	5/17/23 15:07
Manganese	193		0.0385	0.310	mg/kg dry	1	5/17/23 15:07
Nickel	17.7		0.0272	0.155	mg/kg dry	1	5/17/23 15:07

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Potassium	1280		36.8	124	mg/kg dry	1	5/17/23 15:07
Silver	0.533		0.0526	0.186	mg/kg dry	1	5/17/23 15:07
Sodium	2920		5.90	61.9	mg/kg dry	1	5/17/23 15:07
Vanadium	23.3		0.0712	0.619	mg/kg dry	1	5/17/23 15:07
Zinc	1950	D	0.945	9.29	mg/kg dry	10	5/17/23 15:29

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE [2C]	0.000961	J	0.000876	0.00160	mg/kg dry	1	5/12/23 18:18

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0767	J	0.0393	0.246	mg/kg dry	1	5/9/23 22:22
Acenaphthene	0.128	J	0.00935	0.164	mg/kg dry	1	5/9/23 22:22
Acenaphthylene	0.307		0.00570	0.164	mg/kg dry	1	5/9/23 22:22
Anthracene	0.407		0.0238	0.164	mg/kg dry	1	5/9/23 22:22
Benzo(a)anthracene	1.52		0.0165	0.164	mg/kg dry	1	5/9/23 22:22
Benzo(a)pyrene	1.70		0.0286	0.164	mg/kg dry	1	5/9/23 22:22
Benzo(b)fluoranthene	2.23		0.0230	0.164	mg/kg dry	1	5/9/23 22:22
Benzo(g,h,i)perylene	1.06		0.0133	0.164	mg/kg dry	1	5/9/23 22:22
Benzo(k)fluoranthene	0.694		0.0188	0.164	mg/kg dry	1	5/9/23 22:22
Biphenyl	0.0357	J	0.0144	0.164	mg/kg dry	1	5/9/23 22:22
Carbazole	0.213	J	0.0315	0.410	mg/kg dry	1	5/9/23 22:22
Chrysene	1.63		0.0112	0.164	mg/kg dry	1	5/9/23 22:22
Dibenzo(a,h)anthracene	0.268		0.0163	0.164	mg/kg dry	1	5/9/23 22:22
Dibenzofuran	0.0862	J	0.00977	0.164	mg/kg dry	1	5/9/23 22:22
Fluoranthene	3.47		0.0154	0.164	mg/kg dry	1	5/9/23 22:22
Fluorene	0.112	J	0.0137	0.164	mg/kg dry	1	5/9/23 22:22
Indeno(1,2,3-cd)pyrene	0.836		0.0176	0.164	mg/kg dry	1	5/9/23 22:22
Naphthalene	0.0933	J	0.0121	0.164	mg/kg dry	1	5/9/23 22:22
Phenanthrene	2.01		0.0216	0.164	mg/kg dry	1	5/9/23 22:22
Pyrene	2.81		0.0121	0.164	mg/kg dry	1	5/9/23 22:22
TIC_2-Pentanone, 4-hydroxy-4-methyl-	124	J			mg/kg dry	1	5/9/23 22:22
TIC_unknown (01)	2.55	J			mg/kg dry	1	5/9/23 22:22
TIC_unknown (02)	3.93	J			mg/kg dry	1	5/9/23 22:22

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_.beta.-Pinene	0.0426	J			mg/kg dry	1	5/10/23 18:40
TIC_1R-.alpha.-Pinene	0.0851	J			mg/kg dry	1	5/10/23 18:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	1.62		0.00783	0.0657	mg/kg dry	1	5/8/23 12:43

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503** Collected: **5/3/2023 8:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00486	0.0362	mg/kg	1	5/4/23 20:30	UJ, RC:3L
Aroclor-1221	ND	U	0.00956	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1232	ND	U	0.0122	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1242	ND	U	0.00712	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1248	ND	U	0.00745	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1254	ND	U	0.00585	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1260	ND	U	0.00454	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1262	ND	U	0.00975	0.0362	mg/kg	1	5/4/23 20:30	
Aroclor-1268	ND	U	0.00438	0.0362	mg/kg	1	5/4/23 20:30	
Total PCBs	ND	U	0.00338	0.0362	mg/kg	1	5/4/23 20:30	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	5/9/23 14:08
2,4-D	ND	U	0.0182	0.110	mg/kg	1	5/9/23 14:08

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.53**		**0.00549**	**0.0220**	**mg/kg**	**1**	**5/10/23 14:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6720**		**0.166**	**2.80**	**mg/kg**	**1**	**5/17/23 15:05**
Antimony	**1.65**		**0.153**	**1.40**	**mg/kg**	**1**	**5/17/23 15:05**
Arsenic	**7.94**		**0.0999**	**1.40**	**mg/kg**	**1**	**5/17/23 15:05**
Barium	**178**		**0.0423**	**0.560**	**mg/kg**	**1**	**5/17/23 15:05**
Beryllium	**0.611**		**0.00324**	**0.0280**	**mg/kg**	**1**	**5/17/23 15:05**
Cadmium	ND	U	0.0546	0.280	mg/kg	1	5/17/23 15:05
Calcium	**19600**		**3.15**	**28.0**	**mg/kg**	**1**	**5/17/23 15:05**
Chromium	**15.9**		**0.0316**	**0.280**	**mg/kg**	**1**	**5/17/23 15:05**
Cobalt	**10.2**		**0.0286**	**0.224**	**mg/kg**	**1**	**5/17/23 15:05**
Copper	**52.1**		**0.0783**	**0.280**	**mg/kg**	**1**	**5/17/23 15:05**
Iron	**13500**		**0.793**	**5.60**	**mg/kg**	**1**	**5/17/23 15:05**
Lead	**207**		**0.117**	**1.40**	**mg/kg**	**1**	**5/17/23 15:05**
Magnesium	**4070**		**9.89**	**56.0**	**mg/kg**	**1**	**5/17/23 15:05**
Manganese	**187**		**0.0348**	**0.280**	**mg/kg**	**1**	**5/17/23 15:05**
Nickel	**19.0**		**0.0246**	**0.140**	**mg/kg**	**1**	**5/17/23 15:05**
Potassium	**1350**		**33.3**	**112**	**mg/kg**	**1**	**5/17/23 15:05**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503** Collected: **5/3/2023 8:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.269	1.40	mg/kg	1	5/17/23 15:05	
Silver	**0.549**		**0.0476**	**0.168**	**mg/kg**	**1**	**5/17/23 15:05**	J, RC:6L
Sodium	**1220**		**5.34**	**56.0**	**mg/kg**	**1**	**5/17/23 15:05**	
Thallium	ND	U	0.0942	1.40	mg/kg	1	5/17/23 15:05	
Vanadium	**22.2**		**0.0644**	**0.560**	**mg/kg**	**1**	**5/17/23 15:05**	
Zinc	**187**		**0.0856**	**0.840**	**mg/kg**	**1**	**5/17/23 15:05**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000653	0.00143	mg/kg	1	5/12/23 17:56	
4,4'-DDE [2C]	ND	U	0.000781	0.00143	mg/kg	1	5/12/23 17:56	
4,4'-DDT	ND	U	0.00101	0.00143	mg/kg	1	5/12/23 17:56	
Aldrin	ND	U	0.000676	0.00143	mg/kg	1	5/12/23 17:56	
alpha-BHC	ND	U	0.000425	0.00143	mg/kg	1	5/12/23 17:56	
beta-BHC	ND	U	0.000682	0.00143	mg/kg	1	5/12/23 17:56	
Chlordane	ND	U	0.000635	0.00143	mg/kg	1	5/12/23 17:56	
delta-BHC	ND	U	0.000663	0.00143	mg/kg	1	5/12/23 17:56	
Dieldrin	ND	U	0.000747	0.00143	mg/kg	1	5/12/23 17:56	
Endosulfan I	ND	U	0.000674	0.00143	mg/kg	1	5/12/23 17:56	
Endosulfan II	ND	U	0.000649	0.00143	mg/kg	1	5/12/23 17:56	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000537	0.00143	mg/kg	1	5/12/23 17:56	
Endosulfans, Total (alpha and beta)	ND	U	0.000649	0.00143	mg/kg	1	5/12/23 17:56	
Endrin	ND	U	0.000493	0.00143	mg/kg	1	5/12/23 17:56	
Endrin aldehyde	ND	U	0.000569	0.00143	mg/kg	1	5/12/23 17:56	
Endrin ketone	ND	U	0.000503	0.00143	mg/kg	1	5/12/23 17:56	
gamma-BHC (Lindane)	ND	U	0.000452	0.00143	mg/kg	1	5/12/23 17:56	
Heptachlor	ND	U	0.000382	0.00143	mg/kg	1	5/12/23 17:56	
Heptachlor Epoxide	ND	U	0.000720	0.00143	mg/kg	1	5/12/23 17:56	
Methoxychlor	ND	U	0.000418	0.00143	mg/kg	1	5/12/23 17:56	
Toxaphene	ND	U	0.0688	0.0725	mg/kg	1	5/12/23 17:56	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00413	0.0366	mg/kg	1	5/9/23 22:54	UJ, RC:SL
2,3,4,6-Tetrachlorophenol	ND	U	0.0225	0.146	mg/kg	1	5/9/23 22:54	
2,4,5-Trichlorophenol	ND	U	0.0199	0.146	mg/kg	1	5/9/23 22:54	
2,4,6-Trichlorophenol	ND	U	0.00915	0.146	mg/kg	1	5/9/23 22:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503** Collected: **5/3/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0147	0.146	mg/kg	1	5/9/23 22:54	
2,4-Dimethylphenol	ND	U	0.0144	0.146	mg/kg	1	5/9/23 22:54	
2,4-Dinitrophenol	ND	U	0.0211	0.732	mg/kg	1	5/9/23 22:54	R,RC:4L
2,4-Dinitrotoluene	ND	U	0.0156	0.146	mg/kg	1	5/9/23 22:54	
2,6-Dinitrotoluene	ND	U	0.0349	0.146	mg/kg	1	5/9/23 22:54	
2-Chloronaphthalene	ND	U	0.0168	0.146	mg/kg	1	5/9/23 22:54	
2-Chlorophenol	ND	U	0.0193	0.146	mg/kg	1	5/9/23 22:54	
2-Methylnaphthalene	**0.252**		**0.0350**	**0.220**	**mg/kg**	**1**	**5/9/23 22:54**	
2-Methylphenol	ND	U	0.0289	0.146	mg/kg	1	5/9/23 22:54	
2-Nitroaniline	ND	U	0.0117	0.146	mg/kg	1	5/9/23 22:54	
2-Nitrophenol	ND	U	0.0162	0.146	mg/kg	1	5/9/23 22:54	
3,3'-Dichlorobenzidine	ND	U	0.0154	0.146	mg/kg	1	5/9/23 22:54	R,RC:4L
3+4-Methylphenol	ND	U	0.0268	0.146	mg/kg	1	5/9/23 22:54	
3-Nitroaniline	ND	U	0.0271	0.146	mg/kg	1	5/9/23 22:54	
4,6-Dinitro-2-methylphenol	ND	U	0.0276	0.366	mg/kg	1	5/9/23 22:54	R,RC:4L
4-Bromophenyl-phenyl ether	ND	U	0.0209	0.146	mg/kg	1	5/9/23 22:54	
4-Chloro-3-methylphenol	ND	U	0.0231	0.146	mg/kg	1	5/9/23 22:54	
4-Chloroaniline	ND	U	0.00512	0.146	mg/kg	1	5/9/23 22:54	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00789	0.146	mg/kg	1	5/9/23 22:54	
4-Nitroaniline	ND	U	0.0731	0.146	mg/kg	1	5/9/23 22:54	
4-Nitrophenol	ND	U	0.00935	0.146	mg/kg	1	5/9/23 22:54	
Acenaphthene	**0.854**		**0.00833**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Acenaphthylene	**0.514**		**0.00508**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	
Acetophenone	ND	U	0.0145	0.146	mg/kg	1	5/9/23 22:54	
Anthracene	**1.73**		**0.0212**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Atrazine	ND	U	0.0137	0.146	mg/kg	1	5/9/23 22:54	
Benzaldehyde	ND	U	0.0449	0.146	mg/kg	1	5/9/23 22:54	UJ, RC:SL
Benzo(a)anthracene	**4.24**		**0.0147**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Benzo(a)pyrene	**4.30**		**0.0255**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Benzo(b)fluoranthene	**5.95**		**0.0205**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Benzo(g,h,i)perylene	**2.01**		**0.0119**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Benzo(k)fluoranthene	**1.65**		**0.0168**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	
Biphenyl	**0.0798**	J	**0.0128**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	
bis(2-chloroethoxy)methane	ND	U	0.0202	0.146	mg/kg	1	5/9/23 22:54	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0160	0.146	mg/kg	1	5/9/23 22:54	
bis(2-chloroisopropyl)ether	ND	U	0.0526	0.146	mg/kg	1	5/9/23 22:54	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0292	0.146	mg/kg	1	5/9/23 22:54	
Butylbenzylphthalate	ND	U	0.0133	0.146	mg/kg	1	5/9/23 22:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503** Collected: **5/3/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0189	0.146	mg/kg	1	5/9/23 22:54	
Carbazole	**0.679**		**0.0281**	**0.366**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Chrysene	**4.18**		**0.0100**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Dibenzo(a,h)anthracene	**0.505**		**0.0145**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	
Dibenzofuran	**0.505**		**0.00871**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Diethylphthalate	ND	U	0.0283	0.146	mg/kg	1	5/9/23 22:54	
Dimethylphthalate	ND	U	0.00907	0.146	mg/kg	1	5/9/23 22:54	
Di-n-butylphthalate	ND	U	0.0597	0.146	mg/kg	1	5/9/23 22:54	
Di-n-octylphthalate	ND	U	0.0300	0.146	mg/kg	1	5/9/23 22:54	
Fluoranthene	**10.1**	D	**0.137**	**1.46**	**mg/kg**	**10**	**5/12/23 17:11**	J,RC:4L
Fluorene	**0.667**		**0.0122**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Hexachlorobenzene	ND	U	0.0191	0.146	mg/kg	1	5/9/23 22:54	
Hexachlorobutadiene	ND	U	0.0702	0.146	mg/kg	1	5/9/23 22:54	
Hexachlorocyclopentadiene	ND	U	0.0609	0.366	mg/kg	1	5/9/23 22:54	R,RC:4L,SL
Hexachloroethane	ND	U	0.0160	0.146	mg/kg	1	5/9/23 22:54	
Indeno(1,2,3-cd)pyrene	**1.75**		**0.0157**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	
Isophorone	ND	U	0.00957	0.146	mg/kg	1	5/9/23 22:54	
Naphthalene	**0.400**		**0.0108**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Nitrobenzene	ND	U	0.0248	0.146	mg/kg	1	5/9/23 22:54	
n-Nitroso-di-n-propylamine	ND	U	0.00783	0.146	mg/kg	1	5/9/23 22:54	
n-Nitrosodiphenylamine	ND	U	0.0312	0.146	mg/kg	1	5/9/23 22:54	
Pentachlorophenol	ND	U	0.0201	0.366	mg/kg	1	5/9/23 22:54	
Phenanthrene	**7.63**		**0.0192**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L
Phenol	ND	U	0.0119	0.146	mg/kg	1	5/9/23 22:54	UJ, RC:SL
Pyrene	**7.73**		**0.0107**	**0.146**	**mg/kg**	**1**	**5/9/23 22:54**	J,RC:4L

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	102	5.14	J	mg/kg	1	5/9/23 22:54
unknown (01)	2.19	5.86	J	mg/kg	1	5/9/23 22:54
unknown (02)	0.828	11.84	J	mg/kg	1	5/9/23 22:54
unknown (03)	1.36	11.87	J	mg/kg	1	5/9/23 22:54
unknown (04)	2.14	11.97	J	mg/kg	1	5/9/23 22:54
unknown (05)	0.724	13.95	J	mg/kg	1	5/9/23 22:54
TIC Total	**110**					

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503** Collected: **5/3/2023 8:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000501	0.00343	mg/kg	1	5/10/23 18:10	
1,1,2,2-Tetrachloroethane	ND	U	0.000473	0.00343	mg/kg	1	5/10/23 18:10	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00147	0.00343	mg/kg	1	5/10/23 18:10	
1,1,2-Trichloroethane	ND	U	0.000578	0.00343	mg/kg	1	5/10/23 18:10	
1,1-Dichloroethane	ND	U	0.000501	0.00343	mg/kg	1	5/10/23 18:10	
1,1-Dichloroethene	ND	U	0.000635	0.00343	mg/kg	1	5/10/23 18:10	
1,2,3-Trichlorobenzene	ND	U	0.000741	0.00343	mg/kg	1	5/10/23 18:10	
1,2,4-Trichlorobenzene	ND	U	0.000914	0.00343	mg/kg	1	5/10/23 18:10	
1,2,4-Trimethylbenzene	ND	U	0.000473	0.00343	mg/kg	1	5/10/23 18:10	
1,2-Dibromo-3-chloropropane	ND	U	0.000837	0.00858	mg/kg	1	5/10/23 18:10	
1,2-Dibromoethane	ND	U	0.000432	0.00343	mg/kg	1	5/10/23 18:10	
1,2-Dichlorobenzene	ND	U	0.000606	0.00343	mg/kg	1	5/10/23 18:10	
1,2-Dichloroethane	ND	U	0.000484	0.00343	mg/kg	1	5/10/23 18:10	
1,2-Dichloropropane	ND	U	0.000563	0.00343	mg/kg	1	5/10/23 18:10	
1,3-Dichlorobenzene	ND	U	0.000252	0.00343	mg/kg	1	5/10/23 18:10	
1,4-Dichlorobenzene	ND	U	0.000494	0.00343	mg/kg	1	5/10/23 18:10	
2-Butanone	ND	U	0.000559	0.0172	mg/kg	1	5/10/23 18:10	
2-Hexanone	ND	U	0.000321	0.00343	mg/kg	1	5/10/23 18:10	
4-Methyl-2-pentanone	ND	U	0.000429	0.00343	mg/kg	1	5/10/23 18:10	
Acetone	ND	U	0.00104	0.0858	mg/kg	1	5/10/23 18:10	
Benzene	ND	U	0.000312	0.00343	mg/kg	1	5/10/23 18:10	
Bromochloromethane	ND	U	0.000633	0.00343	mg/kg	1	5/10/23 18:10	
Bromodichloromethane	ND	U	0.000431	0.00343	mg/kg	1	5/10/23 18:10	
Bromoform	ND	U	0.000602	0.00343	mg/kg	1	5/10/23 18:10	
Bromomethane	ND	U	0.000990	0.00343	mg/kg	1	5/10/23 18:10	
Carbon disulfide	ND	U	0.000492	0.00343	mg/kg	1	5/10/23 18:10	
Carbon Tetrachloride	ND	U	0.000516	0.00343	mg/kg	1	5/10/23 18:10	
Chlorobenzene	ND	U	0.000497	0.00343	mg/kg	1	5/10/23 18:10	
Chlorodibromomethane	ND	U	0.000422	0.00343	mg/kg	1	5/10/23 18:10	
Chloroethane	ND	U	0.000585	0.00343	mg/kg	1	5/10/23 18:10	
Chloroform	ND	U	0.000576	0.00343	mg/kg	1	5/10/23 18:10	
Chloromethane	ND	U	0.00132	0.00343	mg/kg	1	5/10/23 18:10	
cis-1,2-Dichloroethene	ND	U	0.000166	0.00343	mg/kg	1	5/10/23 18:10	
cis-1,3-Dichloropropene	ND	U	0.000434	0.00343	mg/kg	1	5/10/23 18:10	
Cyclohexane	ND	U	0.000760	0.00343	mg/kg	1	5/10/23 18:10	
Dichlorodifluoromethane	ND	U	0.00116	0.00343	mg/kg	1	5/10/23 18:10	UJ, RC:SL
EthylBenzene	ND	U	0.000465	0.00343	mg/kg	1	5/10/23 18:10	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-01 (Soil) Sample Name: **OH-SB-51_1.0-2.0_20230503** Collected: **5/3/2023 8:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000539	0.00343	mg/kg	1	5/10/23 18:10
m+p-Xylenes	ND	U	0.000866	0.00686	mg/kg	1	5/10/23 18:10
Methyl Acetate	ND	U	0.000455	0.00343	mg/kg	1	5/10/23 18:10
Methyl tert-Butyl Ether	ND	U	0.000580	0.00343	mg/kg	1	5/10/23 18:10
Methylcyclohexane	ND	U	0.000552	0.00343	mg/kg	1	5/10/23 18:10
Methylene Chloride	ND	U	0.00103	0.00858	mg/kg	1	5/10/23 18:10
o-Xylene	ND	U	0.000441	0.00343	mg/kg	1	5/10/23 18:10
Styrene	ND	U	0.000491	0.00343	mg/kg	1	5/10/23 18:10
tert-Butyl alcohol	ND	U	0.00720	0.0343	mg/kg	1	5/10/23 18:10
Tetrachloroethene	ND	U	0.000340	0.00343	mg/kg	1	5/10/23 18:10
Toluene	ND	U	0.000276	0.00343	mg/kg	1	5/10/23 18:10
Total Xylenes	ND	U	0.000441	0.00343	mg/kg	1	5/10/23 18:10
trans-1,2-Dichloroethene	ND	U	0.000465	0.00343	mg/kg	1	5/10/23 18:10
trans-1,3-Dichloropropene	ND	U	0.000655	0.00343	mg/kg	1	5/10/23 18:10
Trichloroethene	ND	U	0.000504	0.00343	mg/kg	1	5/10/23 18:10
Trichlorofluoromethane	ND	U	0.000395	0.00343	mg/kg	1	5/10/23 18:10
Vinyl chloride	ND	U	0.000652	0.00343	mg/kg	1	5/10/23 18:10

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.1**				**%**	**1**	**5/4/23 11:04**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**1.48**		**0.00711**	**0.0597**	**mg/kg**	**1**	**5/8/23 12:43**

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503** Collected: **5/3/2023 11:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00545	0.0407	mg/kg	1	5/4/23 20:52	UJ, RC:3L
Aroclor-1221	ND	U	0.0107	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1232	ND	U	0.0136	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1242	ND	U	0.00799	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1248	ND	U	0.00836	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1254	ND	U	0.00656	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1260	ND	U	0.00509	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1262	ND	U	0.0109	0.0407	mg/kg	1	5/4/23 20:52	
Aroclor-1268	ND	U	0.00492	0.0407	mg/kg	1	5/4/23 20:52	
Total PCBs	ND	U	0.00380	0.0407	mg/kg	1	5/4/23 20:52	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0121	0.123	mg/kg	1	5/9/23 14:32
2,4-D	ND	U	0.0204	0.123	mg/kg	1	5/9/23 14:32

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.06**		**0.00616**	**0.0246**	**mg/kg**	**1**	**5/10/23 14:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6140**		**0.184**	**3.10**	**mg/kg**	**1**	**5/17/23 15:07**
Antimony	**2.96**		**0.169**	**1.55**	**mg/kg**	**1**	**5/17/23 15:07**
Arsenic	**14.0**		**0.110**	**1.55**	**mg/kg**	**1**	**5/17/23 15:07**
Barium	**1740**	D	**0.468**	**6.19**	**mg/kg**	**10**	**5/17/23 15:29**
Beryllium	**0.783**		**0.00358**	**0.0310**	**mg/kg**	**1**	**5/17/23 15:07**
Cadmium	**0.854**		**0.0603**	**0.310**	**mg/kg**	**1**	**5/17/23 15:07**
Calcium	**14300**		**3.48**	**31.0**	**mg/kg**	**1**	**5/17/23 15:07**
Chromium	**28.0**		**0.0349**	**0.310**	**mg/kg**	**1**	**5/17/23 15:07**
Cobalt	**4.83**		**0.0316**	**0.248**	**mg/kg**	**1**	**5/17/23 15:07**
Copper	**165**		**0.0866**	**0.310**	**mg/kg**	**1**	**5/17/23 15:07**
Iron	**22100**		**0.877**	**6.19**	**mg/kg**	**1**	**5/17/23 15:07**
Lead	**550**		**0.129**	**1.55**	**mg/kg**	**1**	**5/17/23 15:07**
Magnesium	**2110**		**10.9**	**61.9**	**mg/kg**	**1**	**5/17/23 15:07**
Manganese	**193**		**0.0385**	**0.310**	**mg/kg**	**1**	**5/17/23 15:07**
Nickel	**17.7**		**0.0272**	**0.155**	**mg/kg**	**1**	**5/17/23 15:07**
Potassium	**1280**		**36.8**	**124**	**mg/kg**	**1**	**5/17/23 15:07**

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503** Collected: **5/3/2023 11:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.297	1.55	mg/kg	1	5/17/23 15:07	
Silver	**0.533**		**0.0526**	**0.186**	**mg/kg**	**1**	**5/17/23 15:07**	J, RC:6L
Sodium	**2920**		**5.90**	**61.9**	**mg/kg**	**1**	**5/17/23 15:07**	
Thallium	ND	U	0.104	1.55	mg/kg	1	5/17/23 15:07	
Vanadium	**23.3**		**0.0712**	**0.619**	**mg/kg**	**1**	**5/17/23 15:07**	
Zinc	**1950**	D	**0.945**	**9.29**	**mg/kg**	**10**	**5/17/23 15:29**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000733	0.00160	mg/kg	1	5/12/23 18:18	
4,4'-DDE [2C]	**0.000961**	J	**0.000876**	**0.00160**	**mg/kg**	**1**	**5/12/23 18:18**	J, RC:3H
4,4'-DDT	ND	U	0.00113	0.00160	mg/kg	1	5/12/23 18:18	
Aldrin	ND	U	0.000759	0.00160	mg/kg	1	5/12/23 18:18	
alpha-BHC	ND	U	0.000477	0.00160	mg/kg	1	5/12/23 18:18	
beta-BHC	ND	U	0.000765	0.00160	mg/kg	1	5/12/23 18:18	
Chlordane	ND	U	0.000712	0.00160	mg/kg	1	5/12/23 18:18	
delta-BHC	ND	U	0.000744	0.00160	mg/kg	1	5/12/23 18:18	
Dieldrin	ND	U	0.000838	0.00160	mg/kg	1	5/12/23 18:18	
Endosulfan I	ND	U	0.000756	0.00160	mg/kg	1	5/12/23 18:18	
Endosulfan II	ND	U	0.000728	0.00160	mg/kg	1	5/12/23 18:18	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000602	0.00160	mg/kg	1	5/12/23 18:18	
Endosulfans, Total (alpha and beta)	ND	U	0.000728	0.00160	mg/kg	1	5/12/23 18:18	
Endrin	ND	U	0.000553	0.00160	mg/kg	1	5/12/23 18:18	
Endrin aldehyde	ND	U	0.000638	0.00160	mg/kg	1	5/12/23 18:18	
Endrin ketone	ND	U	0.000564	0.00160	mg/kg	1	5/12/23 18:18	
gamma-BHC (Lindane)	ND	U	0.000508	0.00160	mg/kg	1	5/12/23 18:18	
Heptachlor	ND	U	0.000429	0.00160	mg/kg	1	5/12/23 18:18	
Heptachlor Epoxide	ND	U	0.000808	0.00160	mg/kg	1	5/12/23 18:18	
Methoxychlor	ND	U	0.000469	0.00160	mg/kg	1	5/12/23 18:18	
Toxaphene	ND	U	0.0771	0.0813	mg/kg	1	5/12/23 18:18	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00463	0.0410	mg/kg	1	5/9/23 22:22	UJ, RC:SL
2,3,4,6-Tetrachlorophenol	ND	U	0.0253	0.164	mg/kg	1	5/9/23 22:22	
2,4,5-Trichlorophenol	ND	U	0.0223	0.164	mg/kg	1	5/9/23 22:22	
2,4,6-Trichlorophenol	ND	U	0.0103	0.164	mg/kg	1	5/9/23 22:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503** Collected: **5/3/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0165	0.164	mg/kg	1	5/9/23 22:22	
2,4-Dimethylphenol	ND	U	0.0161	0.164	mg/kg	1	5/9/23 22:22	
2,4-Dinitrophenol	ND	U	0.0237	0.822	mg/kg	1	5/9/23 22:22	R,RC:6L
2,4-Dinitrotoluene	ND	U	0.0175	0.164	mg/kg	1	5/9/23 22:22	
2,6-Dinitrotoluene	ND	U	0.0392	0.164	mg/kg	1	5/9/23 22:22	
2-Chloronaphthalene	ND	U	0.0188	0.164	mg/kg	1	5/9/23 22:22	
2-Chlorophenol	ND	U	0.0217	0.164	mg/kg	1	5/9/23 22:22	
2-Methylnaphthalene	**0.0767**	J	**0.0393**	**0.246**	**mg/kg**	**1**	**5/9/23 22:22**	
2-Methylphenol	ND	U	0.0324	0.164	mg/kg	1	5/9/23 22:22	
2-Nitroaniline	ND	U	0.0132	0.164	mg/kg	1	5/9/23 22:22	
2-Nitrophenol	ND	U	0.0182	0.164	mg/kg	1	5/9/23 22:22	
3,3'-Dichlorobenzidine	ND	U	0.0172	0.164	mg/kg	1	5/9/23 22:22	
3+4-Methylphenol	ND	U	0.0301	0.164	mg/kg	1	5/9/23 22:22	
3-Nitroaniline	ND	U	0.0304	0.164	mg/kg	1	5/9/23 22:22	
4,6-Dinitro-2-methylphenol	ND	U	0.0309	0.410	mg/kg	1	5/9/23 22:22	
4-Bromophenyl-phenyl ether	ND	U	0.0234	0.164	mg/kg	1	5/9/23 22:22	
4-Chloro-3-methylphenol	ND	U	0.0259	0.164	mg/kg	1	5/9/23 22:22	
4-Chloroaniline	ND	U	0.00574	0.164	mg/kg	1	5/9/23 22:22	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00886	0.164	mg/kg	1	5/9/23 22:22	
4-Nitroaniline	ND	U	0.0820	0.164	mg/kg	1	5/9/23 22:22	
4-Nitrophenol	ND	U	0.0105	0.164	mg/kg	1	5/9/23 22:22	
Acenaphthene	**0.128**	J	**0.00935**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Acenaphthylene	**0.307**		**0.00570**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Acetophenone	ND	U	0.0163	0.164	mg/kg	1	5/9/23 22:22	
Anthracene	**0.407**		**0.0238**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Atrazine	ND	U	0.0154	0.164	mg/kg	1	5/9/23 22:22	
Benzaldehyde	ND	U	0.0504	0.164	mg/kg	1	5/9/23 22:22	UJ, RC:SL
Benzo(a)anthracene	**1.52**		**0.0165**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Benzo(a)pyrene	**1.70**		**0.0286**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Benzo(b)fluoranthene	**2.23**		**0.0230**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Benzo(g,h,i)perylene	**1.06**		**0.0133**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Benzo(k)fluoranthene	**0.694**		**0.0188**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Biphenyl	**0.0357**	J	**0.0144**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
bis(2-chloroethoxy)methane	ND	U	0.0227	0.164	mg/kg	1	5/9/23 22:22	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0180	0.164	mg/kg	1	5/9/23 22:22	
bis(2-chloroisopropyl)ether	ND	U	0.0590	0.164	mg/kg	1	5/9/23 22:22	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0328	0.164	mg/kg	1	5/9/23 22:22	
Butylbenzylphthalate	ND	U	0.0149	0.164	mg/kg	1	5/9/23 22:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503** Collected: **5/3/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0212	0.164	mg/kg	1	5/9/23 22:22	
Carbazole	**0.213**	J	**0.0315**	**0.410**	**mg/kg**	**1**	**5/9/23 22:22**	
Chrysene	**1.63**		**0.0112**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Dibenzo(a,h)anthracene	**0.268**		**0.0163**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Dibenzofuran	**0.0862**	J	**0.00977**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Diethylphthalate	ND	U	0.0318	0.164	mg/kg	1	5/9/23 22:22	
Dimethylphthalate	ND	U	0.0102	0.164	mg/kg	1	5/9/23 22:22	
Di-n-butylphthalate	ND	U	0.0670	0.164	mg/kg	1	5/9/23 22:22	
Di-n-octylphthalate	ND	U	0.0336	0.164	mg/kg	1	5/9/23 22:22	
Fluoranthene	**3.47**		**0.0154**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Fluorene	**0.112**	J	**0.0137**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Hexachlorobenzene	ND	U	0.0214	0.164	mg/kg	1	5/9/23 22:22	
Hexachlorobutadiene	ND	U	0.0787	0.164	mg/kg	1	5/9/23 22:22	
Hexachlorocyclopentadiene	ND	U	0.0684	0.410	mg/kg	1	5/9/23 22:22	UJ, RC:SL
Hexachloroethane	ND	U	0.0180	0.164	mg/kg	1	5/9/23 22:22	
Indeno(1,2,3-cd)pyrene	**0.836**		**0.0176**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Isophorone	ND	U	0.0107	0.164	mg/kg	1	5/9/23 22:22	
Naphthalene	**0.0933**	J	**0.0121**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Nitrobenzene	ND	U	0.0278	0.164	mg/kg	1	5/9/23 22:22	
n-Nitroso-di-n-propylamine	ND	U	0.00878	0.164	mg/kg	1	5/9/23 22:22	
n-Nitrosodiphenylamine	ND	U	0.0350	0.164	mg/kg	1	5/9/23 22:22	
Pentachlorophenol	ND	U	0.0225	0.410	mg/kg	1	5/9/23 22:22	
Phenanthrene	**2.01**		**0.0216**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	
Phenol	ND	U	0.0133	0.164	mg/kg	1	5/9/23 22:22	UJ, RC:SL
Pyrene	**2.81**		**0.0121**	**0.164**	**mg/kg**	**1**	**5/9/23 22:22**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	124	5.15	J	mg/kg	1	5/9/23 22:22
unknown (01)	2.55	5.86	J	mg/kg	1	5/9/23 22:22
unknown (02)	3.93	13.95	J	mg/kg	1	5/9/23 22:22
TIC Total	**131**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503** Collected: **5/3/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000749	0.00513	mg/kg	1	5/10/23 18:40	
1,1,2,2-Tetrachloroethane	ND	U	0.000708	0.00513	mg/kg	1	5/10/23 18:40	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00220	0.00513	mg/kg	1	5/10/23 18:40	
1,1,2-Trichloroethane	ND	U	0.000865	0.00513	mg/kg	1	5/10/23 18:40	
1,1-Dichloroethane	ND	U	0.000749	0.00513	mg/kg	1	5/10/23 18:40	
1,1-Dichloroethene	ND	U	0.000950	0.00513	mg/kg	1	5/10/23 18:40	
1,2,3-Trichlorobenzene	ND	U	0.00111	0.00513	mg/kg	1	5/10/23 18:40	
1,2,4-Trichlorobenzene	ND	U	0.00137	0.00513	mg/kg	1	5/10/23 18:40	
1,2,4-Trimethylbenzene	ND	U	0.000708	0.00513	mg/kg	1	5/10/23 18:40	
1,2-Dibromo-3-chloropropane	ND	U	0.00125	0.0128	mg/kg	1	5/10/23 18:40	
1,2-Dibromoethane	ND	U	0.000647	0.00513	mg/kg	1	5/10/23 18:40	
1,2-Dichlorobenzene	ND	U	0.000906	0.00513	mg/kg	1	5/10/23 18:40	
1,2-Dichloroethane	ND	U	0.000724	0.00513	mg/kg	1	5/10/23 18:40	
1,2-Dichloropropane	ND	U	0.000842	0.00513	mg/kg	1	5/10/23 18:40	
1,3-Dichlorobenzene	ND	U	0.000377	0.00513	mg/kg	1	5/10/23 18:40	
1,4-Dichlorobenzene	ND	U	0.000739	0.00513	mg/kg	1	5/10/23 18:40	
2-Butanone	ND	U	0.000837	0.0257	mg/kg	1	5/10/23 18:40	
2-Hexanone	ND	U	0.000480	0.00513	mg/kg	1	5/10/23 18:40	
4-Methyl-2-pentanone	ND	U	0.000642	0.00513	mg/kg	1	5/10/23 18:40	
Acetone	ND	U	0.00156	0.128	mg/kg	1	5/10/23 18:40	
Benzene	ND	U	0.000467	0.00513	mg/kg	1	5/10/23 18:40	
Bromochloromethane	ND	U	0.000947	0.00513	mg/kg	1	5/10/23 18:40	
Bromodichloromethane	ND	U	0.000644	0.00513	mg/kg	1	5/10/23 18:40	
Bromoform	ND	U	0.000901	0.00513	mg/kg	1	5/10/23 18:40	
Bromomethane	ND	U	0.00148	0.00513	mg/kg	1	5/10/23 18:40	
Carbon disulfide	ND	U	0.000737	0.00513	mg/kg	1	5/10/23 18:40	
Carbon Tetrachloride	ND	U	0.000772	0.00513	mg/kg	1	5/10/23 18:40	
Chlorobenzene	ND	U	0.000744	0.00513	mg/kg	1	5/10/23 18:40	
Chlorodibromomethane	ND	U	0.000631	0.00513	mg/kg	1	5/10/23 18:40	
Chloroethane	ND	U	0.000875	0.00513	mg/kg	1	5/10/23 18:40	
Chloroform	ND	U	0.000862	0.00513	mg/kg	1	5/10/23 18:40	
Chloromethane	ND	U	0.00198	0.00513	mg/kg	1	5/10/23 18:40	
cis-1,2-Dichloroethene	ND	U	0.000248	0.00513	mg/kg	1	5/10/23 18:40	
cis-1,3-Dichloropropene	ND	U	0.000649	0.00513	mg/kg	1	5/10/23 18:40	
Cyclohexane	ND	U	0.00114	0.00513	mg/kg	1	5/10/23 18:40	
Dichlorodifluoromethane	ND	U	0.00173	0.00513	mg/kg	1	5/10/23 18:40	UJ, RC:SL
EthylBenzene	ND	U	0.000695	0.00513	mg/kg	1	5/10/23 18:40	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-02 (Soil) Sample Name: **OH-SB-60-1.0-2.0_20230503** Collected: **5/3/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000806	0.00513	mg/kg	1	5/10/23 18:40
m+p-Xylenes	ND	U	0.00130	0.0103	mg/kg	1	5/10/23 18:40
Methyl Acetate	ND	U	0.000680	0.00513	mg/kg	1	5/10/23 18:40
Methyl tert-Butyl Ether	ND	U	0.000867	0.00513	mg/kg	1	5/10/23 18:40
Methylcyclohexane	ND	U	0.000826	0.00513	mg/kg	1	5/10/23 18:40
Methylene Chloride	ND	U	0.00154	0.0128	mg/kg	1	5/10/23 18:40
o-Xylene	ND	U	0.000660	0.00513	mg/kg	1	5/10/23 18:40
Styrene	ND	U	0.000734	0.00513	mg/kg	1	5/10/23 18:40
tert-Butyl alcohol	ND	U	0.0108	0.0513	mg/kg	1	5/10/23 18:40
Tetrachloroethene	ND	U	0.000508	0.00513	mg/kg	1	5/10/23 18:40
Toluene	ND	U	0.000413	0.00513	mg/kg	1	5/10/23 18:40
Total Xylenes	ND	U	0.000660	0.00513	mg/kg	1	5/10/23 18:40
trans-1,2-Dichloroethene	ND	U	0.000695	0.00513	mg/kg	1	5/10/23 18:40
trans-1,3-Dichloropropene	ND	U	0.000980	0.00513	mg/kg	1	5/10/23 18:40
Trichloroethene	ND	U	0.000755	0.00513	mg/kg	1	5/10/23 18:40
Trichlorofluoromethane	ND	U	0.000590	0.00513	mg/kg	1	5/10/23 18:40
Vinyl chloride	ND	U	0.000975	0.00513	mg/kg	1	5/10/23 18:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
.beta.-Pinene	0.0426	16.70	J	mg/kg	1	5/10/23 18:40
1R-.alpha.-Pinene	0.0851	15.56	J	mg/kg	1	5/10/23 18:40
TIC Total	**0.128**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.2**				**%**	**1**	**5/4/23 11:04**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**1.62**		**0.00783**	**0.0657**	**mg/kg**	**1**	**5/8/23 12:43**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-03 (Ground Water) Sample Name: **FB_20230503** Collected: **5/3/2023 11:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/14/23 13:19
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/14/23 13:19
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/14/23 13:19
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/14/23 13:19
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/14/23 13:19
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/14/23 13:19
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/14/23 13:19
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/14/23 13:19
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/14/23 13:19
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/14/23 13:19

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/6/23 13:30
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/6/23 13:30
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/6/23 13:30

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/10/23 15:08

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/12/23 13:51
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/12/23 13:51
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/12/23 13:51
Barium	ND	U	0.000558	0.0200	mg/L	1	5/12/23 13:51
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/12/23 13:51
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/12/23 13:51
Calcium	ND	U	0.256	1.00	mg/L	1	5/12/23 13:51
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/12/23 13:51
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/12/23 13:51
Copper	ND	U	0.00177	0.0100	mg/L	1	5/12/23 13:51
Iron	ND	U	0.0580	0.200	mg/L	1	5/12/23 13:51
Lead	ND	U	0.00510	0.0500	mg/L	1	5/12/23 13:51
Magnesium	ND	U	0.681	2.00	mg/L	1	5/12/23 13:51
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/12/23 13:51
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/12/23 13:51
Potassium	ND	U	2.41	4.00	mg/L	1	5/12/23 13:51

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-03 (Ground Water) Sample Name: **FB_20230503** Collected: **5/3/2023 11:30:00AM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/12/23 13:51
Silver	ND	U	0.00465	0.0200	mg/L	1	5/12/23 13:51
Sodium	ND	U	0.205	2.00	mg/L	1	5/12/23 13:51
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/12/23 13:51
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/12/23 13:51
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/12/23 13:51

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/11/23 17:08	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/11/23 17:08	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/11/23 17:08	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/11/23 17:08	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/11/23 17:08	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/11/23 17:08	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/11/23 17:08	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/11/23 17:08	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/11/23 17:08	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/11/23 17:08	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/11/23 17:08	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/11/23 17:08	
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/11/23 17:08	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/11/23 17:08	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/11/23 17:08	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/11/23 17:08	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/11/23 17:08	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/11/23 17:08	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/11/23 17:08	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/11/23 17:08	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/12/23 22:34	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/12/23 22:34	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/12/23 22:34	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/12/23 22:34	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/12/23 22:34	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/12/23 22:34	R,RC:6L
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/12/23 22:34	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-03 (Ground Water) Sample Name: **FB_20230503** Collected: **5/3/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/12/23 22:34	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/12/23 22:34	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/12/23 22:34	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/12/23 22:34	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/12/23 22:34	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/12/23 22:34	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/12/23 22:34	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/12/23 22:34	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/12/23 22:34	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/12/23 22:34	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/12/23 22:34	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/12/23 22:34	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/12/23 22:34	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/12/23 22:34	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/12/23 22:34	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/12/23 22:34	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/12/23 22:34	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/12/23 22:34	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/12/23 22:34	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/12/23 22:34	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/12/23 22:34	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/12/23 22:34	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/12/23 22:34	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/12/23 22:34	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/12/23 22:34	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/12/23 22:34	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/12/23 22:34	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/12/23 22:34	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/12/23 22:34	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/12/23 22:34	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/12/23 22:34	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/12/23 22:34	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/12/23 22:34	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/12/23 22:34	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/12/23 22:34	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/12/23 22:34	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/12/23 22:34	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/12/23 22:34	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/12/23 22:34	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-03 (Ground Water) Sample Name: **FB_20230503** Collected: **5/3/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/12/23 22:34	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/12/23 22:34	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/12/23 22:34	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/12/23 22:34	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/12/23 22:34	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/12/23 22:34	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/12/23 22:34	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/12/23 22:34	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/12/23 22:34	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/12/23 22:34	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/12/23 22:34	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/9/23 14:30
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/9/23 14:30
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/9/23 14:30
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/9/23 14:30
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/9/23 14:30
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/9/23 14:30
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/9/23 14:30
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/9/23 14:30
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/9/23 14:30
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/9/23 14:30
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/9/23 14:30
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/9/23 14:30
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/9/23 14:30
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/9/23 14:30
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/9/23 14:30
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/9/23 14:30
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/9/23 14:30
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/9/23 14:30
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/9/23 14:30
Acetone	ND	U	10.0	10.0	ug/L	1	5/9/23 14:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-03 (Ground Water) Sample Name: **FB_20230503** Collected: **5/3/2023 11:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzene	ND	U	0.129	1.00	ug/L	1	5/9/23 14:30	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/9/23 14:30	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/9/23 14:30	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/9/23 14:30	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/9/23 14:30	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/9/23 14:30	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/9/23 14:30	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/9/23 14:30	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/9/23 14:30	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/9/23 14:30	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/9/23 14:30	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/9/23 14:30	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/9/23 14:30	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/9/23 14:30	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/9/23 14:30	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/9/23 14:30	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/9/23 14:30	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/9/23 14:30	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/9/23 14:30	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/9/23 14:30	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/9/23 14:30	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/9/23 14:30	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/9/23 14:30	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/9/23 14:30	
Styrene	ND	U	0.176	1.00	ug/L	1	5/9/23 14:30	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/9/23 14:30	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/9/23 14:30	
Toluene	ND	U	0.205	1.00	ug/L	1	5/9/23 14:30	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/9/23 14:30	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/9/23 14:30	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/9/23 14:30	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/9/23 14:30	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/9/23 14:30	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/9/23 14:30	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-03 (Ground Water) Sample Name: **FB_20230503** Collected: **5/3/2023 11:30:00AM**

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/9/23 16:17

23E0181-04 (Ground Water) Sample Name: **TB_20230503** Collected: **5/3/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/9/23 14:56	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/9/23 14:56	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/9/23 14:56	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/9/23 14:56	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/9/23 14:56	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/9/23 14:56	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/9/23 14:56	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/9/23 14:56	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/9/23 14:56	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/9/23 14:56	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/9/23 14:56	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/9/23 14:56	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/9/23 14:56	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/9/23 14:56	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/9/23 14:56	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/9/23 14:56	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/9/23 14:56	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/9/23 14:56	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/9/23 14:56	
Acetone	ND	U	10.0	10.0	ug/L	1	5/9/23 14:56	
Benzene	ND	U	0.129	1.00	ug/L	1	5/9/23 14:56	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/9/23 14:56	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/9/23 14:56	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/9/23 14:56	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/9/23 14:56	RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/9/23 14:56	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/9/23 14:56	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/9/23 14:56	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/9/23 14:56	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/9/23 14:56	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/9/23 14:56	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0181
Date to Lab: 5/3/2023 2:04:00PM

23E0181-04 (Ground Water) Sample Name: **TB_20230503** Collected: **5/3/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/9/23 14:56	UJ, RC:3L
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/9/23 14:56	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/9/23 14:56	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/9/23 14:56	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/9/23 14:56	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/9/23 14:56	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/9/23 14:56	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/9/23 14:56	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/9/23 14:56	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/9/23 14:56	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/9/23 14:56	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/9/23 14:56	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/9/23 14:56	
Styrene	ND	U	0.176	1.00	ug/L	1	5/9/23 14:56	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/9/23 14:56	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/9/23 14:56	
Toluene	ND	U	0.205	1.00	ug/L	1	5/9/23 14:56	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/9/23 14:56	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/9/23 14:56	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/9/23 14:56	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/9/23 14:56	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/9/23 14:56	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/9/23 14:56	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2323973
Project Name	: 23E0029	Project Number	: 23E0029
Lab ID	: L2323973-01	Date Collected	: 05/01/23 11:15
Client ID	: OH-SB-50-1.0-2.0-05012023	Date Received	: 05/02/23
Sample Location	:	Date Analyzed	: 05/12/23 23:18
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102317	Analyst	: CNC
Sample Amount	: 1.4 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	714	52.7	15.1	
91-20-3C1	C1-Naphthalenes	482	52.7	15.1	
91-20-3C2	C2-Naphthalenes	870	52.7	15.1	
91-20-3C3	C3-Naphthalenes	989	52.7	15.1	
91-20-3C4	C4-Naphthalenes	614	52.7	15.1	
208-96-8	Acenaphthylene	1300	52.7	10.0	
83-32-9	Acenaphthene	1590	52.7	9.28	
86-73-7	Fluorene	1270	52.7	14.0	
86-73-7C1	C1-Fluorenes	625	52.7	14.0	
86-73-7C2	C2-Fluorenes	941	52.7	14.0	
86-73-7C3	C3-Fluorenes	1570	52.7	14.0	
85-01-8	Phenanthrene	21300	52.7	17.4	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	4880	52.7	17.4	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	2800	52.7	17.4	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1280	52.7	17.4	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	498	52.7	17.4	
120-12-7	Anthracene	4000	52.7	10.8	
206-44-0	Fluoranthene	17400	52.7	16.7	
129-00-0	Pyrene	17000	52.7	13.8	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	6720	52.7	13.8	
56-55-3	Benz(a)anthracene	10600	52.7	10.7	J, RC:Q
218-01-9	Chrysene	10500	52.7	10.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2323973
Project Name	: 23E0029	Project Number	: 23E0029
Lab ID	: L2323973-01	Date Collected	: 05/01/23 11:15
Client ID	: OH-SB-50-1.0-2.0-05012023	Date Received	: 05/02/23
Sample Location	:	Date Analyzed	: 05/12/23 23:18
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102317	Analyst	: CNC
Sample Amount	: 1.4 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	3910	52.7	10.6	
218-01-9C2	C2-Chrysenes BS	1890	52.7	10.6	
218-01-9C3	C3-Chrysenes	1530	52.7	10.6	
218-01-9C4	C4-Chrysenes	1200	52.7	10.6	
205-99-2	Benzo(b)fluoranthene	8330	52.7	13.7	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	8020	52.7	10.4	
192-97-2	Benzo(e)pyrene	6310	52.7	10.9	
50-32-8	Benzo(a)pyrene	10700	52.7	15.0	
198-55-0	Perylene	2720	52.7	10.2	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	6350	52.7	14.3	J, RC:Q,SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1620	52.7	14.2	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	6550	52.7	14.0	J, RC:Q

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325081
Project Name	: 23E0181	Project Number	: 23E0181
Lab ID	: L2325081-01	Date Collected	: 05/03/23 08:00
Client ID	: OH-SB-51-1.0-2.0-20230503	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 00:42
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102318	Analyst	: CNC
Sample Amount	: 2.51 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 89
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	1990	20.6	5.93	
91-20-3C1	C1-Naphthalenes	939	20.6	5.93	
91-20-3C2	C2-Naphthalenes	1060	20.6	5.93	
91-20-3C3	C3-Naphthalenes	952	20.6	5.93	
91-20-3C4	C4-Naphthalenes	479	20.6	5.93	
208-96-8	Acenaphthylene	684	20.6	3.94	
83-32-9	Acenaphthene	1430	20.6	3.64	
86-73-7	Fluorene	1100	20.6	5.50	
86-73-7C1	C1-Fluorenes	428	20.6	5.50	
86-73-7C2	C2-Fluorenes	954	20.6	5.50	
86-73-7C3	C3-Fluorenes	1180	20.6	5.50	
85-01-8	Phenanthrene	12900	20.6	6.84	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	2990	20.6	6.84	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1980	20.6	6.84	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	926	20.6	6.84	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	352	20.6	6.84	
120-12-7	Anthracene	2760	20.6	4.25	
206-44-0	Fluoranthene	8090	20.6	6.56	
129-00-0	Pyrene	7980	20.6	5.43	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	3260	20.6	5.43	
56-55-3	Benz(a)anthracene	5970	20.6	4.21	J, RC:Q
218-01-9	Chrysene	6100	20.6	4.17	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325081
Project Name	: 23E0181	Project Number	: 23E0181
Lab ID	: L2325081-01	Date Collected	: 05/03/23 08:00
Client ID	: OH-SB-51-1.0-2.0-20230503	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 00:42
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102318	Analyst	: CNC
Sample Amount	: 2.51 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 89
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	2730	20.6	4.17	
218-01-9C2	C2-Chrysenes BS	1530	20.6	4.17	
218-01-9C3	C3-Chrysenes	1250	20.6	4.17	
218-01-9C4	C4-Chrysenes	916	20.6	4.17	
205-99-2	Benzo(b)fluoranthene	4750	20.6	5.37	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	4800	20.6	4.10	
192-97-2	Benzo(e)pyrene	3770	20.6	4.26	
50-32-8	Benzo(a)pyrene	6150	20.6	5.89	
198-55-0	Perylene	1560	20.6	3.98	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	3750	20.6	5.60	J, RC:Q,SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1040	20.6	5.57	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	3980	20.6	5.48	J, RC:Q

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325081
Project Name	: 23E0181	Project Number	: 23E0181
Lab ID	: L2325081-02	Date Collected	: 05/03/23 11:00
Client ID	: OH-SB-60-1.0-2.0-20230503	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 03:31
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102320	Analyst	: CNC
Sample Amount	: 25.69 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	230	2.51	0.723	
91-20-3C1	C1-Naphthalenes	199	2.51	0.723	
91-20-3C2	C2-Naphthalenes	224	2.51	0.723	
91-20-3C3	C3-Naphthalenes	190	2.51	0.723	
91-20-3C4	C4-Naphthalenes	115	2.51	0.723	
208-96-8	Acenaphthylene	166	2.51	0.480	
83-32-9	Acenaphthene	85.4	2.51	0.443	
86-73-7	Fluorene	78.2	2.51	0.671	
86-73-7C1	C1-Fluorenes	60.8	2.51	0.671	
86-73-7C2	C2-Fluorenes	172	2.51	0.671	
86-73-7C3	C3-Fluorenes	298	2.51	0.671	
85-01-8	Phenanthrene	1650	2.51	0.833	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	544	2.51	0.833	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	431	2.51	0.833	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	236	2.51	0.833	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	110	2.51	0.833	
120-12-7	Anthracene	273	2.51	0.518	
206-44-0	Fluoranthene	1640	2.51	0.799	
129-00-0	Pyrene	1560	2.51	0.661	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	675	2.51	0.661	
56-55-3	Benz(a)anthracene	1330	2.51	0.513	J, RC:Q
218-01-9	Chrysene	1580	2.51	0.508	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325081
Project Name	: 23E0181	Project Number	: 23E0181
Lab ID	: L2325081-02	Date Collected	: 05/03/23 11:00
Client ID	: OH-SB-60-1.0-2.0-20230503	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 03:31
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102320	Analyst	: CNC
Sample Amount	: 25.69 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 77
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	726	2.51	0.508	
218-01-9C2	C2-Chrysenes BS	432	2.51	0.508	
218-01-9C3	C3-Chrysenes	335	2.51	0.508	
218-01-9C4	C4-Chrysenes	199	2.51	0.508	
205-99-2	Benzo(b)fluoranthene	1820	2.51	0.654	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1410	2.51	0.499	
192-97-2	Benzo(e)pyrene	1300	2.51	0.519	
50-32-8	Benzo(a)pyrene	1820	2.51	0.718	
198-55-0	Perylene	479	2.51	0.485	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	1350	2.51	0.682	J, RC:Q,SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	364	2.51	0.679	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	1440	2.51	0.668	J, RC:Q

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325082
Project Name	: 23E0109	Project Number	: 23E0109
Lab ID	: L2325082-01	Date Collected	: 05/02/23 10:40
Client ID	: OH-SB-52-1.0-2.0-20230502	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 04:55
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102321	Analyst	: CNC
Sample Amount	: 5.11 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 89
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	357	6.57	1.89	
91-20-3C1	C1-Naphthalenes	261	6.57	1.89	
91-20-3C2	C2-Naphthalenes	418	6.57	1.89	
91-20-3C3	C3-Naphthalenes	393	6.57	1.89	
91-20-3C4	C4-Naphthalenes	224	6.57	1.89	
208-96-8	Acenaphthylene	1810	6.57	1.25	
83-32-9	Acenaphthene	86.3	6.57	1.16	
86-73-7	Fluorene	78.3	6.57	1.75	
86-73-7C1	C1-Fluorenes	178	6.57	1.75	
86-73-7C2	C2-Fluorenes	749	6.57	1.75	
86-73-7C3	C3-Fluorenes	781	6.57	1.75	
85-01-8	Phenanthrene	1230	6.57	2.18	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1290	6.57	2.18	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1470	6.57	2.18	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	810	6.57	2.18	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	279	6.57	2.18	
120-12-7	Anthracene	430	6.57	1.35	
206-44-0	Fluoranthene	1630	6.57	2.09	
129-00-0	Pyrene	2700	6.57	1.73	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2310	6.57	1.73	
56-55-3	Benz(a)anthracene	3160	6.57	1.34	J, RC:Q
218-01-9	Chrysene	3890	6.57	1.33	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325082
Project Name	: 23E0109	Project Number	: 23E0109
Lab ID	: L2325082-01	Date Collected	: 05/02/23 10:40
Client ID	: OH-SB-52-1.0-2.0-20230502	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 04:55
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102321	Analyst	: CNC
Sample Amount	: 5.11 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 89
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	3150	6.57	1.33	
218-01-9C2	C2-Chrysenes BS	1540	6.57	1.33	
218-01-9C3	C3-Chrysenes	632	6.57	1.33	
218-01-9C4	C4-Chrysenes	445	6.57	1.33	
205-99-2	Benzo(b)fluoranthene	3150	6.57	1.71	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3260	6.57	1.30	
192-97-2	Benzo(e)pyrene	3540	6.57	1.35	
50-32-8	Benzo(a)pyrene	2840	6.57	1.87	
198-55-0	Perylene	700	6.57	1.27	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	3100	6.57	1.78	J, RC:Q,SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	977	6.57	1.77	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	4320	6.57	1.74	J, RC:Q

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2323973
Project Name	: 23E0029	**Project Number**	: 23E0029
Lab ID	: L2323973-01	**Date Collected**	: 05/01/23 11:15
Client ID	: OH-SB-50-1.0-2.0-05012023	**Date Received**	: 05/02/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325081
Project Name	: 23E0181	**Project Number**	: 23E0181
Lab ID	: L2325081-01	**Date Collected**	: 05/03/23 08:00
Client ID	: OH-SB-51-1.0-2.0-20230503	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 89
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325081
Project Name	: 23E0181	**Project Number**	: 23E0181
Lab ID	: L2325081-02	**Date Collected**	: 05/03/23 11:00
Client ID	: OH-SB-60-1.0-2.0-20230503	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 77
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325082
Project Name	: 23E0109	**Project Number**	: 23E0109
Lab ID	: L2325082-01	**Date Collected**	: 05/02/23 10:40
Client ID	: OH-SB-52-1.0-2.0-20230502	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 89
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2325085 and 23E0281
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: October 18, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-58_2.0-3.0-20230504	23E0281-01	05/04/2023	Soil
FB-20230504	23E0281-02	05/04/2023	Water
TB-20230504	23E0281-03	05/04/2023	Water
OH-SB-58_3.0-4.0-20230504	23E0281-04	05/04/2023	Soil
OH-SB-53_1.0-2.0-20230504	23E0281-05	05/04/2023	Soil
OH-SB-53_3.0-4.0-20230504	23E0281-06	05/04/2023	Soil

Data validation was performed on the analytical data for six (6) samples collected on May 4, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, laboratory control samples, and method blank.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample FB-20230504 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	FB-20230504 TB-20230504	4-Bromofluorobenzene	%R < CL	UJ	3L

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230504	1,2,4-Trichlorobenzene	%R < CL	UJ	6L
	TB-20230504	Bromomethane	%R < CL	UJ	6L

- Compounds not listed were above control limits; where LCS/LCSD percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230504	1,2,4-Trichlorobenzene	CCV %D > 20% (decrease in response)	UJ	SL
	OH-SB-58_2.0-3.0-20230504 OH-SB-58_3.0-4.0-20230504	Dichlorodifluoromethane			
	OH-SB-53_1.0-2.0-20230504 OH-SB-53_3.0-4.0-20230504	Acetone Dichlorodifluoromethane			

- Compounds not listed were above control limits; where CCV percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Reporting Limits and Compound Quantitation

- Analyte detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester and Octadecanoic acid, butyl ester. The sample detections were less than five times the method blank detection and qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample

results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	OH-SB-58_2.0-3.0-20230504 OH-SB-58_3.0-4.0-20230504 OH-SB-53_1.0-2.0-20230504 OH-SB-53_3.0-4.0-20230504	Benz[a]anthracene	%RSD >20%	UJ/J	Q
		Perylene			
		Indeno[1,2,3-cd]pyrene			
		Dibenz[ah] & [a,c]anthracene			
		Benzo[g,h,i]perylene			

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	0H-SB-58_2.0-3.0-20230504	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	0H-SB-58_2.0-3.0-20230504	1,4-Dioxane Benzaldehyde 4-Chloroaniline bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	0H-SB-58_3.0-4.0-20230504 0H-SB-53_1.0-2.0-20230504 0H-SB-53_3.0-4.0-20230504	Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	FB-20230504	4-Nitrophenol Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

- Other compounds not listed were above control limits; where CCV percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.
- The SVOC Tune Summary and CCV summary were missing for Sequence SAE0273, which affects samples 23E0281-04, 23E0281-05 and 23E0281-06. This information was later provided by the laboratory and evaluated as a calibration addendum

Reporting Limits and Compound Quantitation

- Analyte detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Method 8082: Surrogates exhibited acceptable recoveries except for the following: Decachlorobiphenyl associated with sample OH-SB-58_3.0-4.0-20230504 was below control limits on the primary column. Associated non-detect results are qualified as estimated, UJ, reason code 3L.
- Method 8081: Surrogates exhibited acceptable recoveries except for the following: Decachlorobiphenyl recoveries associated with all soil samples were above control limits on the secondary column. Associated samples results were non-detect, except one detection for 4,4'-DDE reported from the primary column.

Laboratory Control Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	OH-SB-58_2.0-3.0-20230504 OH-SB-58_3.0-4.0-20230504 OH-SB-53_1.0-2.0-20230504 OH-SB-53_3.0-4.0-20230504	Endosulfan II	%R < CL	UJ	6L

- Other compounds not listed were above control limits; where LCS/LCSD percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated soil samples had detections for aluminum and iron. Sample detections are greater than five times the detections in the method blank. No qualification was required.
- The field blank was logged in for ICP analysis but was mistakenly analyzed by ICP-MS (EPA 200.8) for certain metals. The full analysis by ICP (EPA 200.7) was later provided by the laboratory and evaluated as an addendum to the report.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-58_2.0-3.0-20230504 OH-SB-58_3.0-4.0-20230504 OH-SB-53_1.0-2.0-20230504 OH-SB-53_3.0-4.0-20230504	Silver	%R < CL	UJ	6L

6010D	FB-20230504	Aluminum	%R > CL	ND (No Action)	NA
		Iron	%R > CL	ND (No Action)	NA

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Compound Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Dated: October 18, 2023 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0281

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jul 29, 2023

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APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E0281

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-58_2.0-3.0-20230504	23E0281-01	Soil	05/04/2023 08:30	05/04/2023 18:14
FB_20230504	23E0281-02	Ground Water	05/04/2023 09:00	05/04/2023 18:14
TB_20230504	23E0281-03	Ground Water	05/04/2023 00:00	05/04/2023 18:14
OH-SB-58_3.0-4.0-20230504	23E0281-04	Soil	05/04/2023 09:20	05/04/2023 18:14
OH-SB-53_1.0-2.0-20230504	23E0281-05	Soil	05/04/2023 11:20	05/04/2023 18:14
OH-SB-53_3.0-4.0-20230504	23E0281-06	Soil	05/04/2023 11:45	05/04/2023 18:14

PN: 23E0281

APL 23E0281

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yn and Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive	ADDRESS: " "
Elmwood Park NJ 07467	" "
PHONE: 201-773-9621	PHONE: " "
E-MAIL: SWang@Yn-Associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MHM, HAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

- NY State Category B

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0281-01	OH-SB-58_0.0-3.0_20230504	5/4/2023	830	X		S	5	DI MeOH 5ml	VOC, SVOC, PCB, Pest, Herb, TAL Metals, TCN, FCN, Alk PAHs by 8270 SIM
-02	FB-20230504	5/4/2023	900	/		DI	10		SVOC, PCB, Pest, Herb, TAL metals, TCN
-03	TB-20230504	5/4/2023	LAB	-		DI	2		VOC
-04	OH-SB-58-3.0-4.0_20230504		0920	V		S	5		VOC, SVOC, PCB, Pest, Herb, TAL metals TCN, FCN, Alk PAHs by 8270 SIM
-05	OH-SB-53-1.0-2.0_20230504		1120	X		S	5		" "
-06	OH-SB-53-3.0-4.0_20230504		1145	X		S	5		" "

RELINQUISHED BY (Print) Harrison Stimbliris	DATE 5/4/23	RECEIVED BY (Print) Alfonso Rivera	
Signature	Time 1405	Signature	
RELINQUISHED BY (Print) Alfonso Rivera	DATE 5/4/23	RECEIVED BY (Print) Rose Waf	
Signature	Time 1814	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.8

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or
NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

Methods 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
Sample 23E0281-04 has surrogates outside of the QC limits (low and high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]
The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike, and matrix spike duplicate (low and high).

Samples 23E0281-01, -04, -05 and -06 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike duplicates, matrix spike, and matrix spike duplicate (low).

Samples 23E0281-02 (FB) and -03 (TB) have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.



Reviewed By: _____ (SK) 7/31/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-20230504**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.735		0.00563	0.0225	mg/kg dry	1	5/10/23 14:09

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12300	B	0.163	2.75	mg/kg dry	1	5/18/23 11:18
Arsenic	4.01		0.0980	1.37	mg/kg dry	1	5/18/23 11:18
Barium	129		0.0415	0.549	mg/kg dry	1	5/18/23 11:18
Beryllium	0.920		0.00318	0.0275	mg/kg dry	1	5/18/23 11:18
Calcium	6890		3.09	27.5	mg/kg dry	1	5/18/23 11:18
Chromium	27.4		0.0310	0.275	mg/kg dry	1	5/18/23 11:18
Cobalt	7.58		0.0281	0.220	mg/kg dry	1	5/18/23 11:18
Copper	27.3		0.0768	0.275	mg/kg dry	1	5/18/23 11:18
Iron	17800	B	0.778	5.49	mg/kg dry	1	5/18/23 11:18
Lead	459		0.115	1.37	mg/kg dry	1	5/18/23 11:18
Magnesium	3590		9.70	54.9	mg/kg dry	1	5/18/23 11:18
Manganese	314		0.0342	0.275	mg/kg dry	1	5/18/23 11:18
Nickel	35.7		0.0241	0.137	mg/kg dry	1	5/18/23 11:18
Potassium	2060		32.7	110	mg/kg dry	1	5/18/23 11:18
Sodium	768		5.24	54.9	mg/kg dry	1	5/18/23 11:18
Vanadium	28.8		0.0632	0.549	mg/kg dry	1	5/18/23 11:18
Zinc	120		0.0839	0.824	mg/kg dry	1	5/18/23 11:18

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0401	J	0.0359	0.225	mg/kg dry	1	5/10/23 22:23
Acenaphthene	0.120	J	0.00855	0.150	mg/kg dry	1	5/10/23 22:23
Acenaphthylene	0.0461	J	0.00521	0.150	mg/kg dry	1	5/10/23 22:23
Anthracene	0.256		0.0217	0.150	mg/kg dry	1	5/10/23 22:23
Benzo(a)anthracene	0.730		0.0151	0.150	mg/kg dry	1	5/10/23 22:23
Benzo(a)pyrene	0.692		0.0261	0.150	mg/kg dry	1	5/10/23 22:23
Benzo(b)fluoranthene	0.837		0.0211	0.150	mg/kg dry	1	5/10/23 22:23
Benzo(g,h,i)perylene	0.401		0.0122	0.150	mg/kg dry	1	5/10/23 22:23
Benzo(k)fluoranthene	0.220		0.0172	0.150	mg/kg dry	1	5/10/23 22:23
Carbazole	0.0773	J	0.0288	0.375	mg/kg dry	1	5/10/23 22:23
Chrysene	0.689		0.0103	0.150	mg/kg dry	1	5/10/23 22:23
Dibenzo(a,h)anthracene	0.110	J	0.0149	0.150	mg/kg dry	1	5/10/23 22:23
Dibenzofuran	0.0557	J	0.00893	0.150	mg/kg dry	1	5/10/23 22:23
Fluoranthene	1.46		0.0141	0.150	mg/kg dry	1	5/10/23 22:23
Indeno(1,2,3-cd)pyrene	0.320		0.0161	0.150	mg/kg dry	1	5/10/23 22:23
Naphthalene	0.0336	J	0.0111	0.150	mg/kg dry	1	5/10/23 22:23

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-20230504**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenanthrene	1.14		0.0197	0.150	mg/kg dry	1	5/10/23 22:23
Pyrene	1.35		0.0110	0.150	mg/kg dry	1	5/10/23 22:23
TIC_2-Butene, 1-bromo-3-methyl-	0.801	J			mg/kg dry	1	5/10/23 22:23
TIC_2-Pentanone, 4-hydroxy-4-methyl-	22.0	J			mg/kg dry	1	5/10/23 22:23
TIC_3-Hydroxyphenylacetic acid, ethyl ester	0.373	J			mg/kg dry	1	5/10/23 22:23
TIC_Hexadecanoic acid, butyl ester	6.77	J, B			mg/kg dry	1	5/10/23 22:23
TIC_Octadecanoic acid, butyl ester	3.28	J, B			mg/kg dry	1	5/10/23 22:23
TIC_unknown (01)	0.545	J			mg/kg dry	1	5/10/23 22:23
TIC_unknown (02)	0.441	J			mg/kg dry	1	5/10/23 22:23
TIC_unknown (03)	1.35	J			mg/kg dry	1	5/10/23 22:23
TIC_unknown (04)	0.329	J			mg/kg dry	1	5/10/23 22:23
TIC_unknown (05)	0.414	J			mg/kg dry	1	5/10/23 22:23

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00890		0.000288	0.00209	mg/kg dry	1	5/10/23 20:37
Benzene	0.00332		0.000190	0.00209	mg/kg dry	1	5/10/23 20:37
Carbon disulfide	0.00185	J	0.000299	0.00209	mg/kg dry	1	5/10/23 20:37
Cyclohexane	0.00752		0.000462	0.00209	mg/kg dry	1	5/10/23 20:37
EthylBenzene	0.0271		0.000283	0.00209	mg/kg dry	1	5/10/23 20:37
Isopropylbenzene	0.0109		0.000327	0.00209	mg/kg dry	1	5/10/23 20:37
m+p-Xylenes	0.00619		0.000527	0.00417	mg/kg dry	1	5/10/23 20:37
Methylcyclohexane	0.0293		0.000336	0.00209	mg/kg dry	1	5/10/23 20:37
o-Xylene	0.00460		0.000268	0.00209	mg/kg dry	1	5/10/23 20:37
Toluene	0.00197	J	0.000168	0.00209	mg/kg dry	1	5/10/23 20:37
Total Xylenes	0.0108		0.000268	0.00209	mg/kg dry	1	5/10/23 20:37
TIC_1H-Indene, 1-ethylidene-	0.0330	J			mg/kg dry	1	5/10/23 20:37
TIC_1H-Indene, 2,3-dihydro-5-methyl-	0.0539	J			mg/kg dry	1	5/10/23 20:37
TIC_Benzene, 1,2,3-trimethyl-	0.0699	J			mg/kg dry	1	5/10/23 20:37
TIC_Benzene, 1,2,4,5-tetramethyl-	0.0468	J			mg/kg dry	1	5/10/23 20:37
TIC_Benzene, 1-ethyl-2,3-dimethyl-	0.0349	J			mg/kg dry	1	5/10/23 20:37
TIC_Benzene, 1-propenyl-	0.0660	J			mg/kg dry	1	5/10/23 20:37
TIC_Benzene, 4-ethyl-1,2-dimethyl-	0.0284	J			mg/kg dry	1	5/10/23 20:37
TIC_Cyclohexane, (1-methylethyl)-	0.0595	J			mg/kg dry	1	5/10/23 20:37

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-01 (Soil) Sample Name: OH-SB-58_2.0-3.0-20230504

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexane, butyl-	0.0314	J			mg/kg dry	1	5/10/23 20:37
TIC_Indan, 1-methyl-	0.0512	J			mg/kg dry	1	5/10/23 20:37
TIC_Naphthalene, 1,2,3,4-tetrahydro-	0.0365	J			mg/kg dry	1	5/10/23 20:37
TIC_Naphthalene, 1,2,3,4-tetrahydro-5-methyl	0.0285	J			mg/kg dry	1	5/10/23 20:37
TIC_Naphthalene, decahydro-, trans-	0.0540	J			mg/kg dry	1	5/10/23 20:37
TIC_Octane, 2,6-dimethyl-	0.0375	J			mg/kg dry	1	5/10/23 20:37
TIC_TIC:Naphthalene	0.0316	J			mg/kg dry	1	5/10/23 20:37

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.310		0.00805	0.0676	mg/kg dry	1	5/8/23 19:33

23E0281-02 (Ground Water) Sample Name: FB_20230504

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	0.0874		0.000293	0.00600	mg/L	1	5/9/23 17:54
Arsenic	0.0893		0.000272	0.00200	mg/L	1	5/9/23 17:54
Barium	0.328		0.000267	0.00200	mg/L	1	5/9/23 17:54
Cadmium	0.0813		0.000301	0.00200	mg/L	1	5/9/23 17:54
Cobalt	0.0860		0.000196	0.00200	mg/L	1	5/9/23 17:54
Copper	0.105		0.000217	0.00200	mg/L	1	5/9/23 17:54
Lead	0.0849		0.000338	0.00200	mg/L	1	5/9/23 17:54
Nickel	0.0854		0.000299	0.00200	mg/L	1	5/9/23 17:54
Selenium	0.0826		0.000601	0.00600	mg/L	1	5/9/23 17:54
Silver	0.0775		0.000266	0.00200	mg/L	1	5/9/23 17:54
Thallium	0.0848		0.000339	0.00200	mg/L	1	5/9/23 17:54
Zinc	0.126		0.000549	0.0300	mg/L	1	5/9/23 17:54

23E0281-04 (Soil) Sample Name: OH-SB-58_3.0-4.0-20230504

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.13		0.00575	0.0230	mg/kg dry	1	5/10/23 14:09

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7460	B	0.165	2.78	mg/kg dry	1	5/18/23 11:20

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	1.49		0.151	1.39	mg/kg dry	1	5/18/23 11:20
Arsenic	7.76		0.0990	1.39	mg/kg dry	1	5/18/23 11:20
Barium	97.8		0.0420	0.555	mg/kg dry	1	5/18/23 11:20
Beryllium	0.741		0.00322	0.0278	mg/kg dry	1	5/18/23 11:20
Cadmium	0.355		0.0541	0.278	mg/kg dry	1	5/18/23 11:20
Calcium	10000		3.12	27.8	mg/kg dry	1	5/18/23 11:20
Chromium	18.4		0.0314	0.278	mg/kg dry	1	5/18/23 11:20
Cobalt	5.61		0.0284	0.222	mg/kg dry	1	5/18/23 11:20
Copper	66.1		0.0777	0.278	mg/kg dry	1	5/18/23 11:20
Iron	15000	B	0.787	5.55	mg/kg dry	1	5/18/23 11:20
Lead	310		0.116	1.39	mg/kg dry	1	5/18/23 11:20
Magnesium	2780		9.81	55.5	mg/kg dry	1	5/18/23 11:20
Manganese	218		0.0345	0.278	mg/kg dry	1	5/18/23 11:20
Nickel	22.5		0.0244	0.139	mg/kg dry	1	5/18/23 11:20
Potassium	1530		33.0	111	mg/kg dry	1	5/18/23 11:20
Selenium	2.15		0.267	1.39	mg/kg dry	1	5/18/23 11:20
Silver	0.534		0.0472	0.167	mg/kg dry	1	5/18/23 11:20
Sodium	617		5.29	55.5	mg/kg dry	1	5/18/23 11:20
Vanadium	22.1		0.0639	0.555	mg/kg dry	1	5/18/23 11:20
Zinc	106		0.0848	0.833	mg/kg dry	1	5/18/23 11:20

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.00923		0.000817	0.00149	mg/kg dry	1	5/12/23 19:02

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	2.34		0.0367	0.230	mg/kg dry	1	5/11/23 15:34
Acenaphthene	3.33		0.00872	0.153	mg/kg dry	1	5/11/23 15:34
Anthracene	5.00		0.0222	0.153	mg/kg dry	1	5/11/23 15:34
Benzo(a)anthracene	8.41		0.0154	0.153	mg/kg dry	1	5/11/23 15:34
Benzo(a)pyrene	9.14		0.0267	0.153	mg/kg dry	1	5/11/23 15:34
Benzo(b)fluoranthene	9.34		0.0215	0.153	mg/kg dry	1	5/11/23 15:34
Benzo(g,h,i)perylene	6.78		0.0124	0.153	mg/kg dry	1	5/11/23 15:34
Benzo(k)fluoranthene	3.45		0.0176	0.153	mg/kg dry	1	5/11/23 15:34
Chrysene	8.68		0.0105	0.153	mg/kg dry	1	5/11/23 15:34
Dibenzo(a,h)anthracene	1.56		0.0152	0.153	mg/kg dry	1	5/11/23 15:34
Dibenzofuran	1.75		0.00912	0.153	mg/kg dry	1	5/11/23 15:34
Fluoranthene	25.6	D	0.144	1.53	mg/kg dry	10	5/16/23 21:51
Fluorene	4.12		0.0128	0.153	mg/kg dry	1	5/11/23 15:34

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	4.89		0.0164	0.153	mg/kg dry	1	5/11/23 15:34
Naphthalene	1.41		0.0113	0.153	mg/kg dry	1	5/11/23 15:34
Phenanthrene	16.3	D	0.201	1.53	mg/kg dry	10	5/16/23 21:51
Pyrene	24.5	D	0.113	1.53	mg/kg dry	10	5/16/23 21:51
TIC_1-Octanol, 2-butyl-	7.87	J			mg/kg dry	1	5/11/23 15:34
TIC_Cyclohexane, (2-methylpropyl)-	7.70	J			mg/kg dry	1	5/11/23 15:34
TIC_Cyclohexane, (bromomethyl)-	4.58	J			mg/kg dry	1	5/11/23 15:34
TIC_Cyclohexane, butyl-	12.2	J			mg/kg dry	1	5/11/23 15:34
TIC_Decane, 4-methyl-	7.12	J			mg/kg dry	1	5/11/23 15:34
TIC_Hexane, 2,4-dimethyl-	7.81	J			mg/kg dry	1	5/11/23 15:34
TIC_Indane	4.24	J			mg/kg dry	1	5/11/23 15:34
TIC_Naphthalene, decahydro-, cis-	15.2	J			mg/kg dry	1	5/11/23 15:34
TIC_Nonane, 2-methyl-	4.74	J			mg/kg dry	1	5/11/23 15:34
TIC_Tridecane, 5-propyl-	10.8	J			mg/kg dry	1	5/11/23 15:34
TIC_unknown (01)	12.0	J			mg/kg dry	1	5/11/23 15:34
TIC_unknown (02)	4.29	J			mg/kg dry	1	5/11/23 15:34
TIC_unknown (03)	5.53	J			mg/kg dry	1	5/11/23 15:34
TIC_unknown (04)	12.1	J			mg/kg dry	1	5/11/23 15:34
TIC_unknown (05)	5.53	J			mg/kg dry	1	5/11/23 15:34

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	0.0446		0.000694	0.00442	mg/kg dry	1	5/11/23 20:22
Methylcyclohexane	0.0292		0.000712	0.00442	mg/kg dry	1	5/11/23 20:22
TIC_17-Pentatriacontene	0.267	J			mg/kg dry	1	5/11/23 20:22
TIC_1H-Indene, 2,3-dihydro-2-methyl-	0.248	J			mg/kg dry	1	5/11/23 20:22
TIC_Benzene, 1-ethenyl-2-methyl-	0.222	J			mg/kg dry	1	5/11/23 20:22
TIC_Bicyclo[4.1.0]heptan-3-one, 4,7,7-trimet	0.690	J			mg/kg dry	1	5/11/23 20:22
TIC_Cyclohexane, 1,4-dimethyl-	0.334	J			mg/kg dry	1	5/11/23 20:22
TIC_Cyclohexane, 1-ethyl-4-methyl-, trans-	0.245	J			mg/kg dry	1	5/11/23 20:22
TIC_Cyclohexane, butyl-	0.410	J			mg/kg dry	1	5/11/23 20:22
TIC_Cyclohexane, propyl-	0.274	J			mg/kg dry	1	5/11/23 20:22
TIC_Cyclopentane, butyl-	0.252	J			mg/kg dry	1	5/11/23 20:22
TIC_Naphthalene, decahydro-	0.401	J			mg/kg dry	1	5/11/23 20:22

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Naphthalene, decahydro-2-methyl-	0.341	J			mg/kg dry	1	5/11/23 20:22
TIC_Octane	0.263	J			mg/kg dry	1	5/11/23 20:22
TIC_Octane, 3,3-dimethyl-	0.526	J			mg/kg dry	1	5/11/23 20:22
TIC_Octane, 3,6-dimethyl-	0.272	J			mg/kg dry	1	5/11/23 20:22
TIC_Undecane, 5,6-dimethyl-	0.214	J			mg/kg dry	1	5/11/23 20:22

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-20230504**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.456		0.00576	0.0230	mg/kg dry	1	5/10/23 14:09

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7790	B	0.164	2.76	mg/kg dry	1	5/18/23 11:22
Antimony	1.77		0.150	1.38	mg/kg dry	1	5/18/23 11:22
Arsenic	9.48		0.0983	1.38	mg/kg dry	1	5/18/23 11:22
Barium	1060	D	0.417	5.51	mg/kg dry	10	5/18/23 13:54
Beryllium	0.825		0.00319	0.0276	mg/kg dry	1	5/18/23 11:22
Cadmium	0.568		0.0537	0.276	mg/kg dry	1	5/18/23 11:22
Calcium	6840		3.10	27.6	mg/kg dry	1	5/18/23 11:22
Chromium	18.3		0.0311	0.276	mg/kg dry	1	5/18/23 11:22
Cobalt	32.5		0.0282	0.221	mg/kg dry	1	5/18/23 11:22
Copper	69.8		0.0771	0.276	mg/kg dry	1	5/18/23 11:22
Iron	17600	B	0.781	5.51	mg/kg dry	1	5/18/23 11:22
Lead	283		0.115	1.38	mg/kg dry	1	5/18/23 11:22
Magnesium	3150		9.74	55.1	mg/kg dry	1	5/18/23 11:22
Manganese	251		0.0343	0.276	mg/kg dry	1	5/18/23 11:22
Nickel	23.8		0.0242	0.138	mg/kg dry	1	5/18/23 11:22
Potassium	1530		32.8	110	mg/kg dry	1	5/18/23 11:22
Sodium	1370		5.26	55.1	mg/kg dry	1	5/18/23 11:22
Vanadium	22.3		0.0634	0.551	mg/kg dry	1	5/18/23 11:22
Zinc	998	D	0.842	8.27	mg/kg dry	10	5/18/23 13:54

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.113	J	0.0368	0.230	mg/kg dry	1	5/11/23 16:06
Acenaphthene	0.347		0.00875	0.153	mg/kg dry	1	5/11/23 16:06
Acenaphthylene	0.611		0.00534	0.153	mg/kg dry	1	5/11/23 16:06
Anthracene	1.08		0.0222	0.153	mg/kg dry	1	5/11/23 16:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-20230504**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	3.66		0.0154	0.153	mg/kg dry	1	5/11/23 16:06
Benzo(a)pyrene	3.15		0.0267	0.153	mg/kg dry	1	5/11/23 16:06
Benzo(b)fluoranthene	4.32		0.0215	0.153	mg/kg dry	1	5/11/23 16:06
Benzo(g,h,i)perylene	2.97		0.0124	0.153	mg/kg dry	1	5/11/23 16:06
Benzo(k)fluoranthene	1.74		0.0176	0.153	mg/kg dry	1	5/11/23 16:06
Biphenyl	0.0418	J	0.0135	0.153	mg/kg dry	1	5/11/23 16:06
Carbazole	0.267	J	0.0295	0.384	mg/kg dry	1	5/11/23 16:06
Chrysene	4.00		0.0105	0.153	mg/kg dry	1	5/11/23 16:06
Dibenzo(a,h)anthracene	0.791		0.0152	0.153	mg/kg dry	1	5/11/23 16:06
Dibenzofuran	0.169		0.00914	0.153	mg/kg dry	1	5/11/23 16:06
Fluoranthene	5.77		0.0144	0.153	mg/kg dry	1	5/11/23 16:06
Fluorene	0.303		0.0128	0.153	mg/kg dry	1	5/11/23 16:06
Indeno(1,2,3-cd)pyrene	2.34		0.0165	0.153	mg/kg dry	1	5/11/23 16:06
Naphthalene	0.160		0.0114	0.153	mg/kg dry	1	5/11/23 16:06
Phenanthrene	3.33		0.0202	0.153	mg/kg dry	1	5/11/23 16:06
Pyrene	5.89		0.0113	0.153	mg/kg dry	1	5/11/23 16:06
TIC_Benzene, 1-(bromomethyl)-2-methyl-	0.708	J			mg/kg dry	1	5/11/23 16:06
TIC_Benzene, 1,1-(1-ethenyl-1,3-propanediyl	1.39	J			mg/kg dry	1	5/11/23 16:06
TIC_Benzene, 1,2-propadienyl-	1.15	J			mg/kg dry	1	5/11/23 16:06
TIC_Benzene, 1-ethenyl-3-methyl-	0.523	J			mg/kg dry	1	5/11/23 16:06
TIC_Hexadecanoic acid, butyl ester	4.94	J, B			mg/kg dry	1	5/11/23 16:06
TIC_Octadecanoic acid, butyl ester	1.59	J, B			mg/kg dry	1	5/11/23 16:06
TIC_unknown (01)	0.579	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (02)	0.483	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (03)	0.550	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (04)	0.976	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (05)	1.71	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (06)	0.775	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (07)	0.960	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (08)	0.620	J			mg/kg dry	1	5/11/23 16:06
TIC_unknown (09)	4.30	J			mg/kg dry	1	5/11/23 16:06

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-20230504**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.301		0.00548	0.0219	mg/kg dry	1	5/10/23 14:09

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-20230504**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9040	B	0.159	2.68	mg/kg dry	1	5/18/23 11:24
Arsenic	6.69		0.0954	1.34	mg/kg dry	1	5/18/23 11:24
Barium	185		0.0404	0.535	mg/kg dry	1	5/18/23 11:24
Beryllium	0.878		0.00310	0.0268	mg/kg dry	1	5/18/23 11:24
Cadmium	0.310		0.0522	0.268	mg/kg dry	1	5/18/23 11:24
Calcium	17000		3.01	26.8	mg/kg dry	1	5/18/23 11:24
Chromium	20.1		0.0302	0.268	mg/kg dry	1	5/18/23 11:24
Cobalt	20.5		0.0273	0.214	mg/kg dry	1	5/18/23 11:24
Copper	42.5		0.0748	0.268	mg/kg dry	1	5/18/23 11:24
Iron	16100	B	0.758	5.35	mg/kg dry	1	5/18/23 11:24
Lead	207		0.112	1.34	mg/kg dry	1	5/18/23 11:24
Magnesium	4710		9.45	53.5	mg/kg dry	1	5/18/23 11:24
Manganese	214		0.0333	0.268	mg/kg dry	1	5/18/23 11:24
Nickel	30.0		0.0235	0.134	mg/kg dry	1	5/18/23 11:24
Potassium	2240		31.8	107	mg/kg dry	1	5/18/23 11:24
Sodium	892		5.10	53.5	mg/kg dry	1	5/18/23 11:24
Vanadium	29.4		0.0615	0.535	mg/kg dry	1	5/18/23 11:24
Zinc	186		0.0817	0.803	mg/kg dry	1	5/18/23 11:24

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.257		0.0350	0.219	mg/kg dry	1	5/11/23 16:37
Acenaphthene	0.895		0.00832	0.146	mg/kg dry	1	5/11/23 16:37
Acenaphthylene	0.238		0.00508	0.146	mg/kg dry	1	5/11/23 16:37
Anthracene	1.80		0.0212	0.146	mg/kg dry	1	5/11/23 16:37
Benzo(a)anthracene	3.97		0.0147	0.146	mg/kg dry	1	5/11/23 16:37
Benzo(a)pyrene	4.01		0.0254	0.146	mg/kg dry	1	5/11/23 16:37
Benzo(b)fluoranthene	4.27		0.0205	0.146	mg/kg dry	1	5/11/23 16:37
Benzo(g,h,i)perylene	2.81		0.0118	0.146	mg/kg dry	1	5/11/23 16:37
Benzo(k)fluoranthene	1.86		0.0168	0.146	mg/kg dry	1	5/11/23 16:37
Biphenyl	0.109	J	0.0128	0.146	mg/kg dry	1	5/11/23 16:37
Carbazole	0.463		0.0281	0.365	mg/kg dry	1	5/11/23 16:37
Chrysene	4.14		0.0100	0.146	mg/kg dry	1	5/11/23 16:37
Dibenzo(a,h)anthracene	0.733		0.0145	0.146	mg/kg dry	1	5/11/23 16:37
Dibenzofuran	0.516		0.00870	0.146	mg/kg dry	1	5/11/23 16:37
Fluoranthene	8.01		0.0137	0.146	mg/kg dry	1	5/11/23 16:37
Fluorene	0.772		0.0122	0.146	mg/kg dry	1	5/11/23 16:37
Indeno(1,2,3-cd)pyrene	2.29		0.0157	0.146	mg/kg dry	1	5/11/23 16:37
Naphthalene	0.307		0.0108	0.146	mg/kg dry	1	5/11/23 16:37
Phenanthrene	6.50		0.0192	0.146	mg/kg dry	1	5/11/23 16:37

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-20230504**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pyrene	7.88		0.0107	0.146	mg/kg dry	1	5/11/23 16:37
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	5.67	J			mg/kg dry	1	5/11/23 16:37
TIC_Naphthalene, 1,5-dimethyl-	0.786	J			mg/kg dry	1	5/11/23 16:37
TIC_Octadecanoic acid, butyl ester	1.94	J, B			mg/kg dry	1	5/11/23 16:37
TIC_unknown (01)	1.16	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (02)	1.48	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (03)	0.624	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (04)	2.47	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (05)	0.930	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (06)	0.814	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (07)	0.646	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (08)	0.890	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (09)	0.625	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (10)	0.694	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (11)	0.999	J			mg/kg dry	1	5/11/23 16:37
TIC_unknown (12)	3.82	J			mg/kg dry	1	5/11/23 16:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	0.0758		0.000812	0.00211	mg/kg dry	1	5/11/23 3:23
TIC_2,6-Dimethylbicyclo[3.2.1] octane	0.0104	J			mg/kg dry	1	5/11/23 3:23
TIC_2-Methyladamantane	0.0128	J			mg/kg dry	1	5/11/23 3:23
TIC_Adamantane	0.00918	J			mg/kg dry	1	5/11/23 3:23
TIC_Benzene, (1-methyl-1-propenyl)-, (E)-	0.00947	J			mg/kg dry	1	5/11/23 3:23
TIC_Bicyclo[3.2.1]octane	0.0114	J			mg/kg dry	1	5/11/23 3:23
TIC_Carane, 4,5-epoxy-, (E)-	0.0204	J			mg/kg dry	1	5/11/23 3:23
TIC_Cyclohexane, 1,1,2,3-tetramethyl-	0.0157	J			mg/kg dry	1	5/11/23 3:23
TIC_Cyclohexane, 1,4-dimethyl-	0.00897	J			mg/kg dry	1	5/11/23 3:23
TIC_Cyclohexane, propyl-	0.0118	J			mg/kg dry	1	5/11/23 3:23
TIC_Cyclohexene, 1-ethyl-	0.00994	J			mg/kg dry	1	5/11/23 3:23
TIC_Cyclohexene, 1-methyl-	0.00911	J			mg/kg dry	1	5/11/23 3:23
TIC_Heptane, 2,2,4,6,6-pentamethyl-	0.0162	J			mg/kg dry	1	5/11/23 3:23
TIC_Naphthalene, decahydro-, cis-	0.0222	J			mg/kg dry	1	5/11/23 3:23
TIC_Naphthalene, decahydro-2-methyl-	0.0130	J			mg/kg dry	1	5/11/23 3:23

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-202 30504** Collected: **5/4/2023 8:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00498	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1221	ND	U	0.00980	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1232	ND	U	0.0125	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1242	ND	U	0.00730	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1248	ND	U	0.00764	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1254	ND	U	0.00600	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1260	ND	U	0.00465	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1262	ND	U	0.0100	0.0372	mg/kg	1	5/13/23 13:25
Aroclor-1268	ND	U	0.00449	0.0372	mg/kg	1	5/13/23 13:25
Total PCBs	ND	U	0.00347	0.0372	mg/kg	1	5/13/23 13:25

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0110	0.113	mg/kg	1	5/22/23 10:15
2,4-D	ND	U	0.0187	0.113	mg/kg	1	5/22/23 10:15

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.735**		**0.00563**	**0.0225**	**mg/kg**	**1**	**5/10/23 14:09**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12300**	B	**0.163**	**2.75**	**mg/kg**	**1**	**5/18/23 11:18**
Antimony	ND	U	0.150	1.37	mg/kg	1	5/18/23 11:18
Arsenic	**4.01**		**0.0980**	**1.37**	**mg/kg**	**1**	**5/18/23 11:18**
Barium	**129**		**0.0415**	**0.549**	**mg/kg**	**1**	**5/18/23 11:18**
Beryllium	**0.920**		**0.00318**	**0.0275**	**mg/kg**	**1**	**5/18/23 11:18**
Cadmium	ND	U	0.0535	0.275	mg/kg	1	5/18/23 11:18
Calcium	**6890**		**3.09**	**27.5**	**mg/kg**	**1**	**5/18/23 11:18**
Chromium	**27.4**		**0.0310**	**0.275**	**mg/kg**	**1**	**5/18/23 11:18**
Cobalt	**7.58**		**0.0281**	**0.220**	**mg/kg**	**1**	**5/18/23 11:18**
Copper	**27.3**		**0.0768**	**0.275**	**mg/kg**	**1**	**5/18/23 11:18**
Iron	**17800**	B	**0.778**	**5.49**	**mg/kg**	**1**	**5/18/23 11:18**
Lead	**459**		**0.115**	**1.37**	**mg/kg**	**1**	**5/18/23 11:18**
Magnesium	**3590**		**9.70**	**54.9**	**mg/kg**	**1**	**5/18/23 11:18**
Manganese	**314**		**0.0342**	**0.275**	**mg/kg**	**1**	**5/18/23 11:18**
Nickel	**35.7**		**0.0241**	**0.137**	**mg/kg**	**1**	**5/18/23 11:18**
Potassium	**2060**		**32.7**	**110**	**mg/kg**	**1**	**5/18/23 11:18**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-202 30504** Collected: **5/4/2023 8:30:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.264	1.37	mg/kg	1	5/18/23 11:18	
Silver	ND	U	0.0467	0.165	mg/kg	1	5/18/23 11:18	UJ, RC:6L
Sodium	**768**		**5.24**	**54.9**	**mg/kg**	**1**	**5/18/23 11:18**	
Thallium	ND	U	0.0924	1.37	mg/kg	1	5/18/23 11:18	
Vanadium	**28.8**		**0.0632**	**0.549**	**mg/kg**	**1**	**5/18/23 11:18**	
Zinc	**120**		**0.0839**	**0.824**	**mg/kg**	**1**	**5/18/23 11:18**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000670	0.00146	mg/kg	1	5/12/23 18:40	
4,4'-DDE [2C]	ND	U	0.000801	0.00146	mg/kg	1	5/12/23 18:40	
4,4'-DDT	ND	U	0.00103	0.00146	mg/kg	1	5/12/23 18:40	
Aldrin	ND	U	0.000694	0.00146	mg/kg	1	5/12/23 18:40	
alpha-BHC	ND	U	0.000436	0.00146	mg/kg	1	5/12/23 18:40	
beta-BHC	ND	U	0.000699	0.00146	mg/kg	1	5/12/23 18:40	
Chlordane	ND	U	0.000651	0.00146	mg/kg	1	5/12/23 18:40	
delta-BHC	ND	U	0.000680	0.00146	mg/kg	1	5/12/23 18:40	
Dieldrin	ND	U	0.000766	0.00146	mg/kg	1	5/12/23 18:40	
Endosulfan I	ND	U	0.000691	0.00146	mg/kg	1	5/12/23 18:40	
Endosulfan II	ND	U	0.000665	0.00146	mg/kg	1	5/12/23 18:40	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000551	0.00146	mg/kg	1	5/12/23 18:40	
Endosulfans, Total (alpha and beta)	ND	U	0.000665	0.00146	mg/kg	1	5/12/23 18:40	
Endrin	ND	U	0.000506	0.00146	mg/kg	1	5/12/23 18:40	
Endrin aldehyde	ND	U	0.000583	0.00146	mg/kg	1	5/12/23 18:40	
Endrin ketone	ND	U	0.000516	0.00146	mg/kg	1	5/12/23 18:40	
gamma-BHC (Lindane)	ND	U	0.000464	0.00146	mg/kg	1	5/12/23 18:40	
Heptachlor	ND	U	0.000392	0.00146	mg/kg	1	5/12/23 18:40	
Heptachlor Epoxide	ND	U	0.000739	0.00146	mg/kg	1	5/12/23 18:40	
Methoxychlor	ND	U	0.000429	0.00146	mg/kg	1	5/12/23 18:40	
Toxaphene	ND	U	0.0705	0.0743	mg/kg	1	5/12/23 18:40	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00423	0.0375	mg/kg	1	5/10/23 22:23	UJ, RC:SL
2,3,4,6-Tetrachlorophenol	ND	U	0.0231	0.150	mg/kg	1	5/10/23 22:23	
2,4,5-Trichlorophenol	ND	U	0.0204	0.150	mg/kg	1	5/10/23 22:23	
2,4,6-Trichlorophenol	ND	U	0.00938	0.150	mg/kg	1	5/10/23 22:23	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-202 30504** Collected: **5/4/2023 8:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0151	0.150	mg/kg	1	5/10/23 22:23	
2,4-Dimethylphenol	ND	U	0.0148	0.150	mg/kg	1	5/10/23 22:23	
2,4-Dinitrophenol	ND	U	0.0216	0.751	mg/kg	1	5/10/23 22:23	
2,4-Dinitrotoluene	ND	U	0.0160	0.150	mg/kg	1	5/10/23 22:23	
2,6-Dinitrotoluene	ND	U	0.0358	0.150	mg/kg	1	5/10/23 22:23	
2-Chloronaphthalene	ND	U	0.0172	0.150	mg/kg	1	5/10/23 22:23	
2-Chlorophenol	ND	U	0.0198	0.150	mg/kg	1	5/10/23 22:23	
2-Methylnaphthalene	**0.0401**	J	**0.0359**	**0.225**	**mg/kg**	**1**	**5/10/23 22:23**	
2-Methylphenol	ND	U	0.0296	0.150	mg/kg	1	5/10/23 22:23	
2-Nitroaniline	ND	U	0.0120	0.150	mg/kg	1	5/10/23 22:23	
2-Nitrophenol	ND	U	0.0167	0.150	mg/kg	1	5/10/23 22:23	
3,3'-Dichlorobenzidine	ND	U	0.0158	0.150	mg/kg	1	5/10/23 22:23	
3+4-Methylphenol	ND	U	0.0275	0.150	mg/kg	1	5/10/23 22:23	
3-Nitroaniline	ND	U	0.0278	0.150	mg/kg	1	5/10/23 22:23	
4,6-Dinitro-2-methylphenol	ND	U	0.0283	0.375	mg/kg	1	5/10/23 22:23	
4-Bromophenyl-phenyl ether	ND	U	0.0214	0.150	mg/kg	1	5/10/23 22:23	
4-Chloro-3-methylphenol	ND	U	0.0236	0.150	mg/kg	1	5/10/23 22:23	
4-Chloroaniline	ND	U	0.00525	0.150	mg/kg	1	5/10/23 22:23	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00810	0.150	mg/kg	1	5/10/23 22:23	
4-Nitroaniline	ND	U	0.0750	0.150	mg/kg	1	5/10/23 22:23	
4-Nitrophenol	ND	U	0.00959	0.150	mg/kg	1	5/10/23 22:23	
Acenaphthene	**0.120**	J	**0.00855**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Acenaphthylene	**0.0461**	J	**0.00521**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Acetophenone	ND	U	0.0149	0.150	mg/kg	1	5/10/23 22:23	
Anthracene	**0.256**		**0.0217**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Atrazine	ND	U	0.0141	0.150	mg/kg	1	5/10/23 22:23	
Benzaldehyde	ND	U	0.0461	0.150	mg/kg	1	5/10/23 22:23	UJ, RC:SL
Benzo(a)anthracene	**0.730**		**0.0151**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Benzo(a)pyrene	**0.692**		**0.0261**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Benzo(b)fluoranthene	**0.837**		**0.0211**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Benzo(g,h,i)perylene	**0.401**		**0.0122**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Benzo(k)fluoranthene	**0.220**		**0.0172**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Biphenyl	ND	U	0.0132	0.150	mg/kg	1	5/10/23 22:23	
bis(2-chloroethoxy)methane	ND	U	0.0207	0.150	mg/kg	1	5/10/23 22:23	
bis(2-chloroethyl)ether	ND	U	0.0164	0.150	mg/kg	1	5/10/23 22:23	
bis(2-chloroisopropyl)ether	ND	U	0.0539	0.150	mg/kg	1	5/10/23 22:23	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0300	0.150	mg/kg	1	5/10/23 22:23	
Butylbenzylphthalate	ND	U	0.0136	0.150	mg/kg	1	5/10/23 22:23	

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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-202 30504** Collected: **5/4/2023 8:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0194	0.150	mg/kg	1	5/10/23 22:23	
Carbazole	**0.0773**	J	**0.0288**	**0.375**	**mg/kg**	**1**	**5/10/23 22:23**	
Chrysene	**0.689**		**0.0103**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Dibenzo(a,h)anthracene	**0.110**	J	**0.0149**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Dibenzofuran	**0.0557**	J	**0.00893**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Diethylphthalate	ND	U	0.0291	0.150	mg/kg	1	5/10/23 22:23	
Dimethylphthalate	ND	U	0.00930	0.150	mg/kg	1	5/10/23 22:23	
Di-n-butylphthalate	ND	U	0.0613	0.150	mg/kg	1	5/10/23 22:23	
Di-n-octylphthalate	ND	U	0.0307	0.150	mg/kg	1	5/10/23 22:23	
Fluoranthene	**1.46**		**0.0141**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Fluorene	ND	U	0.0125	0.150	mg/kg	1	5/10/23 22:23	
Hexachlorobenzene	ND	U	0.0196	0.150	mg/kg	1	5/10/23 22:23	
Hexachlorobutadiene	ND	U	0.0720	0.150	mg/kg	1	5/10/23 22:23	
Hexachlorocyclopentadiene	ND	U	0.0625	0.375	mg/kg	1	5/10/23 22:23	UJ, RC:SL
Hexachloroethane	ND	U	0.0164	0.150	mg/kg	1	5/10/23 22:23	
Indeno(1,2,3-cd)pyrene	**0.320**		**0.0161**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Isophorone	ND	U	0.00982	0.150	mg/kg	1	5/10/23 22:23	
Naphthalene	**0.0336**	J	**0.0111**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Nitrobenzene	ND	U	0.0254	0.150	mg/kg	1	5/10/23 22:23	
n-Nitroso-di-n-propylamine	ND	U	0.00803	0.150	mg/kg	1	5/10/23 22:23	
n-Nitrosodiphenylamine	ND	U	0.0320	0.150	mg/kg	1	5/10/23 22:23	
Pentachlorophenol	ND	U	0.0206	0.375	mg/kg	1	5/10/23 22:23	UJ, RC:SL
Phenanthrene	**1.14**		**0.0197**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	
Phenol	ND	U	0.0122	0.150	mg/kg	1	5/10/23 22:23	
Pyrene	**1.35**		**0.0110**	**0.150**	**mg/kg**	**1**	**5/10/23 22:23**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Butene, 1-bromo-3-methyl-	0.801	4.51	J	mg/kg	1	5/10/23 22:23	
2-Pentanone, 4-hydroxy-4-methyl-	22.0	5.08	J	mg/kg	1	5/10/23 22:23	
3-Hydroxyphenylacetic acid, ethyl ester	0.373	13.88	J	mg/kg	1	5/10/23 22:23	
Hexadecanoic acid, butyl ester	~~6.77~~	12.65	J, B	mg/kg	1	5/10/23 22:23	R, RC: 2
Octadecanoic acid, butyl ester	~~3.28~~	13.45	J, B	mg/kg	1	5/10/23 22:23	R, RC: 2
unknown (01)	0.545	4.89	J	mg/kg	1	5/10/23 22:23	
unknown (02)	0.441	11.97	J	mg/kg	1	5/10/23 22:23	
unknown (03)	1.35	13.37	J	mg/kg	1	5/10/23 22:23	
unknown (04)	0.329	13.83	J	mg/kg	1	5/10/23 22:23	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-202 30504** Collected: **5/4/2023 8:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (05)	0.414	14.72	J	mg/kg	1	5/10/23 22:23
TIC Total	**36.3**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000304	0.00209	mg/kg	1	5/10/23 20:37
1,1,2,2-Tetrachloroethane	ND	U	0.000288	0.00209	mg/kg	1	5/10/23 20:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000892	0.00209	mg/kg	1	5/10/23 20:37
1,1,2-Trichloroethane	ND	U	0.000351	0.00209	mg/kg	1	5/10/23 20:37
1,1-Dichloroethane	ND	U	0.000304	0.00209	mg/kg	1	5/10/23 20:37
1,1-Dichloroethene	ND	U	0.000386	0.00209	mg/kg	1	5/10/23 20:37
1,2,3-Trichlorobenzene	ND	U	0.000450	0.00209	mg/kg	1	5/10/23 20:37
1,2,4-Trichlorobenzene	ND	U	0.000556	0.00209	mg/kg	1	5/10/23 20:37
1,2,4-Trimethylbenzene	**0.00890**		**0.000288**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**
1,2-Dibromo-3-chloropropane	ND	U	0.000509	0.00521	mg/kg	1	5/10/23 20:37
1,2-Dibromoethane	ND	U	0.000263	0.00209	mg/kg	1	5/10/23 20:37
1,2-Dichlorobenzene	ND	U	0.000368	0.00209	mg/kg	1	5/10/23 20:37
1,2-Dichloroethane	ND	U	0.000294	0.00209	mg/kg	1	5/10/23 20:37
1,2-Dichloropropane	ND	U	0.000342	0.00209	mg/kg	1	5/10/23 20:37
1,3-Dichlorobenzene	ND	U	0.000153	0.00209	mg/kg	1	5/10/23 20:37
1,4-Dichlorobenzene	ND	U	0.000300	0.00209	mg/kg	1	5/10/23 20:37
2-Butanone	ND	U	0.000340	0.0104	mg/kg	1	5/10/23 20:37
2-Hexanone	ND	U	0.000195	0.00209	mg/kg	1	5/10/23 20:37
4-Methyl-2-pentanone	ND	U	0.000261	0.00209	mg/kg	1	5/10/23 20:37
Acetone	ND	U	0.000632	0.0521	mg/kg	1	5/10/23 20:37
Benzene	**0.00332**		**0.000190**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**
Bromochloromethane	ND	U	0.000385	0.00209	mg/kg	1	5/10/23 20:37
Bromodichloromethane	ND	U	0.000262	0.00209	mg/kg	1	5/10/23 20:37
Bromoform	ND	U	0.000366	0.00209	mg/kg	1	5/10/23 20:37
Bromomethane	ND	U	0.000602	0.00209	mg/kg	1	5/10/23 20:37
Carbon disulfide	**0.00185**	J	**0.000299**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**
Carbon Tetrachloride	ND	U	0.000314	0.00209	mg/kg	1	5/10/23 20:37
Chlorobenzene	ND	U	0.000302	0.00209	mg/kg	1	5/10/23 20:37
Chlorodibromomethane	ND	U	0.000256	0.00209	mg/kg	1	5/10/23 20:37
Chloroethane	ND	U	0.000356	0.00209	mg/kg	1	5/10/23 20:37
Chloroform	ND	U	0.000350	0.00209	mg/kg	1	5/10/23 20:37
Chloromethane	ND	U	0.000803	0.00209	mg/kg	1	5/10/23 20:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: **OH-SB-58_2.0-3.0-202 30504** Collected: **5/4/2023 8:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
cis-1,2-Dichloroethene	ND	U	0.000101	0.00209	mg/kg	1	5/10/23 20:37	
cis-1,3-Dichloropropene	ND	U	0.000264	0.00209	mg/kg	1	5/10/23 20:37	
Cyclohexane	**0.00752**		**0.000462**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
Dichlorodifluoromethane	ND	U	0.000704	0.00209	mg/kg	1	5/10/23 20:37	UJ, RC:SL
EthylBenzene	**0.0271**		**0.000283**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
Isopropylbenzene	**0.0109**		**0.000327**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
m+p-Xylenes	**0.00619**		**0.000527**	**0.00417**	**mg/kg**	**1**	**5/10/23 20:37**	
Methyl Acetate	ND	U	0.000276	0.00209	mg/kg	1	5/10/23 20:37	
Methyl tert-Butyl Ether	ND	U	0.000352	0.00209	mg/kg	1	5/10/23 20:37	
Methylcyclohexane	**0.0293**		**0.000336**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
Methylene Chloride	ND	U	0.000627	0.00521	mg/kg	1	5/10/23 20:37	
o-Xylene	**0.00460**		**0.000268**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
Styrene	ND	U	0.000298	0.00209	mg/kg	1	5/10/23 20:37	
tert-Butyl alcohol	ND	U	0.00438	0.0209	mg/kg	1	5/10/23 20:37	
Tetrachloroethene	ND	U	0.000206	0.00209	mg/kg	1	5/10/23 20:37	
Toluene	**0.00197**	J	**0.000168**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
Total Xylenes	**0.0108**		**0.000268**	**0.00209**	**mg/kg**	**1**	**5/10/23 20:37**	
trans-1,2-Dichloroethene	ND	U	0.000283	0.00209	mg/kg	1	5/10/23 20:37	
trans-1,3-Dichloropropene	ND	U	0.000398	0.00209	mg/kg	1	5/10/23 20:37	
Trichloroethene	ND	U	0.000307	0.00209	mg/kg	1	5/10/23 20:37	
Trichlorofluoromethane	ND	U	0.000240	0.00209	mg/kg	1	5/10/23 20:37	
Vinyl chloride	ND	U	0.000396	0.00209	mg/kg	1	5/10/23 20:37	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-ethylidene-	0.0330	23.23	J	mg/kg	1	5/10/23 20:37
1H-Indene, 2,3-dihydro-5-methyl-	0.0539	20.46	J	mg/kg	1	5/10/23 20:37
Benzene, 1,2,3-trimethyl-	0.0699	17.90	J	mg/kg	1	5/10/23 20:37
Benzene, 1,2,4,5-tetramethyl-	0.0468	19.69	J	mg/kg	1	5/10/23 20:37
Benzene, 1-ethyl-2,3-dimethyl-	0.0349	19.51	J	mg/kg	1	5/10/23 20:37
Benzene, 1-propenyl-	0.0660	18.23	J	mg/kg	1	5/10/23 20:37
Benzene, 4-ethyl-1,2-dimethyl-	0.0284	19.02	J	mg/kg	1	5/10/23 20:37
Cyclohexane, (1-methylethyl)-	0.0595	15.41	J	mg/kg	1	5/10/23 20:37
Cyclohexane, butyl-	0.0314	17.65	J	mg/kg	1	5/10/23 20:37
Indan, 1-methyl-	0.0512	19.20	J	mg/kg	1	5/10/23 20:37
Naphthalene, 1,2,3,4-tetrahydro-	0.0365	20.75	J	mg/kg	1	5/10/23 20:37
Naphthalene, 1,2,3,4-tetrahydro-5-methyl	0.0285	22.46	J	mg/kg	1	5/10/23 20:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-01 (Soil) Sample Name: OH-SB-58_2.0-3.0-20230504 Collected: 5/4/2023 8:30:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, decahydro-, trans-	0.0540	18.44	J	mg/kg	1	5/10/23 20:37
Octane, 2,6-dimethyl-	0.0375	15.25	J	mg/kg	1	5/10/23 20:37
TIC:Naphthalene	0.0316	21.54	J	mg/kg	1	5/10/23 20:37
TIC Total	**0.663**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.8**				**%**	**1**	**5/5/23 10:57**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.310**		**0.00805**	**0.0676**	**mg/kg**	**1**	**5/8/23 19:33**

23E0281-02 (Ground Water) Sample Name: FB_20230504 Collected: 5/4/2023 9:00:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0621	0.625	ug/L	1	5/14/23 13:41
Aroclor-1221	ND	U	0.440	0.625	ug/L	1	5/14/23 13:41
Aroclor-1232	ND	U	0.137	0.625	ug/L	1	5/14/23 13:41
Aroclor-1242	ND	U	0.232	0.625	ug/L	1	5/14/23 13:41
Aroclor-1248	ND	U	0.117	0.625	ug/L	1	5/14/23 13:41
Aroclor-1254	ND	U	0.129	0.625	ug/L	1	5/14/23 13:41
Aroclor-1260	ND	U	0.0980	0.625	ug/L	1	5/14/23 13:41
Aroclor-1262	ND	U	0.211	0.625	ug/L	1	5/14/23 13:41
Aroclor-1268	ND	U	0.199	0.625	ug/L	1	5/14/23 13:41
Total PCBs	ND	U	0.0621	0.625	ug/L	1	5/14/23 13:41

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	5/24/23 11:56
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	5/24/23 11:56
2,4-D	ND	U	0.0300	1.00	ug/L	1	5/24/23 11:56

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-02 (Ground Water) Sample Name: **FB_20230504** Collected: **5/4/2023 9:00:00AM**

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/10/23 15:14

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/17/23 14:02
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/17/23 14:02
Calcium	ND	U	0.256	1.00	mg/L	1	5/17/23 14:02
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/17/23 14:02
Iron	ND	U	0.0580	0.200	mg/L	1	5/17/23 14:02
Magnesium	ND	U	0.681	2.00	mg/L	1	5/17/23 14:02
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/17/23 14:02
Potassium	ND	U	2.41	4.00	mg/L	1	5/17/23 14:02
Sodium	ND	U	0.205	2.00	mg/L	1	5/17/23 14:02
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/17/23 14:02

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	**0.0874**		**0.000293**	**0.00600**	**mg/L**	**1**	**5/9/23 17:54**
Arsenic	**0.0893**		**0.000272**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Barium	**0.328**		**0.000267**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Cadmium	**0.0813**		**0.000301**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Cobalt	**0.0860**		**0.000196**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Copper	**0.105**		**0.000217**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Lead	**0.0849**		**0.000338**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Nickel	**0.0854**		**0.000299**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Selenium	**0.0826**		**0.000601**	**0.00600**	**mg/L**	**1**	**5/9/23 17:54**
Silver	**0.0775**		**0.000266**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Thallium	**0.0848**		**0.000339**	**0.00200**	**mg/L**	**1**	**5/9/23 17:54**
Zinc	**0.126**		**0.000549**	**0.0300**	**mg/L**	**1**	**5/9/23 17:54**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000472	0.0250	ug/L	1	5/11/23 17:30
4,4'-DDE	ND	U	0.000292	0.0250	ug/L	1	5/11/23 17:30
4,4'-DDT	ND	U	0.000399	0.0250	ug/L	1	5/11/23 17:30
Aldrin	ND	U	0.000659	0.0250	ug/L	1	5/11/23 17:30
alpha-BHC	ND	U	0.000319	0.0250	ug/L	1	5/11/23 17:30
beta-BHC	ND	U	0.000464	0.0250	ug/L	1	5/11/23 17:30
Chlordane	ND	U	0.000409	0.0625	ug/L	1	5/11/23 17:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-02 (Ground Water) Sample Name: **FB_20230504** Collected: **5/4/2023 9:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
delta-BHC	ND	U	0.000400	0.0250	ug/L	1	5/11/23 17:30
Dieldrin	ND	U	0.000339	0.0250	ug/L	1	5/11/23 17:30
Endosulfan I	ND	U	0.000475	0.0250	ug/L	1	5/11/23 17:30
Endosulfan II	ND	U	0.000318	0.0250	ug/L	1	5/11/23 17:30
Endosulfan sulfate	ND	U	0.000172	0.0250	ug/L	1	5/11/23 17:30
Endrin	ND	U	0.000286	0.0250	ug/L	1	5/11/23 17:30
Endrin aldehyde	ND	U	0.000398	0.0250	ug/L	1	5/11/23 17:30
Endrin ketone	ND	U	0.000254	0.0250	ug/L	1	5/11/23 17:30
gamma-BHC (Lindane)	ND	U	0.000301	0.0250	ug/L	1	5/11/23 17:30
Heptachlor	ND	U	0.000704	0.0250	ug/L	1	5/11/23 17:30
Heptachlor Epoxide	ND	U	0.000378	0.0250	ug/L	1	5/11/23 17:30
Methoxychlor	ND	U	0.000429	0.0250	ug/L	1	5/11/23 17:30
Toxaphene	ND	U	0.0296	0.250	ug/L	1	5/11/23 17:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/13/23 0:04
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/13/23 0:04
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/13/23 0:04
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/13/23 0:04
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/13/23 0:04
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/13/23 0:04
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/13/23 0:04
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/13/23 0:04
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/13/23 0:04
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/13/23 0:04
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/13/23 0:04
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/13/23 0:04
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/13/23 0:04
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/13/23 0:04
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/13/23 0:04
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/13/23 0:04
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/13/23 0:04
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/13/23 0:04
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/13/23 0:04
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/13/23 0:04
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/13/23 0:04
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/13/23 0:04
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/13/23 0:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-02 (Ground Water) Sample Name: **FB_20230504** Collected: **5/4/2023 9:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/13/23 0:04	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/13/23 0:04	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/13/23 0:04	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/13/23 0:04	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/13/23 0:04	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/13/23 0:04	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/13/23 0:04	UJ, RC:SL,Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/13/23 0:04	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/13/23 0:04	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/13/23 0:04	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/13/23 0:04	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/13/23 0:04	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/13/23 0:04	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/13/23 0:04	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/13/23 0:04	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/13/23 0:04	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/13/23 0:04	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/13/23 0:04	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/13/23 0:04	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/13/23 0:04	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/13/23 0:04	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/13/23 0:04	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/13/23 0:04	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/13/23 0:04	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/13/23 0:04	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/13/23 0:04	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/13/23 0:04	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/13/23 0:04	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/13/23 0:04	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/13/23 0:04	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/13/23 0:04	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/13/23 0:04	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/13/23 0:04	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/13/23 0:04	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-02 (Ground Water) Sample Name: **FB_20230504** Collected: **5/4/2023 9:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/8/23 22:16	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/8/23 22:16	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/8/23 22:16	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/8/23 22:16	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/8/23 22:16	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/8/23 22:16	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/8/23 22:16	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/8/23 22:16	RC:6L,SL
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/8/23 22:16	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/8/23 22:16	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/8/23 22:16	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/8/23 22:16	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/8/23 22:16	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/8/23 22:16	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/8/23 22:16	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/8/23 22:16	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/8/23 22:16	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/8/23 22:16	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/8/23 22:16	
Acetone	ND	U	10.0	10.0	ug/L	1	5/8/23 22:16	
Benzene	ND	U	0.129	1.00	ug/L	1	5/8/23 22:16	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/8/23 22:16	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/8/23 22:16	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/8/23 22:16	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/8/23 22:16	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/8/23 22:16	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/8/23 22:16	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/8/23 22:16	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/8/23 22:16	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/8/23 22:16	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/8/23 22:16	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/8/23 22:16	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/8/23 22:16	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/8/23 22:16	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/8/23 22:16	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/8/23 22:16	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/8/23 22:16	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/8/23 22:16	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-02 (Ground Water) Sample Name: **FB_20230504** Collected: **5/4/2023 9:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/8/23 22:16	UJ, RC:3L
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/8/23 22:16	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/8/23 22:16	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/8/23 22:16	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/8/23 22:16	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/8/23 22:16	
Styrene	ND	U	0.176	1.00	ug/L	1	5/8/23 22:16	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/8/23 22:16	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/8/23 22:16	
Toluene	ND	U	0.205	1.00	ug/L	1	5/8/23 22:16	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/8/23 22:16	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/8/23 22:16	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/8/23 22:16	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/8/23 22:16	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/8/23 22:16	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/8/23 22:16	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/9/23 16:17

23E0281-03 (Ground Water) Sample Name: **TB_20230504** Collected: **5/4/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/9/23 20:56	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/9/23 20:56	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/9/23 20:56	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/9/23 20:56	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/9/23 20:56	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/9/23 20:56	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/9/23 20:56	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/9/23 20:56	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/9/23 20:56	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-03 (Ground Water) Sample Name: **TB_20230504** Collected: **5/4/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/9/23 20:56	UJ, RC:3L
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/9/23 20:56	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/9/23 20:56	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/9/23 20:56	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/9/23 20:56	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/9/23 20:56	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/9/23 20:56	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/9/23 20:56	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/9/23 20:56	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/9/23 20:56	
Acetone	ND	U	10.0	10.0	ug/L	1	5/9/23 20:56	
Benzene	ND	U	0.129	1.00	ug/L	1	5/9/23 20:56	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/9/23 20:56	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/9/23 20:56	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/9/23 20:56	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/9/23 20:56	RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/9/23 20:56	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/9/23 20:56	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/9/23 20:56	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/9/23 20:56	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/9/23 20:56	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/9/23 20:56	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/9/23 20:56	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/9/23 20:56	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/9/23 20:56	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/9/23 20:56	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/9/23 20:56	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/9/23 20:56	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/9/23 20:56	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/9/23 20:56	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/9/23 20:56	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/9/23 20:56	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/9/23 20:56	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/9/23 20:56	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/9/23 20:56	
Styrene	ND	U	0.176	1.00	ug/L	1	5/9/23 20:56	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/9/23 20:56	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/9/23 20:56	
Toluene	ND	U	0.205	1.00	ug/L	1	5/9/23 20:56	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-03 (Ground Water) Sample Name: TB_20230504 Collected: 5/4/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/9/23 20:56	UJ, RC:3L
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/9/23 20:56	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/9/23 20:56	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/9/23 20:56	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/9/23 20:56	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/9/23 20:56	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

23E0281-04 (Soil) Sample Name: OH-SB-58_3.0-4.0-20230504 Collected: 5/4/2023 9:20:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00509	0.0379	mg/kg	1	5/17/23 9:09	UJ, RC:3L
Aroclor-1221	ND	U	0.0100	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1232	ND	U	0.0127	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1242	ND	U	0.00745	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1248	ND	U	0.00780	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1254	ND	U	0.00612	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1260	ND	U	0.00475	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1262	ND	U	0.0102	0.0379	mg/kg	1	5/17/23 9:09	
Aroclor-1268	ND	U	0.00459	0.0379	mg/kg	1	5/17/23 9:09	
Total PCBs	ND	U	0.00354	0.0379	mg/kg	1	5/17/23 9:09	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0113	0.115	mg/kg	1	5/22/23 10:39
2,4-D	ND	U	0.0191	0.115	mg/kg	1	5/22/23 10:39

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.13**		**0.00575**	**0.0230**	**mg/kg**	**1**	**5/10/23 14:09**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-202 30504** Collected: **5/4/2023 9:20:00AM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**7460**	B	**0.165**	**2.78**	**mg/kg**	**1**	**5/18/23 11:20**	
Antimony	**1.49**		**0.151**	**1.39**	**mg/kg**	**1**	**5/18/23 11:20**	
Arsenic	**7.76**		**0.0990**	**1.39**	**mg/kg**	**1**	**5/18/23 11:20**	
Barium	**97.8**		**0.0420**	**0.555**	**mg/kg**	**1**	**5/18/23 11:20**	
Beryllium	**0.741**		**0.00322**	**0.0278**	**mg/kg**	**1**	**5/18/23 11:20**	
Cadmium	**0.355**		**0.0541**	**0.278**	**mg/kg**	**1**	**5/18/23 11:20**	
Calcium	**10000**		**3.12**	**27.8**	**mg/kg**	**1**	**5/18/23 11:20**	
Chromium	**18.4**		**0.0314**	**0.278**	**mg/kg**	**1**	**5/18/23 11:20**	
Cobalt	**5.61**		**0.0284**	**0.222**	**mg/kg**	**1**	**5/18/23 11:20**	
Copper	**66.1**		**0.0777**	**0.278**	**mg/kg**	**1**	**5/18/23 11:20**	
Iron	**15000**	B	**0.787**	**5.55**	**mg/kg**	**1**	**5/18/23 11:20**	
Lead	**310**		**0.116**	**1.39**	**mg/kg**	**1**	**5/18/23 11:20**	
Magnesium	**2780**		**9.81**	**55.5**	**mg/kg**	**1**	**5/18/23 11:20**	
Manganese	**218**		**0.0345**	**0.278**	**mg/kg**	**1**	**5/18/23 11:20**	
Nickel	**22.5**		**0.0244**	**0.139**	**mg/kg**	**1**	**5/18/23 11:20**	
Potassium	**1530**		**33.0**	**111**	**mg/kg**	**1**	**5/18/23 11:20**	
Selenium	**2.15**		**0.267**	**1.39**	**mg/kg**	**1**	**5/18/23 11:20**	
Silver	**0.534**		**0.0472**	**0.167**	**mg/kg**	**1**	**5/18/23 11:20**	J, RC:6L
Sodium	**617**		**5.29**	**55.5**	**mg/kg**	**1**	**5/18/23 11:20**	
Thallium	ND	U	0.0934	1.39	mg/kg	1	5/18/23 11:20	
Vanadium	**22.1**		**0.0639**	**0.555**	**mg/kg**	**1**	**5/18/23 11:20**	
Zinc	**106**		**0.0848**	**0.833**	**mg/kg**	**1**	**5/18/23 11:20**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000684	0.00149	mg/kg	1	5/12/23 19:02	
4,4'-DDE	**0.00923**		**0.000817**	**0.00149**	**mg/kg**	**1**	**5/12/23 19:02**	
4,4'-DDT	ND	U	0.00106	0.00149	mg/kg	1	5/12/23 19:02	
Aldrin	ND	U	0.000708	0.00149	mg/kg	1	5/12/23 19:02	
alpha-BHC	ND	U	0.000445	0.00149	mg/kg	1	5/12/23 19:02	
beta-BHC	ND	U	0.000714	0.00149	mg/kg	1	5/12/23 19:02	
Chlordane	ND	U	0.000664	0.00149	mg/kg	1	5/12/23 19:02	
delta-BHC	ND	U	0.000694	0.00149	mg/kg	1	5/12/23 19:02	
Dieldrin	ND	U	0.000782	0.00149	mg/kg	1	5/12/23 19:02	
Endosulfan I	ND	U	0.000706	0.00149	mg/kg	1	5/12/23 19:02	
Endosulfan II	ND	U	0.000679	0.00149	mg/kg	1	5/12/23 19:02	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000562	0.00149	mg/kg	1	5/12/23 19:02	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504** Collected: **5/4/2023 9:20:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfans, Total (alpha and beta)	ND	U	0.000679	0.00149	mg/kg	1	5/12/23 19:02
Endrin	ND	U	0.000516	0.00149	mg/kg	1	5/12/23 19:02
Endrin aldehyde	ND	U	0.000595	0.00149	mg/kg	1	5/12/23 19:02
Endrin ketone	ND	U	0.000526	0.00149	mg/kg	1	5/12/23 19:02
gamma-BHC (Lindane)	ND	U	0.000474	0.00149	mg/kg	1	5/12/23 19:02
Heptachlor	ND	U	0.000400	0.00149	mg/kg	1	5/12/23 19:02
Heptachlor Epoxide	ND	U	0.000754	0.00149	mg/kg	1	5/12/23 19:02
Methoxychlor	ND	U	0.000438	0.00149	mg/kg	1	5/12/23 19:02
Toxaphene	ND	U	0.0720	0.0759	mg/kg	1	5/12/23 19:02

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00432	0.0383	mg/kg	1	5/11/23 15:34
2,3,4,6-Tetrachlorophenol	ND	U	0.0236	0.153	mg/kg	1	5/11/23 15:34
2,4,5-Trichlorophenol	ND	U	0.0208	0.153	mg/kg	1	5/11/23 15:34
2,4,6-Trichlorophenol	ND	U	0.00957	0.153	mg/kg	1	5/11/23 15:34
2,4-Dichlorophenol	ND	U	0.0154	0.153	mg/kg	1	5/11/23 15:34
2,4-Dimethylphenol	ND	U	0.0151	0.153	mg/kg	1	5/11/23 15:34
2,4-Dinitrophenol	ND	U	0.0221	0.767	mg/kg	1	5/11/23 15:34
2,4-Dinitrotoluene	ND	U	0.0163	0.153	mg/kg	1	5/11/23 15:34
2,6-Dinitrotoluene	ND	U	0.0366	0.153	mg/kg	1	5/11/23 15:34
2-Chloronaphthalene	ND	U	0.0176	0.153	mg/kg	1	5/11/23 15:34
2-Chlorophenol	ND	U	0.0202	0.153	mg/kg	1	5/11/23 15:34
2-Methylnaphthalene	**2.34**		**0.0367**	**0.230**	**mg/kg**	**1**	**5/11/23 15:34**
2-Methylphenol	ND	U	0.0302	0.153	mg/kg	1	5/11/23 15:34
2-Nitroaniline	ND	U	0.0123	0.153	mg/kg	1	5/11/23 15:34
2-Nitrophenol	ND	U	0.0170	0.153	mg/kg	1	5/11/23 15:34
3,3'-Dichlorobenzidine	ND	U	0.0161	0.153	mg/kg	1	5/11/23 15:34
3+4-Methylphenol	ND	U	0.0280	0.153	mg/kg	1	5/11/23 15:34
3-Nitroaniline	ND	U	0.0284	0.153	mg/kg	1	5/11/23 15:34
4,6-Dinitro-2-methylphenol	ND	U	0.0289	0.383	mg/kg	1	5/11/23 15:34
4-Bromophenyl-phenyl ether	ND	U	0.0218	0.153	mg/kg	1	5/11/23 15:34
4-Chloro-3-methylphenol	ND	U	0.0241	0.153	mg/kg	1	5/11/23 15:34
4-Chloroaniline	ND	U	0.00536	0.153	mg/kg	1	5/11/23 15:34
4-Chlorophenyl phenyl ether	ND	U	0.00826	0.153	mg/kg	1	5/11/23 15:34
4-Nitroaniline	ND	U	0.0766	0.153	mg/kg	1	5/11/23 15:34
4-Nitrophenol	ND	U	0.00979	0.153	mg/kg	1	5/11/23 15:34

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504** Collected: **5/4/2023 9:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acenaphthene	**3.33**		**0.00872**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Acenaphthylene	ND	U	0.00532	0.153	mg/kg	1	5/11/23 15:34	
Acetophenone	ND	U	0.0152	0.153	mg/kg	1	5/11/23 15:34	
Anthracene	**5.00**		**0.0222**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Atrazine	ND	U	0.0144	0.153	mg/kg	1	5/11/23 15:34	
Benzaldehyde	ND	U	0.0470	0.153	mg/kg	1	5/11/23 15:34	UJ, RC:SL
Benzo(a)anthracene	**8.41**		**0.0154**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Benzo(a)pyrene	**9.14**		**0.0267**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Benzo(b)fluoranthene	**9.34**		**0.0215**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Benzo(g,h,i)perylene	**6.78**		**0.0124**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Benzo(k)fluoranthene	**3.45**		**0.0176**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Biphenyl	ND	U	0.0134	0.153	mg/kg	1	5/11/23 15:34	
bis(2-chloroethoxy)methane	ND	U	0.0211	0.153	mg/kg	1	5/11/23 15:34	
bis(2-chloroethyl)ether	ND	U	0.0168	0.153	mg/kg	1	5/11/23 15:34	
bis(2-chloroisopropyl)ether	ND	U	0.0551	0.153	mg/kg	1	5/11/23 15:34	
bis(2-ethylhexyl)phthalate	ND	U	0.0306	0.153	mg/kg	1	5/11/23 15:34	
Butylbenzylphthalate	ND	U	0.0139	0.153	mg/kg	1	5/11/23 15:34	
Caprolactam	ND	U	0.0198	0.153	mg/kg	1	5/11/23 15:34	
Carbazole	ND	U	0.0294	0.383	mg/kg	1	5/11/23 15:34	
Chrysene	**8.68**		**0.0105**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Dibenzo(a,h)anthracene	**1.56**		**0.0152**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Dibenzofuran	**1.75**		**0.00912**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Diethylphthalate	ND	U	0.0297	0.153	mg/kg	1	5/11/23 15:34	
Dimethylphthalate	ND	U	0.00949	0.153	mg/kg	1	5/11/23 15:34	
Di-n-butylphthalate	ND	U	0.0625	0.153	mg/kg	1	5/11/23 15:34	
Di-n-octylphthalate	ND	U	0.0314	0.153	mg/kg	1	5/11/23 15:34	
Fluoranthene	**25.6**	D	**0.144**	**1.53**	**mg/kg**	**10**	**5/16/23 21:51**	
Fluorene	**4.12**		**0.0128**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Hexachlorobenzene	ND	U	0.0200	0.153	mg/kg	1	5/11/23 15:34	
Hexachlorobutadiene	ND	U	0.0734	0.153	mg/kg	1	5/11/23 15:34	
Hexachlorocyclopentadiene	ND	U	0.0638	0.383	mg/kg	1	5/11/23 15:34	
Hexachloroethane	ND	U	0.0168	0.153	mg/kg	1	5/11/23 15:34	
Indeno(1,2,3-cd)pyrene	**4.89**		**0.0164**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Isophorone	ND	U	0.0100	0.153	mg/kg	1	5/11/23 15:34	
Naphthalene	**1.41**		**0.0113**	**0.153**	**mg/kg**	**1**	**5/11/23 15:34**	
Nitrobenzene	ND	U	0.0260	0.153	mg/kg	1	5/11/23 15:34	
n-Nitroso-di-n-propylamine	ND	U	0.00820	0.153	mg/kg	1	5/11/23 15:34	
n-Nitrosodiphenylamine	ND	U	0.0326	0.153	mg/kg	1	5/11/23 15:34	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-202 30504** Collected: **5/4/2023 9:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pentachlorophenol	ND	U	0.0210	0.383	mg/kg	1	5/11/23 15:34
Phenanthrene	**16.3**	D	**0.201**	**1.53**	**mg/kg**	**10**	**5/16/23 21:51**
Phenol	ND	U	0.0124	0.153	mg/kg	1	5/11/23 15:34
Pyrene	**24.5**	D	**0.113**	**1.53**	**mg/kg**	**10**	**5/16/23 21:51**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Octanol, 2-butyl-	7.87	6.14	J	mg/kg	1	5/11/23 15:34
Cyclohexane, (2-methylpropyl)-	7.70	5.37	J	mg/kg	1	5/11/23 15:34
Cyclohexane, (bromomethyl)-	4.58	5.81	J	mg/kg	1	5/11/23 15:34
Cyclohexane, butyl-	12.2	6.20	J	mg/kg	1	5/11/23 15:34
Decane, 4-methyl-	7.12	6.32	J	mg/kg	1	5/11/23 15:34
Hexane, 2,4-dimethyl-	7.81	6.29	J	mg/kg	1	5/11/23 15:34
Indane	4.24	6.25	J	mg/kg	1	5/11/23 15:34
Naphthalene, decahydro-, cis-	15.2	6.47	J	mg/kg	1	5/11/23 15:34
Nonane, 2-methyl-	4.74	5.55	J	mg/kg	1	5/11/23 15:34
Tridecane, 5-propyl-	10.8	9.98	J	mg/kg	1	5/11/23 15:34
unknown (01)	12.0	6.67	J	mg/kg	1	5/11/23 15:34
unknown (02)	4.29	8.32	J	mg/kg	1	5/11/23 15:34
unknown (03)	5.53	10.44	J	mg/kg	1	5/11/23 15:34
unknown (04)	12.1	15.61	J	mg/kg	1	5/11/23 15:34
unknown (05)	5.53	15.87	J	mg/kg	1	5/11/23 15:34
TIC Total	**122**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000645	0.00442	mg/kg	1	5/11/23 20:22
1,1,2,2-Tetrachloroethane	ND	U	0.000610	0.00442	mg/kg	1	5/11/23 20:22
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00189	0.00442	mg/kg	1	5/11/23 20:22
1,1,2-Trichloroethane	ND	U	0.000745	0.00442	mg/kg	1	5/11/23 20:22
1,1-Dichloroethane	ND	U	0.000645	0.00442	mg/kg	1	5/11/23 20:22
1,1-Dichloroethene	ND	U	0.000818	0.00442	mg/kg	1	5/11/23 20:22
1,2,3-Trichlorobenzene	ND	U	0.000955	0.00442	mg/kg	1	5/11/23 20:22
1,2,4-Trichlorobenzene	ND	U	0.00118	0.00442	mg/kg	1	5/11/23 20:22
1,2,4-Trimethylbenzene	ND	U	0.000610	0.00442	mg/kg	1	5/11/23 20:22
1,2-Dibromo-3-chloropropane	ND	U	0.00108	0.00442	mg/kg	1	5/11/23 20:22
1,2-Dibromoethane	ND	U	0.000557	0.00442	mg/kg	1	5/11/23 20:22

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504** Collected: **5/4/2023 9:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dichlorobenzene	ND	U	0.000780	0.00442	mg/kg	1	5/11/23 20:22	
1,2-Dichloroethane	ND	U	0.000623	0.00442	mg/kg	1	5/11/23 20:22	
1,2-Dichloropropane	ND	U	0.000725	0.00442	mg/kg	1	5/11/23 20:22	
1,3-Dichlorobenzene	ND	U	0.000325	0.00442	mg/kg	1	5/11/23 20:22	
1,4-Dichlorobenzene	ND	U	0.000637	0.00442	mg/kg	1	5/11/23 20:22	
2-Butanone	ND	U	0.000721	0.0111	mg/kg	1	5/11/23 20:22	
2-Hexanone	ND	U	0.000413	0.00442	mg/kg	1	5/11/23 20:22	
4-Methyl-2-pentanone	ND	U	0.000553	0.00442	mg/kg	1	5/11/23 20:22	
Acetone	ND	U	0.00134	0.0111	mg/kg	1	5/11/23 20:22	
Benzene	ND	U	0.000402	0.00442	mg/kg	1	5/11/23 20:22	
Bromochloromethane	ND	U	0.000816	0.00442	mg/kg	1	5/11/23 20:22	
Bromodichloromethane	ND	U	0.000555	0.00442	mg/kg	1	5/11/23 20:22	
Bromoform	ND	U	0.000776	0.00442	mg/kg	1	5/11/23 20:22	
Bromomethane	ND	U	0.00128	0.00442	mg/kg	1	5/11/23 20:22	
Carbon disulfide	ND	U	0.000634	0.00442	mg/kg	1	5/11/23 20:22	
Carbon Tetrachloride	ND	U	0.000665	0.00442	mg/kg	1	5/11/23 20:22	
Chlorobenzene	ND	U	0.000641	0.00442	mg/kg	1	5/11/23 20:22	
Chlorodibromomethane	ND	U	0.000544	0.00442	mg/kg	1	5/11/23 20:22	
Chloroethane	ND	U	0.000754	0.00442	mg/kg	1	5/11/23 20:22	
Chloroform	ND	U	0.000743	0.00442	mg/kg	1	5/11/23 20:22	
Chloromethane	ND	U	0.00170	0.00442	mg/kg	1	5/11/23 20:22	
cis-1,2-Dichloroethene	ND	U	0.000214	0.00442	mg/kg	1	5/11/23 20:22	
cis-1,3-Dichloropropene	ND	U	0.000559	0.00442	mg/kg	1	5/11/23 20:22	
Cyclohexane	ND	U	0.000979	0.00442	mg/kg	1	5/11/23 20:22	
Dichlorodifluoromethane	ND	U	0.00149	0.00442	mg/kg	1	5/11/23 20:22	UJ, RC:SL
EthylBenzene	ND	U	0.000599	0.00442	mg/kg	1	5/11/23 20:22	
Isopropylbenzene	**0.0446**		**0.000694**	**0.00442**	**mg/kg**	**1**	**5/11/23 20:22**	
m+p-Xylenes	ND	U	0.00112	0.00884	mg/kg	1	5/11/23 20:22	
Methyl Acetate	ND	U	0.000586	0.00442	mg/kg	1	5/11/23 20:22	
Methyl tert-Butyl Ether	ND	U	0.000747	0.00442	mg/kg	1	5/11/23 20:22	
Methylcyclohexane	**0.0292**		**0.000712**	**0.00442**	**mg/kg**	**1**	**5/11/23 20:22**	
Methylene Chloride	ND	U	0.00133	0.00442	mg/kg	1	5/11/23 20:22	
o-Xylene	ND	U	0.000568	0.00442	mg/kg	1	5/11/23 20:22	
Styrene	ND	U	0.000632	0.00442	mg/kg	1	5/11/23 20:22	
tert-Butyl alcohol	ND	U	0.00928	0.0442	mg/kg	1	5/11/23 20:22	
Tetrachloroethene	ND	U	0.000438	0.00442	mg/kg	1	5/11/23 20:22	
Toluene	ND	U	0.000356	0.00442	mg/kg	1	5/11/23 20:22	
Total Xylenes	ND	U	0.000568	0.00442	mg/kg	1	5/11/23 20:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-04 (Soil) Sample Name: **OH-SB-58_3.0-4.0-20230504** Collected: **5/4/2023 9:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
trans-1,2-Dichloroethene	ND	U	0.000599	0.00442	mg/kg	1	5/11/23 20:22
trans-1,3-Dichloropropene	ND	U	0.000844	0.00442	mg/kg	1	5/11/23 20:22
Trichloroethene	ND	U	0.000650	0.00442	mg/kg	1	5/11/23 20:22
Trichlorofluoromethane	ND	U	0.000508	0.00442	mg/kg	1	5/11/23 20:22
Vinyl chloride	ND	U	0.000840	0.00442	mg/kg	1	5/11/23 20:22

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
17-Pentatriacontene	0.267	20.64	J	mg/kg	1	5/11/23 20:22
1H-Indene, 2,3-dihydro-2-methyl-	0.248	22.18	J	mg/kg	1	5/11/23 20:22
Benzene, 1-ethenyl-2-methyl-	0.222	19.92	J	mg/kg	1	5/11/23 20:22
Bicyclo[4.1.0]heptan-3-one, 4,7,7-trimet	0.690	21.30	J	mg/kg	1	5/11/23 20:22
Cyclohexane, 1,4-dimethyl-	0.334	18.24	J	mg/kg	1	5/11/23 20:22
Cyclohexane, 1-ethyl-4-methyl-, trans-	0.245	16.58	J	mg/kg	1	5/11/23 20:22
Cyclohexane, butyl-	0.410	19.33	J	mg/kg	1	5/11/23 20:22
Cyclohexane, propyl-	0.274	17.07	J	mg/kg	1	5/11/23 20:22
Cyclopentane, butyl-	0.252	17.87	J	mg/kg	1	5/11/23 20:22
Naphthalene, decahydro-	0.401	20.20	J	mg/kg	1	5/11/23 20:22
Naphthalene, decahydro-2-methyl-	0.341	21.63	J	mg/kg	1	5/11/23 20:22
Octane	0.263	19.15	J	mg/kg	1	5/11/23 20:22
Octane, 3,3-dimethyl-	0.526	18.76	J	mg/kg	1	5/11/23 20:22
Octane, 3,6-dimethyl-	0.272	16.84	J	mg/kg	1	5/11/23 20:22
Undecane, 5,6-dimethyl-	0.214	17.35	J	mg/kg	1	5/11/23 20:22
TIC Total	**4.96**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.0**				**%**	**1**	**5/5/23 10:57**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00858	0.0720	mg/kg	1	5/8/23 19:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-202 30504** Collected: **5/4/2023 11:20:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00510	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1221	ND	U	0.0100	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1232	ND	U	0.0128	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1242	ND	U	0.00747	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1248	ND	U	0.00782	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1254	ND	U	0.00614	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1260	ND	U	0.00476	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1262	ND	U	0.0102	0.0380	mg/kg	1	5/13/23 14:09
Aroclor-1268	ND	U	0.00460	0.0380	mg/kg	1	5/13/23 14:09
Total PCBs	ND	U	0.00355	0.0380	mg/kg	1	5/13/23 14:09

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0113	0.115	mg/kg	1	5/22/23 13:51
2,4-D	ND	U	0.0191	0.115	mg/kg	1	5/22/23 13:51

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.456**		**0.00576**	**0.0230**	**mg/kg**	**1**	**5/10/23 14:09**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7790**	B	**0.164**	**2.76**	**mg/kg**	**1**	**5/18/23 11:22**
Antimony	**1.77**		**0.150**	**1.38**	**mg/kg**	**1**	**5/18/23 11:22**
Arsenic	**9.48**		**0.0983**	**1.38**	**mg/kg**	**1**	**5/18/23 11:22**
Barium	**1060**	D	**0.417**	**5.51**	**mg/kg**	**10**	**5/18/23 13:54**
Beryllium	**0.825**		**0.00319**	**0.0276**	**mg/kg**	**1**	**5/18/23 11:22**
Cadmium	**0.568**		**0.0537**	**0.276**	**mg/kg**	**1**	**5/18/23 11:22**
Calcium	**6840**		**3.10**	**27.6**	**mg/kg**	**1**	**5/18/23 11:22**
Chromium	**18.3**		**0.0311**	**0.276**	**mg/kg**	**1**	**5/18/23 11:22**
Cobalt	**32.5**		**0.0282**	**0.221**	**mg/kg**	**1**	**5/18/23 11:22**
Copper	**69.8**		**0.0771**	**0.276**	**mg/kg**	**1**	**5/18/23 11:22**
Iron	**17600**	B	**0.781**	**5.51**	**mg/kg**	**1**	**5/18/23 11:22**
Lead	**283**		**0.115**	**1.38**	**mg/kg**	**1**	**5/18/23 11:22**
Magnesium	**3150**		**9.74**	**55.1**	**mg/kg**	**1**	**5/18/23 11:22**
Manganese	**251**		**0.0343**	**0.276**	**mg/kg**	**1**	**5/18/23 11:22**
Nickel	**23.8**		**0.0242**	**0.138**	**mg/kg**	**1**	**5/18/23 11:22**
Potassium	**1530**		**32.8**	**110**	**mg/kg**	**1**	**5/18/23 11:22**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-20230504** Collected: **5/4/2023 11:20:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.265	1.38	mg/kg	1	5/18/23 11:22	
Silver	ND	U	0.0469	0.165	mg/kg	1	5/18/23 11:22	UJ, RC:6L
Sodium	**1370**		**5.26**	**55.1**	**mg/kg**	**1**	**5/18/23 11:22**	
Thallium	ND	U	0.0928	1.38	mg/kg	1	5/18/23 11:22	
Vanadium	**22.3**		**0.0634**	**0.551**	**mg/kg**	**1**	**5/18/23 11:22**	
Zinc	**998**	D	**0.842**	**8.27**	**mg/kg**	**10**	**5/18/23 13:54**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000686	0.00150	mg/kg	1	5/12/23 19:24	
4,4'-DDE [2C]	ND	U	0.000819	0.00150	mg/kg	1	5/12/23 19:24	
4,4'-DDT	ND	U	0.00106	0.00150	mg/kg	1	5/12/23 19:24	
Aldrin	ND	U	0.000710	0.00150	mg/kg	1	5/12/23 19:24	
alpha-BHC	ND	U	0.000446	0.00150	mg/kg	1	5/12/23 19:24	
beta-BHC	ND	U	0.000716	0.00150	mg/kg	1	5/12/23 19:24	
Chlordane	ND	U	0.000666	0.00150	mg/kg	1	5/12/23 19:24	
delta-BHC	ND	U	0.000696	0.00150	mg/kg	1	5/12/23 19:24	
Dieldrin	ND	U	0.000784	0.00150	mg/kg	1	5/12/23 19:24	
Endosulfan I	ND	U	0.000708	0.00150	mg/kg	1	5/12/23 19:24	
Endosulfan II	ND	U	0.000681	0.00150	mg/kg	1	5/12/23 19:24	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000564	0.00150	mg/kg	1	5/12/23 19:24	
Endosulfans, Total (alpha and beta)	ND	U	0.000681	0.00150	mg/kg	1	5/12/23 19:24	
Endrin	ND	U	0.000517	0.00150	mg/kg	1	5/12/23 19:24	
Endrin aldehyde	ND	U	0.000597	0.00150	mg/kg	1	5/12/23 19:24	
Endrin ketone	ND	U	0.000528	0.00150	mg/kg	1	5/12/23 19:24	
gamma-BHC (Lindane)	ND	U	0.000475	0.00150	mg/kg	1	5/12/23 19:24	
Heptachlor	ND	U	0.000401	0.00150	mg/kg	1	5/12/23 19:24	
Heptachlor Epoxide	ND	U	0.000756	0.00150	mg/kg	1	5/12/23 19:24	
Methoxychlor	ND	U	0.000439	0.00150	mg/kg	1	5/12/23 19:24	
Toxaphene	ND	U	0.0722	0.0761	mg/kg	1	5/12/23 19:24	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00433	0.0384	mg/kg	1	5/11/23 16:06
2,3,4,6-Tetrachlorophenol	ND	U	0.0236	0.153	mg/kg	1	5/11/23 16:06
2,4,5-Trichlorophenol	ND	U	0.0209	0.153	mg/kg	1	5/11/23 16:06
2,4,6-Trichlorophenol	ND	U	0.00960	0.153	mg/kg	1	5/11/23 16:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-202 30504** Collected: **5/4/2023 11:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0154	0.153	mg/kg	1	5/11/23 16:06	
2,4-Dimethylphenol	ND	U	0.0151	0.153	mg/kg	1	5/11/23 16:06	
2,4-Dinitrophenol	ND	U	0.0221	0.769	mg/kg	1	5/11/23 16:06	
2,4-Dinitrotoluene	ND	U	0.0164	0.153	mg/kg	1	5/11/23 16:06	
2,6-Dinitrotoluene	ND	U	0.0366	0.153	mg/kg	1	5/11/23 16:06	
2-Chloronaphthalene	ND	U	0.0176	0.153	mg/kg	1	5/11/23 16:06	
2-Chlorophenol	ND	U	0.0203	0.153	mg/kg	1	5/11/23 16:06	
2-Methylnaphthalene	**0.113**	J	**0.0368**	**0.230**	**mg/kg**	**1**	**5/11/23 16:06**	
2-Methylphenol	ND	U	0.0303	0.153	mg/kg	1	5/11/23 16:06	
2-Nitroaniline	ND	U	0.0123	0.153	mg/kg	1	5/11/23 16:06	
2-Nitrophenol	ND	U	0.0171	0.153	mg/kg	1	5/11/23 16:06	
3,3'-Dichlorobenzidine	ND	U	0.0161	0.153	mg/kg	1	5/11/23 16:06	
3+4-Methylphenol	ND	U	0.0281	0.153	mg/kg	1	5/11/23 16:06	
3-Nitroaniline	ND	U	0.0285	0.153	mg/kg	1	5/11/23 16:06	
4,6-Dinitro-2-methylphenol	ND	U	0.0289	0.384	mg/kg	1	5/11/23 16:06	
4-Bromophenyl-phenyl ether	ND	U	0.0219	0.153	mg/kg	1	5/11/23 16:06	
4-Chloro-3-methylphenol	ND	U	0.0242	0.153	mg/kg	1	5/11/23 16:06	
4-Chloroaniline	ND	U	0.00537	0.153	mg/kg	1	5/11/23 16:06	
4-Chlorophenyl phenyl ether	ND	U	0.00829	0.153	mg/kg	1	5/11/23 16:06	
4-Nitroaniline	ND	U	0.0767	0.153	mg/kg	1	5/11/23 16:06	
4-Nitrophenol	ND	U	0.00982	0.153	mg/kg	1	5/11/23 16:06	
Acenaphthene	**0.347**		**0.00875**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Acenaphthylene	**0.611**		**0.00534**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Acetophenone	ND	U	0.0152	0.153	mg/kg	1	5/11/23 16:06	
Anthracene	**1.08**		**0.0222**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Atrazine	ND	U	0.0144	0.153	mg/kg	1	5/11/23 16:06	
Benzaldehyde	ND	U	0.0471	0.153	mg/kg	1	5/11/23 16:06	UJ, RC:SL
Benzo(a)anthracene	**3.66**		**0.0154**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Benzo(a)pyrene	**3.15**		**0.0267**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Benzo(b)fluoranthene	**4.32**		**0.0215**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Benzo(g,h,i)perylene	**2.97**		**0.0124**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Benzo(k)fluoranthene	**1.74**		**0.0176**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
Biphenyl	**0.0418**	J	**0.0135**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**	
bis(2-chloroethoxy)methane	ND	U	0.0212	0.153	mg/kg	1	5/11/23 16:06	
bis(2-chloroethyl)ether	ND	U	0.0168	0.153	mg/kg	1	5/11/23 16:06	
bis(2-chloroisopropyl)ether	ND	U	0.0552	0.153	mg/kg	1	5/11/23 16:06	
bis(2-ethylhexyl)phthalate	ND	U	0.0307	0.153	mg/kg	1	5/11/23 16:06	
Butylbenzylphthalate	ND	U	0.0139	0.153	mg/kg	1	5/11/23 16:06	

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-202 30504** Collected: **5/4/2023 11:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0198	0.153	mg/kg	1	5/11/23 16:06
Carbazole	**0.267**	J	**0.0295**	**0.384**	**mg/kg**	**1**	**5/11/23 16:06**
Chrysene	**4.00**		**0.0105**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Dibenzo(a,h)anthracene	**0.791**		**0.0152**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Dibenzofuran	**0.169**		**0.00914**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Diethylphthalate	ND	U	0.0297	0.153	mg/kg	1	5/11/23 16:06
Dimethylphthalate	ND	U	0.00952	0.153	mg/kg	1	5/11/23 16:06
Di-n-butylphthalate	ND	U	0.0627	0.153	mg/kg	1	5/11/23 16:06
Di-n-octylphthalate	ND	U	0.0315	0.153	mg/kg	1	5/11/23 16:06
Fluoranthene	**5.77**		**0.0144**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Fluorene	**0.303**		**0.0128**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Hexachlorobenzene	ND	U	0.0201	0.153	mg/kg	1	5/11/23 16:06
Hexachlorobutadiene	ND	U	0.0736	0.153	mg/kg	1	5/11/23 16:06
Hexachlorocyclopentadiene	ND	U	0.0640	0.384	mg/kg	1	5/11/23 16:06
Hexachloroethane	ND	U	0.0168	0.153	mg/kg	1	5/11/23 16:06
Indeno(1,2,3-cd)pyrene	**2.34**		**0.0165**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Isophorone	ND	U	0.0100	0.153	mg/kg	1	5/11/23 16:06
Naphthalene	**0.160**		**0.0114**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Nitrobenzene	ND	U	0.0260	0.153	mg/kg	1	5/11/23 16:06
n-Nitroso-di-n-propylamine	ND	U	0.00822	0.153	mg/kg	1	5/11/23 16:06
n-Nitrosodiphenylamine	ND	U	0.0327	0.153	mg/kg	1	5/11/23 16:06
Pentachlorophenol	ND	U	0.0211	0.384	mg/kg	1	5/11/23 16:06
Phenanthrene	**3.33**		**0.0202**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**
Phenol	ND	U	0.0124	0.153	mg/kg	1	5/11/23 16:06
Pyrene	**5.89**		**0.0113**	**0.153**	**mg/kg**	**1**	**5/11/23 16:06**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Benzene, 1-(bromomethyl)-2-methyl-	0.708	6.89	J	mg/kg	1	5/11/23 16:06	
Benzene, 1,1-(1-ethenyl-1,3-propanediyl	1.39	5.89	J	mg/kg	1	5/11/23 16:06	
Benzene, 1,2-propadienyl-	1.15	6.33	J	mg/kg	1	5/11/23 16:06	
Benzene, 1-ethenyl-3-methyl-	0.523	5.93	J	mg/kg	1	5/11/23 16:06	
Hexadecanoic acid, butyl ester	~~4.94~~	11.96	J, B	mg/kg	1	5/11/23 16:06	R, RC: 2
Octadecanoic acid, butyl ester	~~1.59~~	12.75	J, B	mg/kg	1	5/11/23 16:06	R, RC: 2
unknown (01)	0.579	7.59	J	mg/kg	1	5/11/23 16:06	
unknown (02)	0.483	8.82	J	mg/kg	1	5/11/23 16:06	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-202 30504** Collected: **5/4/2023 11:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (03)	0.550	11.12	J	mg/kg	1	5/11/23 16:06
unknown (04)	0.976	11.15	J	mg/kg	1	5/11/23 16:06
unknown (05)	1.71	11.25	J	mg/kg	1	5/11/23 16:06
unknown (06)	0.775	11.68	J	mg/kg	1	5/11/23 16:06
unknown (07)	0.960	11.78	J	mg/kg	1	5/11/23 16:06
unknown (08)	0.620	13.21	J	mg/kg	1	5/11/23 16:06
unknown (09)	4.30	15.60	J	mg/kg	1	5/11/23 16:06
TIC Total	**21.3**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000317	0.00217	mg/kg	1	5/11/23 2:54	
1,1,2,2-Tetrachloroethane	ND	U	0.000300	0.00217	mg/kg	1	5/11/23 2:54	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000931	0.00217	mg/kg	1	5/11/23 2:54	
1,1,2-Trichloroethane	ND	U	0.000366	0.00217	mg/kg	1	5/11/23 2:54	
1,1-Dichloroethane	ND	U	0.000317	0.00217	mg/kg	1	5/11/23 2:54	
1,1-Dichloroethene	ND	U	0.000402	0.00217	mg/kg	1	5/11/23 2:54	
1,2,3-Trichlorobenzene	ND	U	0.000470	0.00217	mg/kg	1	5/11/23 2:54	
1,2,4-Trichlorobenzene	ND	U	0.000579	0.00217	mg/kg	1	5/11/23 2:54	
1,2,4-Trimethylbenzene	ND	U	0.000300	0.00217	mg/kg	1	5/11/23 2:54	
1,2-Dibromo-3-chloropropane	ND	U	0.000531	0.00544	mg/kg	1	5/11/23 2:54	
1,2-Dibromoethane	ND	U	0.000274	0.00217	mg/kg	1	5/11/23 2:54	
1,2-Dichlorobenzene	ND	U	0.000384	0.00217	mg/kg	1	5/11/23 2:54	
1,2-Dichloroethane	ND	U	0.000307	0.00217	mg/kg	1	5/11/23 2:54	
1,2-Dichloropropane	ND	U	0.000357	0.00217	mg/kg	1	5/11/23 2:54	
1,3-Dichlorobenzene	ND	U	0.000160	0.00217	mg/kg	1	5/11/23 2:54	
1,4-Dichlorobenzene	ND	U	0.000313	0.00217	mg/kg	1	5/11/23 2:54	
2-Butanone	ND	U	0.000354	0.0109	mg/kg	1	5/11/23 2:54	
2-Hexanone	ND	U	0.000203	0.00217	mg/kg	1	5/11/23 2:54	
4-Methyl-2-pentanone	ND	U	0.000272	0.00217	mg/kg	1	5/11/23 2:54	
Acetone	ND	U	0.000659	0.0544	mg/kg	1	5/11/23 2:54	UJ, RC:SL
Benzene	ND	U	0.000198	0.00217	mg/kg	1	5/11/23 2:54	
Bromochloromethane	ND	U	0.000401	0.00217	mg/kg	1	5/11/23 2:54	
Bromodichloromethane	ND	U	0.000273	0.00217	mg/kg	1	5/11/23 2:54	
Bromoform	ND	U	0.000382	0.00217	mg/kg	1	5/11/23 2:54	
Bromomethane	ND	U	0.000627	0.00217	mg/kg	1	5/11/23 2:54	
Carbon disulfide	ND	U	0.000312	0.00217	mg/kg	1	5/11/23 2:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-20230504** Collected: **5/4/2023 11:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Carbon Tetrachloride	ND	U	0.000327	0.00217	mg/kg	1	5/11/23 2:54	
Chlorobenzene	ND	U	0.000315	0.00217	mg/kg	1	5/11/23 2:54	
Chlorodibromomethane	ND	U	0.000267	0.00217	mg/kg	1	5/11/23 2:54	
Chloroethane	ND	U	0.000371	0.00217	mg/kg	1	5/11/23 2:54	
Chloroform	ND	U	0.000365	0.00217	mg/kg	1	5/11/23 2:54	
Chloromethane	ND	U	0.000837	0.00217	mg/kg	1	5/11/23 2:54	
cis-1,2-Dichloroethene	ND	U	0.000105	0.00217	mg/kg	1	5/11/23 2:54	
cis-1,3-Dichloropropene	ND	U	0.000275	0.00217	mg/kg	1	5/11/23 2:54	
Cyclohexane	ND	U	0.000482	0.00217	mg/kg	1	5/11/23 2:54	
Dichlorodifluoromethane	ND	U	0.000734	0.00217	mg/kg	1	5/11/23 2:54	UJ, RC:SL
EthylBenzene	ND	U	0.000295	0.00217	mg/kg	1	5/11/23 2:54	
Isopropylbenzene	ND	U	0.000341	0.00217	mg/kg	1	5/11/23 2:54	
m+p-Xylenes	ND	U	0.000549	0.00435	mg/kg	1	5/11/23 2:54	
Methyl Acetate	ND	U	0.000288	0.00217	mg/kg	1	5/11/23 2:54	
Methyl tert-Butyl Ether	ND	U	0.000367	0.00217	mg/kg	1	5/11/23 2:54	
Methylcyclohexane	ND	U	0.000350	0.00217	mg/kg	1	5/11/23 2:54	
Methylene Chloride	ND	U	0.000653	0.00544	mg/kg	1	5/11/23 2:54	
o-Xylene	ND	U	0.000279	0.00217	mg/kg	1	5/11/23 2:54	
Styrene	ND	U	0.000311	0.00217	mg/kg	1	5/11/23 2:54	
tert-Butyl alcohol	ND	U	0.00457	0.0217	mg/kg	1	5/11/23 2:54	
Tetrachloroethene	ND	U	0.000215	0.00217	mg/kg	1	5/11/23 2:54	
Toluene	ND	U	0.000175	0.00217	mg/kg	1	5/11/23 2:54	
Total Xylenes	ND	U	0.000279	0.00217	mg/kg	1	5/11/23 2:54	
trans-1,2-Dichloroethene	ND	U	0.000295	0.00217	mg/kg	1	5/11/23 2:54	
trans-1,3-Dichloropropene	ND	U	0.000415	0.00217	mg/kg	1	5/11/23 2:54	
Trichloroethene	ND	U	0.000320	0.00217	mg/kg	1	5/11/23 2:54	
Trichlorofluoromethane	ND	U	0.000250	0.00217	mg/kg	1	5/11/23 2:54	
Vinyl chloride	ND	U	0.000413	0.00217	mg/kg	1	5/11/23 2:54	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.8**				**%**	**1**	**5/5/23 10:57**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-05 (Soil) Sample Name: **OH-SB-53_1.0-2.0-20230504** Collected: **5/4/2023 11:20:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00746	0.0626	mg/kg	1	5/8/23 19:33

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-20230504** Collected: **5/4/2023 11:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00485	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1221	ND	U	0.00955	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1232	ND	U	0.0121	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1242	ND	U	0.00711	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1248	ND	U	0.00744	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1254	ND	U	0.00584	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1260	ND	U	0.00453	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1262	ND	U	0.00974	0.0362	mg/kg	1	5/13/23 14:31
Aroclor-1268	ND	U	0.00438	0.0362	mg/kg	1	5/13/23 14:31
Total PCBs	ND	U	0.00338	0.0362	mg/kg	1	5/13/23 14:31

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0107	0.110	mg/kg	1	5/22/23 14:15
2,4-D	ND	U	0.0182	0.110	mg/kg	1	5/22/23 14:15

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.301**		**0.00548**	**0.0219**	**mg/kg**	**1**	**5/10/23 14:09**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**9040**	B	**0.159**	**2.68**	**mg/kg**	**1**	**5/18/23 11:24**
Antimony	ND	U	0.146	1.34	mg/kg	1	5/18/23 11:24
Arsenic	**6.69**		**0.0954**	**1.34**	**mg/kg**	**1**	**5/18/23 11:24**
Barium	**185**		**0.0404**	**0.535**	**mg/kg**	**1**	**5/18/23 11:24**
Beryllium	**0.878**		**0.00310**	**0.0268**	**mg/kg**	**1**	**5/18/23 11:24**
Cadmium	**0.310**		**0.0522**	**0.268**	**mg/kg**	**1**	**5/18/23 11:24**
Calcium	**17000**		**3.01**	**26.8**	**mg/kg**	**1**	**5/18/23 11:24**
Chromium	**20.1**		**0.0302**	**0.268**	**mg/kg**	**1**	**5/18/23 11:24**
Cobalt	**20.5**		**0.0273**	**0.214**	**mg/kg**	**1**	**5/18/23 11:24**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-202 30504** Collected: **5/4/2023 11:45:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Copper	**42.5**		**0.0748**	**0.268**	**mg/kg**	**1**	**5/18/23 11:24**	
Iron	**16100**	B	**0.758**	**5.35**	**mg/kg**	**1**	**5/18/23 11:24**	
Lead	**207**		**0.112**	**1.34**	**mg/kg**	**1**	**5/18/23 11:24**	
Magnesium	**4710**		**9.45**	**53.5**	**mg/kg**	**1**	**5/18/23 11:24**	
Manganese	**214**		**0.0333**	**0.268**	**mg/kg**	**1**	**5/18/23 11:24**	
Nickel	**30.0**		**0.0235**	**0.134**	**mg/kg**	**1**	**5/18/23 11:24**	
Potassium	**2240**		**31.8**	**107**	**mg/kg**	**1**	**5/18/23 11:24**	
Selenium	ND	U	0.257	1.34	mg/kg	1	5/18/23 11:24	
Silver	ND	U	0.0455	0.161	mg/kg	1	5/18/23 11:24	UJ, RC:6L
Sodium	**892**		**5.10**	**53.5**	**mg/kg**	**1**	**5/18/23 11:24**	
Thallium	ND	U	0.0900	1.34	mg/kg	1	5/18/23 11:24	
Vanadium	**29.4**		**0.0615**	**0.535**	**mg/kg**	**1**	**5/18/23 11:24**	
Zinc	**186**		**0.0817**	**0.803**	**mg/kg**	**1**	**5/18/23 11:24**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000653	0.00143	mg/kg	1	5/12/23 19:46	
4,4'-DDE [2C]	ND	U	0.000780	0.00143	mg/kg	1	5/12/23 19:46	
4,4'-DDT	ND	U	0.00101	0.00143	mg/kg	1	5/12/23 19:46	
Aldrin	ND	U	0.000676	0.00143	mg/kg	1	5/12/23 19:46	
alpha-BHC	ND	U	0.000424	0.00143	mg/kg	1	5/12/23 19:46	
beta-BHC	ND	U	0.000681	0.00143	mg/kg	1	5/12/23 19:46	
Chlordane	ND	U	0.000634	0.00143	mg/kg	1	5/12/23 19:46	
delta-BHC	ND	U	0.000662	0.00143	mg/kg	1	5/12/23 19:46	
Dieldrin	ND	U	0.000746	0.00143	mg/kg	1	5/12/23 19:46	
Endosulfan I	ND	U	0.000673	0.00143	mg/kg	1	5/12/23 19:46	
Endosulfan II	ND	U	0.000648	0.00143	mg/kg	1	5/12/23 19:46	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000536	0.00143	mg/kg	1	5/12/23 19:46	
Endosulfans, Total (alpha and beta)	ND	U	0.000648	0.00143	mg/kg	1	5/12/23 19:46	
Endrin	ND	U	0.000492	0.00143	mg/kg	1	5/12/23 19:46	
Endrin aldehyde	ND	U	0.000568	0.00143	mg/kg	1	5/12/23 19:46	
Endrin ketone	ND	U	0.000502	0.00143	mg/kg	1	5/12/23 19:46	
gamma-BHC (Lindane)	ND	U	0.000452	0.00143	mg/kg	1	5/12/23 19:46	
Heptachlor	ND	U	0.000382	0.00143	mg/kg	1	5/12/23 19:46	
Heptachlor Epoxide	ND	U	0.000719	0.00143	mg/kg	1	5/12/23 19:46	
Methoxychlor	ND	U	0.000418	0.00143	mg/kg	1	5/12/23 19:46	
Toxaphene	ND	U	0.0687	0.0724	mg/kg	1	5/12/23 19:46	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-202 30504** Collected: **5/4/2023 11:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00412	0.0365	mg/kg	1	5/11/23 16:37	
2,3,4,6-Tetrachlorophenol	ND	U	0.0225	0.146	mg/kg	1	5/11/23 16:37	
2,4,5-Trichlorophenol	ND	U	0.0199	0.146	mg/kg	1	5/11/23 16:37	
2,4,6-Trichlorophenol	ND	U	0.00914	0.146	mg/kg	1	5/11/23 16:37	
2,4-Dichlorophenol	ND	U	0.0147	0.146	mg/kg	1	5/11/23 16:37	
2,4-Dimethylphenol	ND	U	0.0144	0.146	mg/kg	1	5/11/23 16:37	
2,4-Dinitrophenol	ND	U	0.0211	0.732	mg/kg	1	5/11/23 16:37	
2,4-Dinitrotoluene	ND	U	0.0156	0.146	mg/kg	1	5/11/23 16:37	
2,6-Dinitrotoluene	ND	U	0.0349	0.146	mg/kg	1	5/11/23 16:37	
2-Chloronaphthalene	ND	U	0.0168	0.146	mg/kg	1	5/11/23 16:37	
2-Chlorophenol	ND	U	0.0193	0.146	mg/kg	1	5/11/23 16:37	
2-Methylnaphthalene	**0.257**		**0.0350**	**0.219**	**mg/kg**	**1**	**5/11/23 16:37**	
2-Methylphenol	ND	U	0.0288	0.146	mg/kg	1	5/11/23 16:37	
2-Nitroaniline	ND	U	0.0117	0.146	mg/kg	1	5/11/23 16:37	
2-Nitrophenol	ND	U	0.0162	0.146	mg/kg	1	5/11/23 16:37	
3,3'-Dichlorobenzidine	ND	U	0.0154	0.146	mg/kg	1	5/11/23 16:37	
3+4-Methylphenol	ND	U	0.0268	0.146	mg/kg	1	5/11/23 16:37	
3-Nitroaniline	ND	U	0.0271	0.146	mg/kg	1	5/11/23 16:37	
4,6-Dinitro-2-methylphenol	ND	U	0.0275	0.365	mg/kg	1	5/11/23 16:37	
4-Bromophenyl-phenyl ether	ND	U	0.0208	0.146	mg/kg	1	5/11/23 16:37	
4-Chloro-3-methylphenol	ND	U	0.0230	0.146	mg/kg	1	5/11/23 16:37	
4-Chloroaniline	ND	U	0.00511	0.146	mg/kg	1	5/11/23 16:37	
4-Chlorophenyl phenyl ether	ND	U	0.00789	0.146	mg/kg	1	5/11/23 16:37	
4-Nitroaniline	ND	U	0.0730	0.146	mg/kg	1	5/11/23 16:37	
4-Nitrophenol	ND	U	0.00934	0.146	mg/kg	1	5/11/23 16:37	
Acenaphthene	**0.895**		**0.00832**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Acenaphthylene	**0.238**		**0.00508**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Acetophenone	ND	U	0.0145	0.146	mg/kg	1	5/11/23 16:37	
Anthracene	**1.80**		**0.0212**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Atrazine	ND	U	0.0137	0.146	mg/kg	1	5/11/23 16:37	
Benzaldehyde	ND	U	0.0449	0.146	mg/kg	1	5/11/23 16:37	UJ, RC:SL
Benzo(a)anthracene	**3.97**		**0.0147**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Benzo(a)pyrene	**4.01**		**0.0254**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Benzo(b)fluoranthene	**4.27**		**0.0205**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Benzo(g,h,i)perylene	**2.81**		**0.0118**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Benzo(k)fluoranthene	**1.86**		**0.0168**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
Biphenyl	**0.109**	J	**0.0128**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**	
bis(2-chloroethoxy)methane	ND	U	0.0202	0.146	mg/kg	1	5/11/23 16:37	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-20230504** Collected: **5/4/2023 11:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0160	0.146	mg/kg	1	5/11/23 16:37
bis(2-chloroisopropyl)ether	ND	U	0.0525	0.146	mg/kg	1	5/11/23 16:37
bis(2-ethylhexyl)phthalate	ND	U	0.0292	0.146	mg/kg	1	5/11/23 16:37
Butylbenzylphthalate	ND	U	0.0133	0.146	mg/kg	1	5/11/23 16:37
Caprolactam	ND	U	0.0189	0.146	mg/kg	1	5/11/23 16:37
Carbazole	**0.463**		**0.0281**	**0.365**	**mg/kg**	**1**	**5/11/23 16:37**
Chrysene	**4.14**		**0.0100**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Dibenzo(a,h)anthracene	**0.733**		**0.0145**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Dibenzofuran	**0.516**		**0.00870**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Diethylphthalate	ND	U	0.0283	0.146	mg/kg	1	5/11/23 16:37
Dimethylphthalate	ND	U	0.00906	0.146	mg/kg	1	5/11/23 16:37
Di-n-butylphthalate	ND	U	0.0597	0.146	mg/kg	1	5/11/23 16:37
Di-n-octylphthalate	ND	U	0.0299	0.146	mg/kg	1	5/11/23 16:37
Fluoranthene	**8.01**		**0.0137**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Fluorene	**0.772**		**0.0122**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Hexachlorobenzene	ND	U	0.0191	0.146	mg/kg	1	5/11/23 16:37
Hexachlorobutadiene	ND	U	0.0701	0.146	mg/kg	1	5/11/23 16:37
Hexachlorocyclopentadiene	ND	U	0.0609	0.365	mg/kg	1	5/11/23 16:37
Hexachloroethane	ND	U	0.0160	0.146	mg/kg	1	5/11/23 16:37
Indeno(1,2,3-cd)pyrene	**2.29**		**0.0157**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Isophorone	ND	U	0.00956	0.146	mg/kg	1	5/11/23 16:37
Naphthalene	**0.307**		**0.0108**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Nitrobenzene	ND	U	0.0248	0.146	mg/kg	1	5/11/23 16:37
n-Nitroso-di-n-propylamine	ND	U	0.00782	0.146	mg/kg	1	5/11/23 16:37
n-Nitrosodiphenylamine	ND	U	0.0311	0.146	mg/kg	1	5/11/23 16:37
Pentachlorophenol	ND	U	0.0201	0.365	mg/kg	1	5/11/23 16:37
Phenanthrene	**6.50**		**0.0192**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**
Phenol	ND	U	0.0118	0.146	mg/kg	1	5/11/23 16:37
Pyrene	**7.88**		**0.0107**	**0.146**	**mg/kg**	**1**	**5/11/23 16:37**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, 1,1-dimethylethyl est	5.67	11.96	J	mg/kg	1	5/11/23 16:37	
Naphthalene, 1,5-dimethyl-	0.786	8.76	J	mg/kg	1	5/11/23 16:37	
Octadecanoic acid, butyl ester	~~1.94~~	12.76	J, B	mg/kg	1	5/11/23 16:37	R, RC: 2
unknown (01)	1.16	11.12	J	mg/kg	1	5/11/23 16:37	
unknown (02)	1.48	11.15	J	mg/kg	1	5/11/23 16:37	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-202 30504** Collected: **5/4/2023 11:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (03)	0.624	11.20	J	mg/kg	1	5/11/23 16:37
unknown (04)	2.47	11.25	J	mg/kg	1	5/11/23 16:37
unknown (05)	0.930	11.41	J	mg/kg	1	5/11/23 16:37
unknown (06)	0.814	11.68	J	mg/kg	1	5/11/23 16:37
unknown (07)	0.646	11.79	J	mg/kg	1	5/11/23 16:37
unknown (08)	0.890	12.48	J	mg/kg	1	5/11/23 16:37
unknown (09)	0.625	12.72	J	mg/kg	1	5/11/23 16:37
unknown (10)	0.694	13.23	J	mg/kg	1	5/11/23 16:37
unknown (11)	0.999	15.27	J	mg/kg	1	5/11/23 16:37
unknown (12)	3.82	15.60	J	mg/kg	1	5/11/23 16:37
TIC Total	**23.5**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000308	0.00211	mg/kg	1	5/11/23 3:23	
1,1,2,2-Tetrachloroethane	ND	U	0.000291	0.00211	mg/kg	1	5/11/23 3:23	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000903	0.00211	mg/kg	1	5/11/23 3:23	
1,1,2-Trichloroethane	ND	U	0.000355	0.00211	mg/kg	1	5/11/23 3:23	
1,1-Dichloroethane	ND	U	0.000308	0.00211	mg/kg	1	5/11/23 3:23	
1,1-Dichloroethene	ND	U	0.000390	0.00211	mg/kg	1	5/11/23 3:23	
1,2,3-Trichlorobenzene	ND	U	0.000456	0.00211	mg/kg	1	5/11/23 3:23	
1,2,4-Trichlorobenzene	ND	U	0.000562	0.00211	mg/kg	1	5/11/23 3:23	
1,2,4-Trimethylbenzene	ND	U	0.000291	0.00211	mg/kg	1	5/11/23 3:23	
1,2-Dibromo-3-chloropropane	ND	U	0.000515	0.00527	mg/kg	1	5/11/23 3:23	
1,2-Dibromoethane	ND	U	0.000266	0.00211	mg/kg	1	5/11/23 3:23	
1,2-Dichlorobenzene	ND	U	0.000372	0.00211	mg/kg	1	5/11/23 3:23	
1,2-Dichloroethane	ND	U	0.000297	0.00211	mg/kg	1	5/11/23 3:23	
1,2-Dichloropropane	ND	U	0.000346	0.00211	mg/kg	1	5/11/23 3:23	
1,3-Dichlorobenzene	ND	U	0.000155	0.00211	mg/kg	1	5/11/23 3:23	
1,4-Dichlorobenzene	ND	U	0.000304	0.00211	mg/kg	1	5/11/23 3:23	
2-Butanone	ND	U	0.000344	0.0105	mg/kg	1	5/11/23 3:23	
2-Hexanone	ND	U	0.000197	0.00211	mg/kg	1	5/11/23 3:23	
4-Methyl-2-pentanone	ND	U	0.000264	0.00211	mg/kg	1	5/11/23 3:23	
Acetone	ND	U	0.000639	0.0527	mg/kg	1	5/11/23 3:23	UJ, RC:SL
Benzene	ND	U	0.000192	0.00211	mg/kg	1	5/11/23 3:23	
Bromochloromethane	ND	U	0.000389	0.00211	mg/kg	1	5/11/23 3:23	
Bromodichloromethane	ND	U	0.000265	0.00211	mg/kg	1	5/11/23 3:23	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-20230504** Collected: **5/4/2023 11:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000370	0.00211	mg/kg	1	5/11/23 3:23	
Bromomethane	ND	U	0.000609	0.00211	mg/kg	1	5/11/23 3:23	
Carbon disulfide	ND	U	0.000303	0.00211	mg/kg	1	5/11/23 3:23	
Carbon Tetrachloride	ND	U	0.000317	0.00211	mg/kg	1	5/11/23 3:23	
Chlorobenzene	ND	U	0.000306	0.00211	mg/kg	1	5/11/23 3:23	
Chlorodibromomethane	ND	U	0.000259	0.00211	mg/kg	1	5/11/23 3:23	
Chloroethane	ND	U	0.000360	0.00211	mg/kg	1	5/11/23 3:23	
Chloroform	ND	U	0.000354	0.00211	mg/kg	1	5/11/23 3:23	
Chloromethane	**0.0758**		**0.000812**	**0.00211**	**mg/kg**	**1**	**5/11/23 3:23**	
cis-1,2-Dichloroethene	ND	U	0.000102	0.00211	mg/kg	1	5/11/23 3:23	
cis-1,3-Dichloropropene	ND	U	0.000267	0.00211	mg/kg	1	5/11/23 3:23	
Cyclohexane	ND	U	0.000467	0.00211	mg/kg	1	5/11/23 3:23	
Dichlorodifluoromethane	ND	U	0.000712	0.00211	mg/kg	1	5/11/23 3:23	UJ, RC:SL
EthylBenzene	ND	U	0.000286	0.00211	mg/kg	1	5/11/23 3:23	
Isopropylbenzene	ND	U	0.000331	0.00211	mg/kg	1	5/11/23 3:23	
m+p-Xylenes	ND	U	0.000533	0.00422	mg/kg	1	5/11/23 3:23	
Methyl Acetate	ND	U	0.000279	0.00211	mg/kg	1	5/11/23 3:23	
Methyl tert-Butyl Ether	ND	U	0.000356	0.00211	mg/kg	1	5/11/23 3:23	
Methylcyclohexane	ND	U	0.000340	0.00211	mg/kg	1	5/11/23 3:23	
Methylene Chloride	ND	U	0.000634	0.00527	mg/kg	1	5/11/23 3:23	
o-Xylene	ND	U	0.000271	0.00211	mg/kg	1	5/11/23 3:23	
Styrene	ND	U	0.000302	0.00211	mg/kg	1	5/11/23 3:23	
tert-Butyl alcohol	ND	U	0.00443	0.0211	mg/kg	1	5/11/23 3:23	
Tetrachloroethene	ND	U	0.000209	0.00211	mg/kg	1	5/11/23 3:23	
Toluene	ND	U	0.000170	0.00211	mg/kg	1	5/11/23 3:23	
Total Xylenes	ND	U	0.000271	0.00211	mg/kg	1	5/11/23 3:23	
trans-1,2-Dichloroethene	ND	U	0.000286	0.00211	mg/kg	1	5/11/23 3:23	
trans-1,3-Dichloropropene	ND	U	0.000403	0.00211	mg/kg	1	5/11/23 3:23	
Trichloroethene	ND	U	0.000310	0.00211	mg/kg	1	5/11/23 3:23	
Trichlorofluoromethane	ND	U	0.000243	0.00211	mg/kg	1	5/11/23 3:23	
Vinyl chloride	ND	U	0.000401	0.00211	mg/kg	1	5/11/23 3:23	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2,6-Dimethylbicyclo[3.2.1]octane	0.0104	16.52	J	mg/kg	1	5/11/23 3:23
2-Methyladamantane	0.0128	20.78	J	mg/kg	1	5/11/23 3:23
Adamantane	0.00918	19.20	J	mg/kg	1	5/11/23 3:23

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0281
Date to Lab: 5/4/2023 6:14:00PM

23E0281-06 (Soil) Sample Name: **OH-SB-53_3.0-4.0-202 30504** Collected: **5/4/2023 11:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (1-methyl-1-propenyl)-, (E)-	0.00947	20.46	J	mg/kg	1	5/11/23 3:23
Bicyclo[3.2.1]octane	0.0114	15.25	J	mg/kg	1	5/11/23 3:23
Carane, 4,5-epoxy-, (E)-	0.0204	19.53	J	mg/kg	1	5/11/23 3:23
Cyclohexane, 1,1,2,3-tetramethyl-	0.0157	16.17	J	mg/kg	1	5/11/23 3:23
Cyclohexane, 1,4-dimethyl-	0.00897	14.86	J	mg/kg	1	5/11/23 3:23
Cyclohexane, propyl-	0.0118	15.41	J	mg/kg	1	5/11/23 3:23
Cyclohexene, 1-ethyl-	0.00994	16.38	J	mg/kg	1	5/11/23 3:23
Cyclohexene, 1-methyl-	0.00911	16.98	J	mg/kg	1	5/11/23 3:23
Heptane, 2,2,4,6,6-pentamethyl-	0.0162	16.68	J	mg/kg	1	5/11/23 3:23
Naphthalene, decahydro-, cis-	0.0222	18.44	J	mg/kg	1	5/11/23 3:23
Naphthalene, decahydro-2-methyl-	0.0130	19.87	J	mg/kg	1	5/11/23 3:23
TIC Total	**0.181**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.2**				**%**	**1**	**5/5/23 10:57**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00684	0.0574	mg/kg	1	5/8/23 19:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Pace Analytical Services, LLC-Fairfield

Analytical Results Summary

Owls Head Phase 2

23E0281-02 (Ground Water)

FB_20230504

Collected	Received	Contact
05/04/2023 09:00	05/04/2023 18:14	Chengyu Hang

Lab Section/ Analysis	Method	Prepared	Analyzed	Result	Qual	MDL	RL	Units
Total Metals								
Aluminum	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.100	mg/L
Antimony	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0500	mg/L
Arsenic	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0500	mg/L
Barium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0200	mg/L
Beryllium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.00100	mg/L
Cadmium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0100	mg/L
Calcium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		1.00	mg/L
Chromium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0100	mg/L
Cobalt	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.00800	mg/L
Copper	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0100	mg/L
Iron	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.200	mg/L
Lead	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0500	mg/L
Magnesium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		2.00	mg/L
Manganese	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0100	mg/L
Mercury	EPA 245.1	05/10/23 08:00	05/10/23 15:14	ND	U		0.000200	mg/L
Nickel	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.00500	mg/L
Potassium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		4.00	mg/L
Selenium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0500	mg/L
Silver	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0200	mg/L
Sodium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		2.00	mg/L
Thallium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0500	mg/L
Vanadium	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.00800	mg/L
Zinc	EPA 200.7	05/09/23 10:50	05/17/23 14:02	ND	U		0.0300	mg/L

FootNotes

RL - Reporting limit
MDL - Minimum detection limit
ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated velue

B - Indicates compound found in associeted blenk
E - Concentration exceeds highest calibration standerd
D - Indicates result is besed on e dilution
P - Greater than 25% diff. between 2 GC columns
H - Indicates a Hold Time violation
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-01	Date Collected	: 05/04/23 08:30
Client ID	: OH-SB-58-2.0-3.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 06:19
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102322	Analyst	: CNC
Sample Amount	: 30.25 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 89
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	10.7	1.12	0.321	J, RC:SL
91-20-3C1	C1-Naphthalenes	19.3	1.12	0.321	
91-20-3C2	C2-Naphthalenes	33.1	1.12	0.321	
91-20-3C3	C3-Naphthalenes	44.9	1.12	0.321	
91-20-3C4	C4-Naphthalenes	28.7	1.12	0.321	
208-96-8	Acenaphthylene	19.8	1.12	0.213	
83-32-9	Acenaphthene	50.7	1.12	0.197	
86-73-7	Fluorene	48.6	1.12	0.298	
86-73-7C1	C1-Fluorenes	33.0	1.12	0.298	
86-73-7C2	C2-Fluorenes	43.5	1.12	0.298	
86-73-7C3	C3-Fluorenes	77.0	1.12	0.298	
85-01-8	Phenanthrene	665	1.12	0.370	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	302	1.12	0.370	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	175	1.12	0.370	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	76.7	1.12	0.370	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	23.1	1.12	0.370	
120-12-7	Anthracene	146	1.12	0.230	
206-44-0	Fluoranthene	774	1.12	0.355	
129-00-0	Pyrene	783	1.12	0.294	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	432	1.12	0.294	
56-55-3	Benz(a)anthracene	612	1.12	0.228	
218-01-9	Chrysene	573	1.12	0.226	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-01	Date Collected	: 05/04/23 08:30
Client ID	: OH-SB-58-2.0-3.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 06:19
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102322	Analyst	: CNC
Sample Amount	: 30.25 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 89
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	265	1.12	0.226	J, RC:Q
218-01-9C2	C2-Chrysenes BS	120	1.12	0.226	
218-01-9C3	C3-Chrysenes	77.9	1.12	0.226	
218-01-9C4	C4-Chrysenes	41.1	1.12	0.226	
205-99-2	Benzo(b)fluoranthene	467	1.12	0.291	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	467	1.12	0.222	
192-97-2	Benzo(e)pyrene	349	1.12	0.231	
50-32-8	Benzo(a)pyrene	611	1.12	0.319	
198-55-0	Perylene	143	1.12	0.216	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	358	1.12	0.303	J, RC:Q
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	104	1.12	0.302	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	361	1.12	0.297	J, RC:Q

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-02	Date Collected	: 05/04/23 09:20
Client ID	: OH-SB-58-3.0-4.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 07:42
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102323	Analyst	: CNC
Sample Amount	: 10.47 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	1810	17.1	4.92	J, RC:SL
91-20-3C1	C1-Naphthalenes	5880	17.1	4.92	
91-20-3C2	C2-Naphthalenes	52000	17.1	4.92	
91-20-3C3	C3-Naphthalenes	54700	17.1	4.92	
91-20-3C4	C4-Naphthalenes	33600	17.1	4.92	
208-96-8	Acenaphthylene	1880	17.1	3.26	
83-32-9	Acenaphthene	4590	17.1	3.02	
86-73-7	Fluorene	5600	17.1	4.56	
86-73-7C1	C1-Fluorenes	6460	17.1	4.56	
86-73-7C2	C2-Fluorenes	9980	17.1	4.56	
86-73-7C3	C3-Fluorenes	6810	17.1	4.56	
85-01-8	Phenanthrene	23300	17.1	5.67	E
PHENANTHC1	C1-Phenanthrenes/Anthracenes	19200	17.1	5.67	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	13700	17.1	5.67	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	6160	17.1	5.67	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1830	17.1	5.67	
120-12-7	Anthracene	7980	17.1	3.53	
206-44-0	Fluoranthene	34900	17.1	5.44	E
129-00-0	Pyrene	37300	17.1	4.50	E
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	18000	17.1	4.50	
56-55-3	Benz(a)anthracene	16400	17.1	3.49	
218-01-9	Chrysene	15600	17.1	3.46	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-02	Date Collected	: 05/04/23 09:20
Client ID	: OH-SB-58-3.0-4.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 07:42
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102323	Analyst	: CNC
Sample Amount	: 10.47 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	6990	17.1	3.46	J, RC:Q
218-01-9C2	C2-Chrysenes BS	3430	17.1	3.46	
218-01-9C3	C3-Chrysenes	2160	17.1	3.46	
218-01-9C4	C4-Chrysenes	830	17.1	3.46	
205-99-2	Benzo(b)fluoranthene	14200	17.1	4.45	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	11600	17.1	3.40	
192-97-2	Benzo(e)pyrene	11000	17.1	3.53	
50-32-8	Benzo(a)pyrene	18100	17.1	4.89	
198-55-0	Perylene	4360	17.1	3.30	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	10500	17.1	4.64	J, RC:Q
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	3310	17.1	4.62	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	12200	17.1	4.55	J, RC:Q

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325085
Project Name	: 23E0281	**Project Number**	: 23E0281
Lab ID	: L2325085-02D	**Date Collected**	: 05/04/23 09:20
Client ID	: OH-SB-58-3.0-4.0-20230504	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/15/23 17:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 2
Lab File ID	: F1405152307	**Analyst**	: CNC
Sample Amount	: 10.47 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
85-01-8	Phenanthrene	22100	34.2	11.3	
206-44-0	Fluoranthene	34200	34.2	10.9	
129-00-0	Pyrene	37800	34.2	9.00	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-03	Date Collected	: 05/04/23 11:20
Client ID	: OH-SB-53-1.0-2.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 09:06
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102324	Analyst	: CNC
Sample Amount	: 10.61 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	87.2	3.31	0.950	J, RC:SL
91-20-3C1	C1-Naphthalenes	92.3	3.31	0.950	
91-20-3C2	C2-Naphthalenes	223	3.31	0.950	
91-20-3C3	C3-Naphthalenes	295	3.31	0.950	
91-20-3C4	C4-Naphthalenes	175	3.31	0.950	
208-96-8	Acenaphthylene	360	3.31	0.631	
83-32-9	Acenaphthene	210	3.31	0.583	
86-73-7	Fluorene	162	3.31	0.882	
86-73-7C1	C1-Fluorenes	142	3.31	0.882	
86-73-7C2	C2-Fluorenes	358	3.31	0.882	
86-73-7C3	C3-Fluorenes	511	3.31	0.882	
85-01-8	Phenanthrene	2810	3.31	1.10	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1150	3.31	1.10	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	968	3.31	1.10	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	485	3.31	1.10	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	166	3.31	1.10	
120-12-7	Anthracene	738	3.31	0.682	
206-44-0	Fluoranthene	3680	3.31	1.05	
129-00-0	Pyrene	3830	3.31	0.870	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1780	3.31	0.870	
56-55-3	Benz(a)anthracene	3670	3.31	0.674	
218-01-9	Chrysene	3770	3.31	0.668	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-03	Date Collected	: 05/04/23 11:20
Client ID	: OH-SB-53-1.0-2.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 09:06
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102324	Analyst	: CNC
Sample Amount	: 10.61 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	1880	3.31	0.668	J, RC:Q
218-01-9C2	C2-Chrysenes BS	939	3.31	0.668	
218-01-9C3	C3-Chrysenes	528	3.31	0.668	
218-01-9C4	C4-Chrysenes	353	3.31	0.668	
205-99-2	Benzo(b)fluoranthene	3560	3.31	0.860	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3120	3.31	0.656	
192-97-2	Benzo(e)pyrene	2870	3.31	0.682	
50-32-8	Benzo(a)pyrene	4040	3.31	0.944	
198-55-0	Perylene	1070	3.31	0.638	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	2880	3.31	0.898	J, RC:Q
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	892	3.31	0.893	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	3130	3.31	0.878	J, RC:Q

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-04	Date Collected	: 05/04/23 11:45
Client ID	: OH-SB-53-3.0-4.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 10:30
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102325	Analyst	: CNC
Sample Amount	: 5.24 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	192	6.30	1.81	J, RC:SL
91-20-3C1	C1-Naphthalenes	182	6.30	1.81	
91-20-3C2	C2-Naphthalenes	481	6.30	1.81	
91-20-3C3	C3-Naphthalenes	561	6.30	1.81	
91-20-3C4	C4-Naphthalenes	340	6.30	1.81	
208-96-8	Acenaphthylene	213	6.30	1.20	
83-32-9	Acenaphthene	512	6.30	1.11	
86-73-7	Fluorene	496	6.30	1.68	
86-73-7C1	C1-Fluorenes	276	6.30	1.68	
86-73-7C2	C2-Fluorenes	381	6.30	1.68	
86-73-7C3	C3-Fluorenes	618	6.30	1.68	
85-01-8	Phenanthrene	6580	6.30	2.09	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	2040	6.30	2.09	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1240	6.30	2.09	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	560	6.30	2.09	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	206	6.30	2.09	
120-12-7	Anthracene	1200	6.30	1.30	
206-44-0	Fluoranthene	6130	6.30	2.00	
129-00-0	Pyrene	6300	6.30	1.66	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2630	6.30	1.66	
56-55-3	Benz(a)anthracene	4940	6.30	1.28	
218-01-9	Chrysene	4800	6.30	1.27	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2325085
Project Name	: 23E0281	Project Number	: 23E0281
Lab ID	: L2325085-04	Date Collected	: 05/04/23 11:45
Client ID	: OH-SB-53-3.0-4.0-20230504	Date Received	: 05/05/23
Sample Location	:	Date Analyzed	: 05/13/23 10:30
Sample Matrix	: SOIL	Date Extracted	: 05/08/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1405102325	Analyst	: CNC
Sample Amount	: 5.24 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	1960	6.30	1.27	J, RC:Q
218-01-9C2	C2-Chrysenes BS	875	6.30	1.27	
218-01-9C3	C3-Chrysenes	540	6.30	1.27	
218-01-9C4	C4-Chrysenes	315	6.30	1.27	
205-99-2	Benzo(b)fluoranthene	4040	6.30	1.64	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3420	6.30	1.25	
192-97-2	Benzo(e)pyrene	3110	6.30	1.30	
50-32-8	Benzo(a)pyrene	5130	6.30	1.80	
198-55-0	Perylene	1230	6.30	1.22	J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	3070	6.30	1.71	J, RC:Q
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1000	6.30	1.70	J, RC:Q
191-24-2	Benzo(g,h,i)perylene	3300	6.30	1.68	J, RC:Q

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325085
Project Name	: 23E0281	**Project Number**	: 23E0281
Lab ID	: L2325085-01	**Date Collected**	: 05/04/23 08:30
Client ID	: OH-SB-58-2.0-3.0-20230504	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 89
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325085
Project Name	: 23E0281	**Project Number**	: 23E0281
Lab ID	: L2325085-02	**Date Collected**	: 05/04/23 09:20
Client ID	: OH-SB-58-3.0-4.0-20230504	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325085
Project Name	: 23E0281	**Project Number**	: 23E0281
Lab ID	: L2325085-03	**Date Collected**	: 05/04/23 11:20
Client ID	: OH-SB-53-1.0-2.0-20230504	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325085
Project Name	: 23E0281	**Project Number**	: 23E0281
Lab ID	: L2325085-04	**Date Collected**	: 05/04/23 11:45
Client ID	: OH-SB-53-3.0-4.0-20230504	**Date Received**	: 05/05/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 91
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2325195, 23E0325
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: October 23, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-56-1.0-2.0-20230504	23E0325-01 L2325195-01	5/04/2023	Soil
OH-SB-56-3.0-4.0-20230504	23E0325-02 L2325195-02	5/04/2023	Soil
TB_20230505	23E0325-03	5/05/2023	Water

Data validation was performed on the analytical data for three (3) samples collected between May 4 and May 5, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, and surrogates.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When

parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB_20230505	2-Hexanone	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Bromomethane			
	0H-SB-56-1.0-2.0-20230504 0H-SB-56-3.0-4.0-20230504	Dichlorodifluoromethane			
		Tetrachloroethene			

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated soil samples had a detection of Naphthalene (8270E-SIM). Sample detections are greater than five times the detections in the method blank. No qualification was required.
- All QA/QC blanks were free of contamination with the following exception: The method blank associated with the soil samples had TIC detections of "lab contamination." Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	OH-SB-56-1.0-2.0-20230504 OH-SB-56-3.0-4.0-20230504	2-Nitrophenol	%R > CL	No action (NDs)	6H
		4-Chloro-3-methylphenol			
		Diethylphthalate			
		Dimethylphthalate			
		Di-n-butylphthalate			

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	OH-SB-56-1.0-2.0-20230504 OH-SB-56-3.0-4.0-20230504	1,4-Dioxane 2,4-Dinitrophenol 2-Nitrophenol 4,6-Dinitro-2-methylphenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		4-Chloroaniline Benzaldehyde bis(2-chloroisopropyl)ether Hexachlorocyclopentadiene			

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for the following analytes.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-56-1.0-2.0-20230504 OH-SB-56-3.0-4.0-20230504	Decachlorobiphenyl	%R < CL	UJ	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for the following analytes.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	OH-SB-56-1.0-2.0-20230504 OH-SB-56-3.0-4.0-20230504	alpha-Chlordane Chlordane Endrin aldehyde gamma-Chlordane	%R > CL	J (detects) Non-detects not qualified	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated soil samples had detections of Aluminum and Iron. Sample detections are greater than five times the detections in the method blank. No qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-56-1.0-2.0-20230504 OH-SB-56-3.0-4.0-20230504	Silver	%R < CL	UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: October 26, 2023 Peer Review: JLD

Corey Strauss
Project Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

ANALYSIS DATA SHEET

PCBs - SW 846 8082A

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/08/23 06:42	File ID:	6B74567.D
Init/Final Vol:	15 g / 10 mL	Prep Batch:	BAE0274	Analyzed:	05/09/23 20:43
Dilution:	1	Matrix:	Soil	Sequence:	SAE0163
Percent Solids:	88.18	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
12674-11-2	Aroclor-1016	ND	0.00502	0.0374	U UJ, RC:3L
11104-28-2	Aroclor-1221	ND	0.00987	0.0374	U UJ, RC:3L
11141-16-5	Aroclor-1232	ND	0.0126	0.0374	U UJ, RC:3L
53469-21-9	Aroclor-1242	ND	0.00735	0.0374	U UJ, RC:3L
12672-29-6	Aroclor-1248	ND	0.00769	0.0374	U UJ, RC:3L
11097-69-1	Aroclor-1254	ND	0.00604	0.0374	U UJ, RC:3L
11096-82-5	Aroclor-1260	ND	0.00469	0.0374	U UJ, RC:3L
37324-23-5	Aroclor-1262	ND	0.0101	0.0374	U UJ, RC:3L
11100-14-4	Aroclor-1268	ND	0.00453	0.0374	U UJ, RC:3L
1336-36-3	Total PCBs	ND	0.00349	0.0374	U UJ, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

PCBs - SW 846 8082A

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/08/23 06:42	File ID:	6B74568.D
Init/Final Vol:	15 g / 10 mL	Prep Batch:	BAE0274	Analyzed:	05/09/23 21:06
Dilution:	1	Matrix:	Soil	Sequence:	SAE0163
Percent Solids:	88.58	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
12674-11-2	Aroclor-1016	ND	0.00500	0.0373	U UJ, RC:3L
11104-28-2	Aroclor-1221	ND	0.00983	0.0373	U UJ, RC:3L
11141-16-5	Aroclor-1232	ND	0.0125	0.0373	U UJ, RC:3L
53469-21-9	Aroclor-1242	ND	0.00732	0.0373	U UJ, RC:3L
12672-29-6	Aroclor-1248	ND	0.00766	0.0373	U UJ, RC:3L
11097-69-1	Aroclor-1254	ND	0.00601	0.0373	U UJ, RC:3L
11096-82-5	Aroclor-1260	ND	0.00466	0.0373	U UJ, RC:3L
37324-23-5	Aroclor-1262	ND	0.0100	0.0373	U UJ, RC:3L
11100-14-4	Aroclor-1268	ND	0.00451	0.0373	U UJ, RC:3L
1336-36-3	Total PCBs	ND	0.00348	0.0373	U UJ, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Pesticides - SW 846 8081B

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/10/23 06:38	File ID:	9T00628.D
Init/Final Vol:	15 g / 10 mL	Prep Batch:	BAE0323	Analyzed:	05/12/23 20:08
Dilution:	1	Matrix:	Soil	Sequence:	SAE0276
Percent Solids:	88.18	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
72-54-8	4,4'-DDD	ND	0.000675	0.00147	U
72-55-9	4,4'-DDE [2C]	ND	0.000806	0.00147	U
50-29-3	4,4'-DDT	ND	0.00104	0.00147	U
309-00-2	Aldrin	ND	0.000699	0.00147	U
319-84-6	alpha-BHC	ND	0.000439	0.00147	U
319-85-7	beta-BHC	ND	0.000704	0.00147	U
57-74-9	Chlordane	ND	0.000655	0.00147	U
319-86-8	delta-BHC	ND	0.000685	0.00147	U
60-57-1	Dieldrin	ND	0.000771	0.00147	U
959-98-8	Endosulfan I	ND	0.000696	0.00147	U
33213-65-9	Endosulfan II	ND	0.000670	0.00147	U
1031-07-8	Endosulfan sulfate	ND	0.000555	0.00147	U
115-29-7	Endosulfans, Total (alpha and beta)	ND	0.000670	0.00147	U
72-20-8	Endrin	ND	0.000509	0.00147	U
7421-93-4	Endrin aldehyde	ND	0.000587	0.00147	U
53494-70-5	Endrin ketone	ND	0.000519	0.00147	U
58-89-9	gamma-BHC (Lindane)	ND	0.000467	0.00147	U
76-44-8	Heptachlor	ND	0.000395	0.00147	U
1024-57-3	Heptachlor Epoxide	ND	0.000744	0.00147	U
72-43-5	Methoxychlor	ND	0.000432	0.00147	U
8001-35-2	Toxaphene	ND	0.0710	0.0748	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Pesticides - SW 846 8081B

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/10/23 06:38	File ID:	9T00629.D
Init/Final Vol:	15 g / 10 mL	Prep Batch:	BAE0323	Analyzed:	05/12/23 20:30
Dilution:	1	Matrix:	Soil	Sequence:	SAE0276
Percent Solids:	88.58	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
72-54-8	4,4'-DDD	ND	0.000672	0.00147	U
72-55-9	4,4'-DDE	ND	0.000803	0.00147	U
50-29-3	4,4'-DDT	ND	0.00104	0.00147	U
309-00-2	Aldrin	ND	0.000695	0.00147	U
319-84-6	alpha-BHC	ND	0.000437	0.00147	U
319-85-7	beta-BHC	ND	0.000701	0.00147	U
57-74-9	Chlordane	ND	0.000653	0.00147	U
319-86-8	delta-BHC	ND	0.000682	0.00147	U
60-57-1	Dieldrin	ND	0.000768	0.00147	U
959-98-8	Endosulfan I	ND	0.000693	0.00147	U
33213-65-9	Endosulfan II	ND	0.000667	0.00147	U
1031-07-8	Endosulfan sulfate	ND	0.000552	0.00147	U
115-29-7	Endosulfans, Total (alpha and beta)	ND	0.000667	0.00147	U
72-20-8	Endrin	ND	0.000507	0.00147	U
7421-93-4	Endrin aldehyde	ND	0.000585	0.00147	U
53494-70-5	Endrin ketone	ND	0.000517	0.00147	U
58-89-9	gamma-BHC (Lindane)	ND	0.000465	0.00147	U
76-44-8	Heptachlor	ND	0.000393	0.00147	U
1024-57-3	Heptachlor Epoxide	ND	0.000741	0.00147	U
72-43-5	Methoxychlor	ND	0.000430	0.00147	U
8001-35-2	Toxaphene	ND	0.0707	0.0745	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/10/23 19:09	File ID:	3V61478.D
Init/Final Vol:	4.4 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:09
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.18	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
71-55-6	1,1,1-Trichloroethane	ND	0.000376	0.00258	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.000356	0.00258	U
76-13-1	1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	0.00110	0.00258	U
79-00-5	1,1,2-Trichloroethane	ND	0.000434	0.00258	U
75-34-3	1,1-Dichloroethane	ND	0.000376	0.00258	U
75-35-4	1,1-Dichloroethene	ND	0.000477	0.00258	U
87-61-6	1,2,3-Trichlorobenzene	ND	0.000557	0.00258	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.000687	0.00258	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.000356	0.00258	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000629	0.00644	U
106-93-4	1,2-Dibromoethane	ND	0.000325	0.00258	U
95-50-1	1,2-Dichlorobenzene	ND	0.000455	0.00258	U
107-06-2	1,2-Dichloroethane	ND	0.000363	0.00258	U
78-87-5	1,2-Dichloropropane	ND	0.000423	0.00258	U
541-73-1	1,3-Dichlorobenzene	ND	0.000189	0.00258	U
106-46-7	1,4-Dichlorobenzene	ND	0.000371	0.00258	U
78-93-3	2-Butanone	ND	0.000420	0.0129	U
591-78-6	2-Hexanone	ND	0.000241	0.00258	U
108-10-1	4-Methyl-2-pentanone	ND	0.000322	0.00258	U
67-64-1	Acetone	ND	0.000781	0.0644	U
71-43-2	Benzene	ND	0.000235	0.00258	U
74-97-5	Bromochloromethane	ND	0.000476	0.00258	U
75-27-4	Bromodichloromethane	ND	0.000323	0.00258	U
75-25-2	Bromoform	ND	0.000452	0.00258	U
74-83-9	Bromomethane	ND	0.000744	0.00258	U
75-15-0	Carbon disulfide	ND	0.000370	0.00258	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/10/23 19:09	File ID:	3V61478.D
Init/Final Vol:	4.4 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:09
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.18	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
56-23-5	Carbon Tetrachloride	ND	0.000388	0.00258	U
108-90-7	Chlorobenzene	ND	0.000374	0.00258	U
124-48-1	Chlorodibromomethane	ND	0.000317	0.00258	U
75-00-3	Chloroethane	ND	0.000439	0.00258	U
67-66-3	Chloroform	ND	0.000433	0.00258	U
74-87-3	Chloromethane	ND	0.000992	0.00258	U
156-59-2	cis-1,2-Dichloroethene	ND	0.000125	0.00258	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.000326	0.00258	U
110-82-7	Cyclohexane	ND	0.000571	0.00258	U
75-71-8	Dichlorodifluoromethane	ND	0.000870	0.00258	U UJ, RC:SL
100-41-4	EthylBenzene	ND	0.000349	0.00258	U
98-82-8	Isopropylbenzene	ND	0.000405	0.00258	U
179601-23-1	m+p-Xylenes	ND	0.000651	0.00515	U
79-20-9	Methyl Acetate	ND	0.000342	0.00258	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.000436	0.00258	U
108-87-2	Methylcyclohexane	ND	0.000415	0.00258	U
75-09-2	Methylene Chloride	ND	0.000775	0.00644	U
95-47-6	o-Xylene	ND	0.000331	0.00258	U
100-42-5	Styrene	ND	0.000369	0.00258	U
75-65-0	tert-Butyl alcohol	ND	0.00541	0.0258	U
127-18-4	Tetrachloroethene	ND	0.000255	0.00258	U UJ, RC:SL
108-88-3	Toluene	ND	0.000207	0.00258	U
1330-20-7	Total Xylenes	ND	0.000331	0.00258	U
156-60-5	trans-1,2-Dichloroethene	ND	0.000349	0.00258	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.000492	0.00258	U
79-01-6	Trichloroethene	ND	0.000379	0.00258	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/10/23 19:09	File ID:	3V61478.D
Init/Final Vol:	4.4 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:09
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.18	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
75-69-4	Trichlorofluoromethane	ND	0.000296	0.00258	U
75-01-4	Vinyl chloride	ND	0.000490	0.00258	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/10/23 19:09	File ID:	3V61478.D
Init/Final Vol:	4.4 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:09
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.18	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	TENTATIVELY IDENTIFIED COMPOUNDS	CONC. (mg/kg dry)	RT	Qual
007785-70-8	1R-.alpha.-Pinene	0.0267	15.56	J
	Sum of Tentatively Identified Compounds	0.027		

J - Indicates estimated value
B - Indicates compound found in associated blank
D - Indicates result is based on a dilution

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/10/23 19:39	File ID:	3V61479.D
Init/Final Vol:	5.2 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:39
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.58	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
71-55-6	1,1,1-Trichloroethane	ND	0.000317	0.00217	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.000300	0.00217	U
76-13-1	1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	0.000929	0.00217	U
79-00-5	1,1,2-Trichloroethane	ND	0.000366	0.00217	U
75-34-3	1,1-Dichloroethane	ND	0.000317	0.00217	U
75-35-4	1,1-Dichloroethene	ND	0.000402	0.00217	U
87-61-6	1,2,3-Trichlorobenzene	ND	0.000469	0.00217	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.000579	0.00217	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.000300	0.00217	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.000530	0.00543	U
106-93-4	1,2-Dibromoethane	ND	0.000274	0.00217	U
95-50-1	1,2-Dichlorobenzene	ND	0.000383	0.00217	U
107-06-2	1,2-Dichloroethane	ND	0.000306	0.00217	U
78-87-5	1,2-Dichloropropane	ND	0.000356	0.00217	U
541-73-1	1,3-Dichlorobenzene	ND	0.000160	0.00217	U
106-46-7	1,4-Dichlorobenzene	ND	0.000313	0.00217	U
78-93-3	2-Butanone	0.0122	0.000354	0.0109	
591-78-6	2-Hexanone	ND	0.000203	0.00217	U
108-10-1	4-Methyl-2-pentanone	ND	0.000271	0.00217	U
67-64-1	Acetone	0.0819	0.000658	0.0543	
71-43-2	Benzene	ND	0.000198	0.00217	U
74-97-5	Bromochloromethane	ND	0.000401	0.00217	U
75-27-4	Bromodichloromethane	ND	0.000272	0.00217	U
75-25-2	Bromoform	ND	0.000381	0.00217	U
74-83-9	Bromomethane	ND	0.000626	0.00217	U
75-15-0	Carbon disulfide	ND	0.000312	0.00217	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/10/23 19:39	File ID:	3V61479.D
Init/Final Vol:	5.2 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:39
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.58	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
56-23-5	Carbon Tetrachloride	ND	0.000327	0.00217	U
108-90-7	Chlorobenzene	ND	0.000315	0.00217	U
124-48-1	Chlorodibromomethane	ND	0.000267	0.00217	U
75-00-3	Chloroethane	ND	0.000370	0.00217	U
67-66-3	Chloroform	ND	0.000365	0.00217	U
74-87-3	Chloromethane	ND	0.000836	0.00217	U
156-59-2	cis-1,2-Dichloroethene	ND	0.000105	0.00217	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.000275	0.00217	U
110-82-7	Cyclohexane	ND	0.000481	0.00217	U
75-71-8	Dichlorodifluoromethane	ND	0.000733	0.00217	U UJ, RC:SL
100-41-4	EthylBenzene	ND	0.000294	0.00217	U
98-82-8	Isopropylbenzene	ND	0.000341	0.00217	U
179601-23-1	m+p-Xylenes	ND	0.000548	0.00434	U
79-20-9	Methyl Acetate	ND	0.000288	0.00217	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.000367	0.00217	U
108-87-2	Methylcyclohexane	ND	0.000350	0.00217	U
75-09-2	Methylene Chloride	ND	0.000652	0.00543	U
95-47-6	o-Xylene	ND	0.000279	0.00217	U
100-42-5	Styrene	ND	0.000310	0.00217	U
75-65-0	tert-Butyl alcohol	ND	0.00456	0.0217	U
127-18-4	Tetrachloroethene	ND	0.000215	0.00217	U UJ, RC:SL
108-88-3	Toluene	ND	0.000175	0.00217	U
1330-20-7	Total Xylenes	ND	0.000279	0.00217	U
156-60-5	trans-1,2-Dichloroethene	ND	0.000294	0.00217	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.000415	0.00217	U
79-01-6	Trichloroethene	ND	0.000319	0.00217	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/10/23 19:39	File ID:	3V61479.D
Init/Final Vol:	5.2 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:39
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.58	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
75-69-4	Trichlorofluoromethane	ND	0.000250	0.00217	U
75-01-4	Vinyl chloride	ND	0.000412	0.00217	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/10/23 19:39	File ID:	3V61479.D
Init/Final Vol:	5.2 g / 5 mL	Prep Batch:	BAE0423	Analyzed:	05/10/23 19:39
Dilution:	1	Matrix:	Soil	Sequence:	SAE0235
Percent Solids:	88.58	Prep Method:	PURGE & TRAP SOIL EPA 5035A		

CAS NO.	TENTATIVELY IDENTIFIED COMPOUNDS	CONC. (mg/kg dry)	RT	Qual
007785-70-8	1R-.alpha.-Pinene	0.0477	15.56	J
000079-92-5	Camphene	0.00767	16.05	J
017312-64-0	Undecane, 2,2-dimethyl-	0.00890	16.68	J
	Sum of Tentatively Identified Compounds	0.064		

J - Indicates estimated value
B - Indicates compound found in associated blank
D - Indicates result is based on a dilution

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **TB_20230505**
Lab Sample ID: **23E0325-03**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/05/23 13:00	Prep Date:	05/10/23 18:52	File ID:	6V50823.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	BAE0443	Analyzed:	05/10/23 18:52
Dilution:	1	Matrix:	Ground Water	Sequence:	SAE0232
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Qual
71-55-6	1,1,1-Trichloroethane	ND	0.216	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.218	1.00	U
76-13-1	1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	0.546	1.00	U
79-00-5	1,1,2-Trichloroethane	ND	0.476	1.00	U
75-34-3	1,1-Dichloroethane	ND	0.393	1.00	U
75-35-4	1,1-Dichloroethene	ND	0.149	1.00	U
87-61-6	1,2,3-Trichlorobenzene	ND	0.488	1.00	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.437	1.00	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.155	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.09	2.00	U
106-93-4	1,2-Dibromoethane	ND	0.320	1.00	U
95-50-1	1,2-Dichlorobenzene	ND	0.210	1.00	U
107-06-2	1,2-Dichloroethane	ND	0.306	1.00	U
78-87-5	1,2-Dichloropropane	ND	0.267	1.00	U
541-73-1	1,3-Dichlorobenzene	ND	0.287	1.00	U
106-46-7	1,4-Dichlorobenzene	ND	0.238	1.00	U
78-93-3	2-Butanone	ND	10.0	10.0	U
591-78-6	2-Hexanone	ND	0.635	2.00	U UJ, RC:SL
108-10-1	4-Methyl-2-pentanone	ND	0.638	2.00	U
67-64-1	Acetone	ND	10.0	10.0	U
71-43-2	Benzene	ND	0.129	1.00	U
74-97-5	Bromochloromethane	ND	0.307	1.00	U
75-27-4	Bromodichloromethane	ND	0.258	1.00	U
75-25-2	Bromoform	ND	0.421	1.00	U
74-83-9	Bromomethane	ND	0.702	10.0	U UJ, RC:SL
75-15-0	Carbon disulfide	ND	0.477	1.00	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **TB_20230505**
Lab Sample ID: **23E0325-03**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/05/23 13:00	Prep Date:	05/10/23 18:52	File ID:	6V50823.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	BAE0443	Analyzed:	05/10/23 18:52
Dilution:	1	Matrix:	Ground Water	Sequence:	SAE0232
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Qual
56-23-5	Carbon Tetrachloride	ND	0.372	1.00	U
108-90-7	Chlorobenzene	ND	0.300	1.00	U
124-48-1	Chlorodibromomethane	ND	0.504	1.00	U
75-00-3	Chloroethane	ND	0.299	2.00	U
67-66-3	Chloroform	ND	0.365	1.00	U
74-87-3	Chloromethane	ND	0.758	1.00	U
156-59-2	cis-1,2-Dichloroethene	ND	0.352	1.00	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.294	1.00	U
110-82-7	Cyclohexane	ND	0.298	2.00	U
75-71-8	Dichlorodifluoromethane	ND	0.328	2.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
98-82-8	Isopropylbenzene	ND	0.275	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
79-20-9	Methyl Acetate	ND	0.373	1.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
108-87-2	Methylcyclohexane	ND	0.222	1.00	U
75-09-2	Methylene Chloride	ND	3.00	3.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
100-42-5	Styrene	ND	0.176	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
127-18-4	Tetrachloroethene	ND	0.466	1.00	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.244	1.00	U
156-60-5	trans-1,2-Dichloroethene	ND	0.241	1.00	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.279	1.00	U
79-01-6	Trichloroethene	ND	0.146	1.00	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **TB_20230505**
Lab Sample ID: **23E0325-03**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/05/23 13:00	Prep Date:	05/10/23 18:52	File ID:	6V50823.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	BAE0443	Analyzed:	05/10/23 18:52
Dilution:	1	Matrix:	Ground Water	Sequence:	SAE0232
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Qual
75-69-4	Trichlorofluoromethane	ND	0.413	1.00	U
75-01-4	Vinyl chloride	ND	0.157	1.00	U

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260D

Client: **Yu & Associates**
Client Sample ID: **TB_20230505**
Lab Sample ID: **23E0325-03**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/05/23 13:00	Prep Date:	05/10/23 18:52	File ID:	6V50823.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	BAE0443	Analyzed:	05/10/23 18:52
Dilution:	1	Matrix:	Ground Water	Sequence:	SAE0232
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	TENTATIVELY IDENTIFIED COMPOUNDS	CONC. (ug/L)	RT	Qual

J - Indicates estimated value
B - Indicates compound found in associated blank
D - Indicates result is based on a dilution

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/09/23 07:21	File ID:	DS35840.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 20:49
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.18	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
123-91-1	1,4-Dioxane	ND	0.00426	0.0378	U UJ, RC:SL
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0232	0.151	U
95-95-4	2,4,5-Trichlorophenol	ND	0.0205	0.151	U
88-06-2	2,4,6-Trichlorophenol	ND	0.00945	0.151	U
120-83-2	2,4-Dichlorophenol	ND	0.0152	0.151	U
105-67-9	2,4-Dimethylphenol	ND	0.0149	0.151	U
51-28-5	2,4-Dinitrophenol	ND	0.0218	0.756	U UJ, RC:SL
121-14-2	2,4-Dinitrotoluene	ND	0.0161	0.151	U
606-20-2	2,6-Dinitrotoluene	ND	0.0361	0.151	U
91-58-7	2-Chloronaphthalene	ND	0.0174	0.151	U
95-57-8	2-Chlorophenol	ND	0.0200	0.151	U
91-57-6	2-Methylnaphthalene	0.215	0.0362	0.227	J
95-48-7	2-Methylphenol	ND	0.0298	0.151	U
88-74-4	2-Nitroaniline	ND	0.0121	0.151	U
88-75-5	2-Nitrophenol	ND	0.0168	0.151	U UJ, RC:SL
91-94-1	3,3'-Dichlorobenzidine	ND	0.0159	0.151	U
65794-96-9	3+4-Methylphenol	ND	0.0277	0.151	U
99-09-2	3-Nitroaniline	ND	0.0280	0.151	U
534-52-1	4,6-Dinitro-2-methylphenol	ND	0.0285	0.378	U UJ, RC:SL
101-55-3	4-Bromophenyl-phenyl ether	ND	0.0215	0.151	U
59-50-7	4-Chloro-3-methylphenol	ND	0.0238	0.151	U
106-47-8	4-Chloroaniline	ND	0.00528	0.151	U UJ, RC:SL
7005-72-3	4-Chlorophenyl phenyl ether	ND	0.00815	0.151	U
100-01-6	4-Nitroaniline	ND	0.0755	0.151	U
100-02-7	4-Nitrophenol	ND	0.00966	0.151	U
83-32-9	Acenaphthene	0.116	0.00861	0.151	J

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/09/23 07:21	File ID:	DS35840.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 20:49
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.18	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
208-96-8	Acenaphthylene	0.0710	0.00525	0.151	J
98-86-2	Acetophenone	ND	0.0150	0.151	U
120-12-7	Anthracene	0.383	0.0219	0.151	
1912-24-9	Atrazine	ND	0.0142	0.151	U
100-52-7	Benzaldehyde	ND	0.0464	0.151	U UJ, RC:SL
56-55-3	Benzo(a)anthracene	1.11	0.0152	0.151	
50-32-8	Benzo(a)pyrene	0.936	0.0263	0.151	
205-99-2	Benzo(b)fluoranthene	1.30	0.0212	0.151	
191-24-2	Benzo(g,h,i)perylene	0.553	0.0122	0.151	
207-08-9	Benzo(k)fluoranthene	0.414	0.0174	0.151	
92-52-4	Biphenyl	0.0533	0.0133	0.151	J
111-91-1	bis(2-chloroethoxy)methane	ND	0.0209	0.151	U
111-44-4	bis(2-chloroethyl)ether	ND	0.0166	0.151	U
108-60-1	bis(2-chloroisopropyl)ether	ND	0.0543	0.151	U UJ, RC:SL
117-81-7	bis(2-ethylhexyl)phthalate	ND	0.0302	0.151	U
85-68-7	Butylbenzylphthalate	ND	0.0137	0.151	U
105-60-2	Caprolactam	ND	0.0195	0.151	U
86-74-8	Carbazole	ND	0.0290	0.378	U
218-01-9	Chrysene	1.26	0.0103	0.151	
53-70-3	Dibenzo(a,h)anthracene	0.156	0.0150	0.151	
132-64-9	Dibenzofuran	0.0908	0.00899	0.151	J
84-66-2	Diethylphthalate	ND	0.0293	0.151	U
131-11-3	Dimethylphthalate	ND	0.00937	0.151	U
84-74-2	Di-n-butylphthalate	ND	0.0617	0.151	U
117-84-0	Di-n-octylphthalate	ND	0.0310	0.151	U
206-44-0	Fluoranthene	2.62	0.0142	0.151	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/09/23 07:21	File ID:	DS35840.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 20:49
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.18	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
86-73-7	Fluorene	0.120	0.0126	0.151	J
118-74-1	Hexachlorobenzene	ND	0.0197	0.151	U
87-68-3	Hexachlorobutadiene	ND	0.0725	0.151	U
77-47-4	Hexachlorocyclopentadiene	ND	0.0629	0.378	U UJ, RC:SL
67-72-1	Hexachloroethane	ND	0.0166	0.151	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.425	0.0162	0.151	
78-59-1	Isophorone	ND	0.00989	0.151	U
91-20-3	Naphthalene	0.290	0.0112	0.151	
98-95-3	Nitrobenzene	ND	0.0256	0.151	U
621-64-7	n-Nitroso-di-n-propylamine	ND	0.00809	0.151	U
86-30-6	n-Nitrosodiphenylamine	ND	0.0322	0.151	U
87-86-5	Pentachlorophenol	ND	0.0208	0.378	U
85-01-8	Phenanthrene	2.10	0.0198	0.151	
108-95-2	Phenol	ND	0.0122	0.151	U
129-00-0	Pyrene	2.51	0.0111	0.151	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-1.0-2.0-20230504**
Lab Sample ID: **23E0325-01**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:15	Prep Date:	05/09/23 07:21	File ID:	DS35840.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 20:49
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.18	Prep Method:	Microwave Extraction		

CAS NO.	TENTATIVELY IDENTIFIED COMPOUNDS	CONC. (mg/kg dry)	RT	Qual
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	22.5	5.08	J, B R, RC:2
001678-82-6	Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.500	6.46	J
000124-18-5	Decane	0.408	6.54	J
544-76-3	Hexadecane	0.316	7.96	J
111-84-2	Nonane	0.356	5.67	J
000123-95-5	Octadecanoic acid, butyl ester	0.664	13.45	J, B R, RC:2
NA	unknown (01)	0.360	11.84	J
NA	unknown (02)	0.497	11.87	J
	Sum of Tentatively Identified Compounds	25.6		

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13.2.

J - Indicates estimated value
B - Indicates compound found in associated blank
D - Indicates result is based on a dilution

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/09/23 07:21	File ID:	DS35841.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 21:20
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.58	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
123-91-1	1,4-Dioxane	ND	0.00424	0.0376	U UJ, RC:SL
58-90-2	2,3,4,6-Tetrachlorophenol	ND	0.0231	0.150	U
95-95-4	2,4,5-Trichlorophenol	ND	0.0204	0.150	U
88-06-2	2,4,6-Trichlorophenol	ND	0.00940	0.150	U
120-83-2	2,4-Dichlorophenol	ND	0.0151	0.150	U
105-67-9	2,4-Dimethylphenol	ND	0.0148	0.150	U
51-28-5	2,4-Dinitrophenol	ND	0.0217	0.753	U UJ, RC:SL
121-14-2	2,4-Dinitrotoluene	ND	0.0160	0.150	U
606-20-2	2,6-Dinitrotoluene	ND	0.0359	0.150	U
91-58-7	2-Chloronaphthalene	ND	0.0173	0.150	U
95-57-8	2-Chlorophenol	ND	0.0199	0.150	U
91-57-6	2-Methylnaphthalene	0.0527	0.0360	0.226	J
95-48-7	2-Methylphenol	ND	0.0297	0.150	U
88-74-4	2-Nitroaniline	ND	0.0121	0.150	U
88-75-5	2-Nitrophenol	ND	0.0167	0.150	U UJ, RC:SL
91-94-1	3,3'-Dichlorobenzidine	ND	0.0158	0.150	U
65794-96-9	3+4-Methylphenol	ND	0.0275	0.150	U
99-09-2	3-Nitroaniline	ND	0.0279	0.150	U
534-52-1	4,6-Dinitro-2-methylphenol	ND	0.0283	0.376	U UJ, RC:SL
101-55-3	4-Bromophenyl-phenyl ether	ND	0.0214	0.150	U
59-50-7	4-Chloro-3-methylphenol	ND	0.0237	0.150	U
106-47-8	4-Chloroaniline	ND	0.00526	0.150	U UJ, RC:SL
7005-72-3	4-Chlorophenyl phenyl ether	ND	0.00812	0.150	U
100-01-6	4-Nitroaniline	ND	0.0752	0.150	U
100-02-7	4-Nitrophenol	ND	0.00962	0.150	U
83-32-9	Acenaphthene	0.123	0.00857	0.150	J

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/09/23 07:21	File ID:	DS35841.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 21:20
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.58	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
208-96-8	Acenaphthylene	0.169	0.00523	0.150	
98-86-2	Acetophenone	ND	0.0149	0.150	U
120-12-7	Anthracene	0.657	0.0218	0.150	
1912-24-9	Atrazine	ND	0.0141	0.150	U
100-52-7	Benzaldehyde	ND	0.0462	0.150	U UJ, RC:SL
56-55-3	Benzo(a)anthracene	1.48	0.0151	0.150	
50-32-8	Benzo(a)pyrene	1.43	0.0262	0.150	
205-99-2	Benzo(b)fluoranthene	1.54	0.0211	0.150	
191-24-2	Benzo(g,h,i)perylene	0.714	0.0122	0.150	
207-08-9	Benzo(k)fluoranthene	0.606	0.0173	0.150	
92-52-4	Biphenyl	ND	0.0132	0.150	U
111-91-1	bis(2-chloroethoxy)methane	ND	0.0208	0.150	U
111-44-4	bis(2-chloroethyl)ether	ND	0.0165	0.150	U
108-60-1	bis(2-chloroisopropyl)ether	ND	0.0541	0.150	U UJ, RC:SL
117-81-7	bis(2-ethylhexyl)phthalate	0.246	0.0300	0.150	
85-68-7	Butylbenzylphthalate	ND	0.0137	0.150	U
105-60-2	Caprolactam	ND	0.0194	0.150	U
86-74-8	Carbazole	ND	0.0289	0.376	U
218-01-9	Chrysene	1.35	0.0103	0.150	
53-70-3	Dibenzo(a,h)anthracene	0.208	0.0149	0.150	
132-64-9	Dibenzofuran	0.100	0.00895	0.150	J
84-66-2	Diethylphthalate	ND	0.0291	0.150	U
131-11-3	Dimethylphthalate	ND	0.00932	0.150	U
84-74-2	Di-n-butylphthalate	ND	0.0614	0.150	U
117-84-0	Di-n-octylphthalate	ND	0.0308	0.150	U
206-44-0	Fluoranthene	3.22	0.0141	0.150	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/09/23 07:21	File ID:	DS35841.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 21:20
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.58	Prep Method:	Microwave Extraction		

CAS NO.	COMPOUND	CONC. (mg/kg dry)	MDL	RL	Qual
86-73-7	Fluorene	0.217	0.0125	0.150	
118-74-1	Hexachlorobenzene	ND	0.0196	0.150	U
87-68-3	Hexachlorobutadiene	ND	0.0721	0.150	U
77-47-4	Hexachlorocyclopentadiene	ND	0.0627	0.376	U UJ, RC:SL
67-72-1	Hexachloroethane	ND	0.0165	0.150	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.631	0.0161	0.150	
78-59-1	Isophorone	ND	0.00984	0.150	U
91-20-3	Naphthalene	0.110	0.0111	0.150	J
98-95-3	Nitrobenzene	ND	0.0255	0.150	U
621-64-7	n-Nitroso-di-n-propylamine	ND	0.00805	0.150	U
86-30-6	n-Nitrosodiphenylamine	ND	0.0321	0.150	U
87-86-5	Pentachlorophenol	ND	0.0207	0.376	U
85-01-8	Phenanthrene	2.03	0.0198	0.150	
108-95-2	Phenol	ND	0.0122	0.150	U
129-00-0	Pyrene	2.65	0.0111	0.150	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit

F-I

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270E

Client: **Yu & Associates**
Client Sample ID: **OH-SB-56-3.0-4.0-20230504**
Lab Sample ID: **23E0325-02**
Project: **Owls Head Phase 2**
Work Order: **23E0325**

Date Sampled:	05/04/23 14:35	Prep Date:	05/09/23 07:21	File ID:	DS35841.D
Init/Final Vol:	15 g / 1 mL	Prep Batch:	BAE0324	Analyzed:	05/10/23 21:20
Dilution:	1	Matrix:	Soil	Sequence:	SAE0244
Percent Solids:	88.58	Prep Method:	Microwave Extraction		

CAS NO.	TENTATIVELY IDENTIFIED COMPOUNDS	CONC. (mg/kg dry)	RT	Qual	
007785-70-8	1R-.alpha.-Pinene	0.824	6.06	J	
000123-42-2	2-Pentanone, 4-hydroxy-4-methyl-	21.0	5.08	J, B	R, RC:2
000123-95-5	Octadecanoic acid, butyl ester	0.421	13.45	B, J	R, RC:2
NA	unknown (01)	0.409	11.87	J	
NA	unknown (02)	0.814	11.97	J	
	Sum of Tentatively Identified Compounds	23.4			

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13.2.

J - Indicates estimated value
B - Indicates compound found in associated blank
D - Indicates result is based on a dilution

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Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-01	**Date Collected**	: 05/04/23 14:15
Client ID	: 23E0325-01	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 11:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132318	**Analyst**	: CNC
Sample Amount	: 15.06 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1860	2.35	0.676	
91-20-3C1	C1-Naphthalenes	1660	2.35	0.676	
91-20-3C2	C2-Naphthalenes	1120	2.35	0.676	
91-20-3C3	C3-Naphthalenes	468	2.35	0.676	
91-20-3C4	C4-Naphthalenes	183	2.35	0.676	
208-96-8	Acenaphthylene	563	2.35	0.449	
83-32-9	Acenaphthene	957	2.35	0.414	
86-73-7	Fluorene	653	2.35	0.627	
86-73-7C1	C1-Fluorenes	391	2.35	0.627	
86-73-7C2	C2-Fluorenes	338	2.35	0.627	
86-73-7C3	C3-Fluorenes	320	2.35	0.627	
85-01-8	Phenanthrene	2710	2.35	0.779	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1880	2.35	0.779	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	995	2.35	0.779	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	457	2.35	0.779	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	171	2.35	0.779	
120-12-7	Anthracene	783	2.35	0.485	
206-44-0	Fluoranthene	1620	2.35	0.747	
129-00-0	Pyrene	1910	2.35	0.618	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1430	2.35	0.618	
56-55-3	Benz(a)anthracene	844	2.35	0.479	
218-01-9	Chrysene	919	2.35	0.475	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-01	**Date Collected**	: 05/04/23 14:15
Client ID	: 23E0325-01	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 11:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132318	**Analyst**	: CNC
Sample Amount	: 15.06 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	679	2.35	0.475	
218-01-9C2	C2-Chrysenes BS	433	2.35	0.475	
218-01-9C3	C3-Chrysenes	279	2.35	0.475	
218-01-9C4	C4-Chrysenes	181	2.35	0.475	
205-99-2	Benzo(b)fluoranthene	694	2.35	0.612	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	667	2.35	0.467	
192-97-2	Benzo(e)pyrene	623	2.35	0.485	
50-32-8	Benzo(a)pyrene	851	2.35	0.671	
198-55-0	Perylene	198	2.35	0.454	
193-39-5	Indeno(1,2,3-cd)pyrene	631	2.35	0.638	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	186	2.35	0.635	
191-24-2	Benzo(g,h,i)perylene	659	2.35	0.625	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-02	**Date Collected**	: 05/04/23 14:35
Client ID	: 23E0325-02	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 12:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132319	**Analyst**	: CNC
Sample Amount	: 15.22 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	96.4	2.20	0.632	
91-20-3C1	C1-Naphthalenes	41.7	2.20	0.632	
91-20-3C2	C2-Naphthalenes	53.5	2.20	0.632	
91-20-3C3	C3-Naphthalenes	49.0	2.20	0.632	
91-20-3C4	C4-Naphthalenes	30.3	2.20	0.632	
208-96-8	Acenaphthylene	82.1	2.20	0.420	
83-32-9	Acenaphthene	88.7	2.20	0.388	
86-73-7	Fluorene	108	2.20	0.587	
86-73-7C1	C1-Fluorenes	57.6	2.20	0.587	
86-73-7C2	C2-Fluorenes	57.7	2.20	0.587	
86-73-7C3	C3-Fluorenes	83.0	2.20	0.587	
85-01-8	Phenanthrene	941	2.20	0.729	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	491	2.20	0.729	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	273	2.20	0.729	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	129	2.20	0.729	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	60.2	2.20	0.729	
120-12-7	Anthracene	252	2.20	0.453	
206-44-0	Fluoranthene	1380	2.20	0.699	
129-00-0	Pyrene	1260	2.20	0.578	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	678	2.20	0.578	
56-55-3	Benz(a)anthracene	615	2.20	0.448	
218-01-9	Chrysene	595	2.20	0.445	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-02	**Date Collected**	: 05/04/23 14:35
Client ID	: 23E0325-02	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 12:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132319	**Analyst**	: CNC
Sample Amount	: 15.22 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	303	2.20	0.445	
218-01-9C2	C2-Chrysenes BS	159	2.20	0.445	
218-01-9C3	C3-Chrysenes	117	2.20	0.445	
218-01-9C4	C4-Chrysenes	59.4	2.20	0.445	
205-99-2	Benzo(b)fluoranthene	536	2.20	0.572	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	477	2.20	0.437	
192-97-2	Benzo(e)pyrene	412	2.20	0.454	
50-32-8	Benzo(a)pyrene	620	2.20	0.628	
198-55-0	Perylene	219	2.20	0.424	
193-39-5	Indeno(1,2,3-cd)pyrene	415	2.20	0.597	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	114	2.20	0.594	
191-24-2	Benzo(g,h,i)perylene	409	2.20	0.584	

ANALYSIS DATA SHEET

Client: Yu & Associates
Client Sample ID: OH-SB-56-1.0-2.0-20230504
Lab Sample ID: 23E0325-01
Project: Owls Head Phase 2
Work Order: 23E0325

Date Sampled:	05/04/23 14:15	Prep Date:	05/17/23 09:50
Init/Final Vol:	1.96 g / 50 mL	Prep Method:	Hot Block ICP Soil
Matrix:	Soil		
Percent Solids:	88.18		

Total Metals - Soil (SW 846 6010D)

CAS NO.	Analyte	Analyzed	Conc.	Units	RL	DF	Qual	Analyst	Sequence/Batch
7429-90-5	Aluminum	05/18/23 13:01	5370	mg/kg dry	2.89	1	B	MS	SAE0355/BAE0673
7440-36-0	Antimony	05/18/23 13:01	ND	mg/kg dry	1.45	1	U	MS	SAE0355/BAE0673
7440-38-2	Arsenic	05/18/23 13:01	9.56	mg/kg dry	1.45	1		MS	SAE0355/BAE0673
7440-39-3	Barium	05/18/23 14:03	428	mg/kg dry	5.79	10	D	MS	SAE0355/BAE0673
7440-41-7	Beryllium	05/18/23 13:01	0.838	mg/kg dry	0.0289	1		MS	SAE0355/BAE0673
7440-43-9	Cadmium	05/18/23 13:01	0.393	mg/kg dry	0.289	1		MS	SAE0355/BAE0673
7440-70-2	Calcium	05/18/23 13:01	5180	mg/kg dry	28.9	1		MS	SAE0355/BAE0673
7440-47-3	Chromium	05/18/23 13:01	21.4	mg/kg dry	0.289	1		MS	SAE0355/BAE0673
7440-48-4	Cobalt	05/18/23 13:01	6.74	mg/kg dry	0.231	1		MS	SAE0355/BAE0673
7440-50-8	Copper	05/18/23 13:01	74.6	mg/kg dry	0.289	1		MS	SAE0355/BAE0673
7439-89-6	Iron	05/18/23 13:01	12200	mg/kg dry	5.79	1	B	MS	SAE0355/BAE0673
7439-92-1	Lead	05/18/23 13:01	320	mg/kg dry	1.45	1		MS	SAE0355/BAE0673
7439-95-4	Magnesium	05/18/23 13:01	1630	mg/kg dry	57.9	1		MS	SAE0355/BAE0673
7439-96-5	Manganese	05/18/23 13:01	123	mg/kg dry	0.289	1		MS	SAE0355/BAE0673
7440-02-0	Nickel	05/18/23 13:01	22.8	mg/kg dry	0.145	1		MS	SAE0355/BAE0673
7440-09-7	Potassium	05/18/23 13:01	1430	mg/kg dry	116	1		MS	SAE0355/BAE0673
7782-49-2	Selenium	05/18/23 13:01	ND	mg/kg dry	1.45	1	U	MS	SAE0355/BAE0673
7440-22-4	Silver UJ, RC:6L	05/18/23 13:01	ND	mg/kg dry	0.174	1	U	MS	SAE0355/BAE0673
7440-23-5	Sodium	05/18/23 13:01	859	mg/kg dry	57.9	1		MS	SAE0355/BAE0673
7440-28-0	Thallium	05/18/23 13:01	ND	mg/kg dry	1.45	1	U	MS	SAE0355/BAE0673
7440-62-2	Vanadium	05/18/23 13:01	23.5	mg/kg dry	0.579	1		MS	SAE0355/BAE0673
7440-66-6	Zinc	05/18/23 13:01	243	mg/kg dry	0.868	1		MS	SAE0355/BAE0673

ND, U - Indicates compound analyzed for but not detected
D - Indicates result is based on a dilution
E - Concentration exceeds highest calibration standard
H - Indicates a Hold Time violation

RL - Reporting limit
DF - Dilution Factor

B - Indicates compound found in associated blank

F-I

ANALYSIS DATA SHEET

Client: Yu & Associates
Client Sample ID: OH-SB-56-3.0-4.0-20230504
Lab Sample ID: 23E0325-02
Project: Owls Head Phase 2
Work Order: 23E0325

Date Sampled:	05/04/23 14:35	Prep Date:	05/17/23 09:50
Init/Final Vol:	2.1 g / 50 mL	Prep Method:	Hot Block ICP Soil
Matrix:	Soil		
Percent Solids:	88.58		

Total Metals - Soil (SW 846 6010D)

CAS NO.	Analyte	Analyzed	Conc.	Units	RL	DF	Qual	Analyst	Sequence/Batch
7429-90-5	Aluminum	05/18/23 13:03	10200	mg/kg dry	2.69	1	B	MS	SAE0355/BAE0673
7440-36-0	Antimony	05/18/23 13:03	ND	mg/kg dry	1.34	1	U	MS	SAE0355/BAE0673
7440-38-2	Arsenic	05/18/23 13:03	4.98	mg/kg dry	1.34	1		MS	SAE0355/BAE0673
7440-39-3	Barium	05/18/23 13:03	97.5	mg/kg dry	0.538	1		MS	SAE0355/BAE0673
7440-41-7	Beryllium	05/18/23 13:03	0.889	mg/kg dry	0.0269	1		MS	SAE0355/BAE0673
7440-43-9	Cadmium	05/18/23 13:03	ND	mg/kg dry	0.269	1	U	MS	SAE0355/BAE0673
7440-70-2	Calcium	05/18/23 13:03	4880	mg/kg dry	26.9	1		MS	SAE0355/BAE0673
7440-47-3	Chromium	05/18/23 13:03	22.5	mg/kg dry	0.269	1		MS	SAE0355/BAE0673
7440-48-4	Cobalt	05/18/23 13:03	5.67	mg/kg dry	0.215	1		MS	SAE0355/BAE0673
7440-50-8	Copper	05/18/23 13:03	55.1	mg/kg dry	0.269	1		MS	SAE0355/BAE0673
7439-89-6	Iron	05/18/23 13:03	15800	mg/kg dry	5.38	1	B	MS	SAE0355/BAE0673
7439-92-1	Lead	05/18/23 13:03	177	mg/kg dry	1.34	1		MS	SAE0355/BAE0673
7439-95-4	Magnesium	05/18/23 13:03	3130	mg/kg dry	53.8	1		MS	SAE0355/BAE0673
7439-96-5	Manganese	05/18/23 13:03	233	mg/kg dry	0.269	1		MS	SAE0355/BAE0673
7440-02-0	Nickel	05/18/23 13:03	23.2	mg/kg dry	0.134	1		MS	SAE0355/BAE0673
7440-09-7	Potassium	05/18/23 13:03	1990	mg/kg dry	108	1		MS	SAE0355/BAE0673
7782-49-2	Selenium	05/18/23 13:03	ND	mg/kg dry	1.34	1	U	MS	SAE0355/BAE0673
7440-22-4	Silver UJ, RC:6L	05/18/23 13:03	ND	mg/kg dry	0.161	1	U	MS	SAE0355/BAE0673
7440-23-5	Sodium	05/18/23 13:03	376	mg/kg dry	53.8	1		MS	SAE0355/BAE0673
7440-28-0	Thallium	05/18/23 13:03	ND	mg/kg dry	1.34	1	U	MS	SAE0355/BAE0673
7440-62-2	Vanadium	05/18/23 13:03	25.6	mg/kg dry	0.538	1		MS	SAE0355/BAE0673
7440-66-6	Zinc	05/18/23 13:03	97.3	mg/kg dry	0.806	1		MS	SAE0355/BAE0673

ND, U - Indicates compound analyzed for but not detected
D - Indicates result is based on a dilution
E - Concentration exceeds highest calibration standard
H - Indicates a Hold Time violation

RL - Reporting limit
DF - Dilution Factor

B - Indicates compound found in associated blank

F-I

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-01	**Date Collected**	: 05/04/23 14:15
Client ID	: OH-SB-56-1.0-2.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 11:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132318	**Analyst**	: CNC
Sample Amount	: 15.06 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1860	2.35	0.676	
91-20-3C1	C1-Naphthalenes	1660	2.35	0.676	
91-20-3C2	C2-Naphthalenes	1120	2.35	0.676	
91-20-3C3	C3-Naphthalenes	468	2.35	0.676	
91-20-3C4	C4-Naphthalenes	183	2.35	0.676	
208-96-8	Acenaphthylene	563	2.35	0.449	
83-32-9	Acenaphthene	957	2.35	0.414	
86-73-7	Fluorene	653	2.35	0.627	
86-73-7C1	C1-Fluorenes	391	2.35	0.627	
86-73-7C2	C2-Fluorenes	338	2.35	0.627	
86-73-7C3	C3-Fluorenes	320	2.35	0.627	
85-01-8	Phenanthrene	2710	2.35	0.779	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1880	2.35	0.779	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	995	2.35	0.779	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	457	2.35	0.779	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	171	2.35	0.779	
120-12-7	Anthracene	783	2.35	0.485	
206-44-0	Fluoranthene	1620	2.35	0.747	
129-00-0	Pyrene	1910	2.35	0.618	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1430	2.35	0.618	
56-55-3	Benz(a)anthracene	844	2.35	0.479	
218-01-9	Chrysene	919	2.35	0.475	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-01	**Date Collected**	: 05/04/23 14:15
Client ID	: OH-SB-56-1.0-2.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 11:27
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132318	**Analyst**	: CNC
Sample Amount	: 15.06 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	679	2.35	0.475	
218-01-9C2	C2-Chrysenes BS	433	2.35	0.475	
218-01-9C3	C3-Chrysenes	279	2.35	0.475	
218-01-9C4	C4-Chrysenes	181	2.35	0.475	
205-99-2	Benzo(b)fluoranthene	694	2.35	0.612	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	667	2.35	0.467	
192-97-2	Benzo(e)pyrene	623	2.35	0.485	
50-32-8	Benzo(a)pyrene	851	2.35	0.671	
198-55-0	Perylene	198	2.35	0.454	
193-39-5	Indeno(1,2,3-cd)pyrene	631	2.35	0.638	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	186	2.35	0.635	
191-24-2	Benzo(g,h,i)perylene	659	2.35	0.625	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-02	**Date Collected**	: 05/04/23 14:35
Client ID	: OH-SB-56-3.0-4.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 12:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132319	**Analyst**	: CNC
Sample Amount	: 15.22 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	96.4	2.20	0.632	
91-20-3C1	C1-Naphthalenes	41.7	2.20	0.632	
91-20-3C2	C2-Naphthalenes	53.5	2.20	0.632	
91-20-3C3	C3-Naphthalenes	49.0	2.20	0.632	
91-20-3C4	C4-Naphthalenes	30.3	2.20	0.632	
208-96-8	Acenaphthylene	82.1	2.20	0.420	
83-32-9	Acenaphthene	88.7	2.20	0.388	
86-73-7	Fluorene	108	2.20	0.587	
86-73-7C1	C1-Fluorenes	57.6	2.20	0.587	
86-73-7C2	C2-Fluorenes	57.7	2.20	0.587	
86-73-7C3	C3-Fluorenes	83.0	2.20	0.587	
85-01-8	Phenanthrene	941	2.20	0.729	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	491	2.20	0.729	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	273	2.20	0.729	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	129	2.20	0.729	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	60.2	2.20	0.729	
120-12-7	Anthracene	252	2.20	0.453	
206-44-0	Fluoranthene	1380	2.20	0.699	
129-00-0	Pyrene	1260	2.20	0.578	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	678	2.20	0.578	
56-55-3	Benz(a)anthracene	615	2.20	0.448	
218-01-9	Chrysene	595	2.20	0.445	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-02	**Date Collected**	: 05/04/23 14:35
Client ID	: OH-SB-56-3.0-4.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/14/23 12:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/11/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F905132319	**Analyst**	: CNC
Sample Amount	: 15.22 g	**Instrument ID**	: PAH9
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	303	2.20	0.445	
218-01-9C2	C2-Chrysenes BS	159	2.20	0.445	
218-01-9C3	C3-Chrysenes	117	2.20	0.445	
218-01-9C4	C4-Chrysenes	59.4	2.20	0.445	
205-99-2	Benzo(b)fluoranthene	536	2.20	0.572	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	477	2.20	0.437	
192-97-2	Benzo(e)pyrene	412	2.20	0.454	
50-32-8	Benzo(a)pyrene	620	2.20	0.628	
198-55-0	Perylene	219	2.20	0.424	
193-39-5	Indeno(1,2,3-cd)pyrene	415	2.20	0.597	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	114	2.20	0.594	
191-24-2	Benzo(g,h,i)perylene	409	2.20	0.584	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-01	**Date Collected**	: 05/04/23 14:15
Client ID	: OH-SB-56-1.0-2.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-02	**Date Collected**	: 05/04/23 14:35
Client ID	: OH-SB-56-3.0-4.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-01	**Date Collected**	: 05/04/23 14:15
Client ID	: OH-SB-56-1.0-2.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/09/23 16:23
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ARM
Lab File ID	: WG1776826.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.7**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2325195
Project Name	: 23E0325	**Project Number**	: 23E0325
Lab ID	: L2325195-02	**Date Collected**	: 05/04/23 14:35
Client ID	: OH-SB-56-3.0-4.0-20230504	**Date Received**	: 05/08/23
Sample Location	:	**Date Analyzed**	: 05/09/23 16:23
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ARM
Lab File ID	: WG1776826.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 90
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**89.6**	**0.100**	**0.100**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2326372 and 23E0462
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: October 23, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-42-1.0-2.0_20230508	23E0462-01	5/08/2023	Soil
OH-SB-42-3.0-4.0_20230508	23E0462-02	5/08/2023	Soil
TB_20230509	23E0462-03	5/09/2023	Water
FB_20230508	23E0462-04	5/08/2023	Water
OH-SB-40-1.0-2.0_20230509	23E0462-05	5/09/2023	Soil
OH-SB-40-2.0-3.0_20230509	23E0462-06	5/09/2023	Soil
FB_20230509	23E0462-07	5/09/2023	Water
OH-SB-41-1.0-2.0_20230509	23E0462-08	5/09/2023	Soil
OH-SB-41-3.0-4.0_20230509	23E0462-09	5/09/2023	Soil

Data validation was performed on the analytical data for nine (9) samples collected between May 8 and May 9, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020

- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, surrogates, laboratory control samples, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Samples FB_20230508 and FB_20230509 were listed for Alkylated PAH analysis; these samples were not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of "lab contamination." Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	TB_20230509 FB_20230509	4-Bromofluorobenzene	%R < CL	UJ (NDs) J (Detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB_20230509 FB_20230509	1,2,4-Trichlorobenzene	%R < CL	UJ (NDs) J (Detects)	6L
	FB_20230508	Bromomethane	%R < CL	UJ (NDs) J (Detects)	6L

- Compounds not listed were above control limits; where LCS/LCSD percent differences were above control limits and associated samples results were non-detect, qualification was not warranted.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB_20230508	2-Hexanone Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	TB_20230509 FB_20230509	1,2,4-Trichlorobenzene Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknowns. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	All soils samples	2-Nitrophenol	%R > CL	No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	0H-SB-40-2.0-3.0_20230509	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	0H-SB-41-3.0-4.0_20230509	1,4-Dioxane Benzaldehyde 4-Chloroaniline bis(2-chloroethoxy)methane bis(2-chloroethyl)ether bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Hexachlorocyclopentadiene Pentachlorophenol Phenol			
		2,4-Dichlorophenol 2-Nitrophenol 4,6-Dinitro-2-methylphenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	0H-SB-42-1.0-2.0_20230508 0H-SB-42-3.0-4.0_20230508 0H-SB-40-1.0-2.0_20230509 0H-SB-40-2.0-3.0_20230509	Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2-Nitrophenol Hexachlorocyclopentadiene 2-Nitroaniline 2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	0H-SB-41-1.0-2.0_20230509	Benzaldehyde bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,4-Dinitrophenol 2,6-Dinitrotoluene 4,6-Dinitro-2-methylphenol 4-Bromophenyl-phenyl ether Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	FB_20230508 FB_20230509	4-Nitrophenol Benzaldehyde n-Nitroso-di-n-propylamine n-Nitrosodiphenylamine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-41-3.0-4.0_20230509	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R <CL>10%	UJ (NDs)	3L
	OH-SB-40-2.0-3.0_20230509	Tetrachloro-m-xylene Decachlorobiphenyl [2C]	%R > CL	No action (NDs)	3H
8081B	OH-SB-40-2.0-3.0_20230509	Decachlorobiphenyl [2C]	%R > CL	J (Detects) UJ (NDs)	3
		Tetrachloro-m-xylene [2C]	%R <CL>10%		
		Tetrachloro-m-xylene	%R > CL	No action (NDs) J (Detects)	3H
	OH-SB-41-1.0-2.0_202	Decachlorobiphenyl [2C]	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8051A	All soils samples	2,4-D	%R > CL	No action (NDs)	6H
8081B	All soils samples	alpha-Chlordane (cis) Chlordane beta-BHC Endrin aldehyde Endosulfan I Endosulfan sulfate Endrin ketone gamma-Chlordane Heptachlor Epoxide Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB_20230508 FB_20230509	Silver	%R < CL	UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010	FB_20230508 FB_20230509	Thallium	SCV %R > CL	No Action (NDs)	SH

Reporting Limits and Analyte Quantitation

- Analyte detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Date 10/23/2023 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0462

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Jul 31, 2023

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Sample Summary

Work Order: 23E0462

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-42-1.0-2.0_20230508	23E0462-01	Soil	05/08/2023 14:00	05/09/2023 17:30
OH-SB-42-3.0-4.0_20230508	23E0462-02	Soil	05/08/2023 14:20	05/09/2023 17:30
TB_20230509	23E0462-03	Ground Water	05/09/2023 13:55	05/09/2023 17:30
FB_20230508	23E0462-04	Ground Water	05/08/2023 14:40	05/09/2023 17:30
OH-SB-40-1.0-2.0_20230509	23E0462-05	Soil	05/09/2023 11:00	05/09/2023 17:30
OH-SB-40-2.0-3.0_20230509	23E0462-06	Soil	05/09/2023 11:15	05/09/2023 17:30
FB_20230509	23E0462-07	Ground Water	05/09/2023 13:30	05/09/2023 17:30
OH-SB-41-1.0-2.0_20230509	23E0462-08	Soil	05/09/2023 14:10	05/09/2023 17:30
OH-SB-41-3.0-4.0_20230509	23E0462-09	Soil	05/09/2023 14:20	05/09/2023 17:30

PN: 23E0462

APL 23E0462

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: " "
ADDRESS: 60 River Drive 3rd Floor Elmwood Park, NJ 07407	ADDRESS: " "
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

NY State Category B

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0462-01	OH-SB-42-1.0-2.0-20230508	5/8/23	1400	X		S	5	DI, meth and	VOC, SVOC, PCBs, Pest, Herb, TAL metals, Total cyanide, free cyanide, Alkylated PAH by 8270SIM
-02	OH-SB-42-3.0-4.0-20230508	5/8/23	1400	X		S	5	" "	Same as above
-03	TB-20230509	5/9/23	1335	-		DI	2	-	VOC
-04	FB-20230508	5/8/23	1440	-		DI	10		VOC, SVOC, PCB, Pest, Herb, Tal Metals, TC
-05	OH-SB-40-1.0-2.0-20230509	5/9/23	1100	X		S	5		" "
-06	OH-SB-40-2.0-3.0-20230509	5/9/23	1115	X		S	5		" "
-07	FB-20230509	5/9/23	1330	X		DI	10		VOC, SVOC, PCB, Pest, Herb, Tal Metals, TCN
-08	OH-SB-41-1.0-2.0-20230509	5/9/23	1410	X		S	5		" "
-09	OH-SB-41-3.0-4.0-20230509	5/9/23	1420	X		S	5		" "

RELINQUISHED BY (Print) Harrison Smithers	DATE 5/9/23	RECEIVED BY (Print) Mike D'Angelo	
Signature	Time 1430	Signature	
RELINQUISHED BY (Print) Mike D'Angelo	DATE 5/9/23	RECEIVED BY (Print) Rose Nap	
Signature	Time 17:30	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.1

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.7
The percent recovery for Silver was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike (low). The blank spike met all QC criteria.

Methods 7473 / 245.1 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
Samples 23E0462-06 and -09 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E0462-06, -08 and -09 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike duplicates, matrix spike, and matrix spike duplicate (low).

Samples 23E0462-03 (TB) and -07 (FB) have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Reviewed By: _____ (SK) 7/31/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0412		0.00554	0.0222	mg/kg dry	1	5/11/23 13:15

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7620		0.159	2.68	mg/kg dry	1	5/21/23 9:41
Arsenic	2.05		0.0955	1.34	mg/kg dry	1	5/21/23 9:41
Barium	34.4		0.0405	0.535	mg/kg dry	1	5/21/23 9:41
Beryllium	0.699		0.00310	0.0268	mg/kg dry	1	5/21/23 9:41
Calcium	4510		3.01	26.8	mg/kg dry	1	5/21/23 9:41
Chromium	30.5		0.0302	0.268	mg/kg dry	1	5/21/23 9:41
Cobalt	9.99		0.0274	0.214	mg/kg dry	1	5/21/23 9:41
Copper	15.4		0.0749	0.268	mg/kg dry	1	5/21/23 9:41
Iron	16700		0.758	5.35	mg/kg dry	1	5/21/23 9:41
Lead	10.8		0.112	1.34	mg/kg dry	1	5/21/23 9:41
Magnesium	6990		9.46	53.5	mg/kg dry	1	5/21/23 9:41
Manganese	262		0.0333	0.268	mg/kg dry	1	5/21/23 9:41
Nickel	108		0.0235	0.134	mg/kg dry	1	5/21/23 9:41
Potassium	2070		31.8	107	mg/kg dry	1	5/21/23 9:41
Sodium	679		5.11	53.5	mg/kg dry	1	5/21/23 9:41
Vanadium	23.8		0.0616	0.535	mg/kg dry	1	5/21/23 9:41
Zinc	33.2		0.0818	0.803	mg/kg dry	1	5/21/23 9:41

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	0.0501	J	0.0149	0.147	mg/kg dry	1	5/11/23 21:16
Benzo(a)pyrene	0.0551	J	0.0257	0.147	mg/kg dry	1	5/11/23 21:16
Benzo(b)fluoranthene	0.0489	J	0.0207	0.147	mg/kg dry	1	5/11/23 21:16
Chrysene	0.0332	J	0.0101	0.147	mg/kg dry	1	5/11/23 21:16
Fluoranthene	0.0576	J	0.0139	0.147	mg/kg dry	1	5/11/23 21:16
Phenanthrene	0.0345	J	0.0194	0.147	mg/kg dry	1	5/11/23 21:16
Pyrene	0.0626	J	0.0109	0.147	mg/kg dry	1	5/11/23 21:16
TIC_Hexadecanoic acid, butyl ester	5.84	J, B			mg/kg dry	1	5/11/23 21:16
TIC_Octacosane	1.03	J			mg/kg dry	1	5/11/23 21:16
TIC_Octadecanoic acid, butyl ester	3.90	J, B			mg/kg dry	1	5/11/23 21:16
TIC_unknown (01)	0.313	J			mg/kg dry	1	5/11/23 21:16
TIC_unknown (02)	1.01	J			mg/kg dry	1	5/11/23 21:16
TIC_unknown (03)	0.415	J			mg/kg dry	1	5/11/23 21:16

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-01 (Soil) Sample Name: OH-SB-42-1.0-2.0_20230508

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.198		0.00809	0.0679	mg/kg dry	1	5/12/23 11:45

23E0462-02 (Soil) Sample Name: OH-SB-42-3.0-4.0_20230508

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.27		0.00559	0.0223	mg/kg dry	1	5/11/23 13:16

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7780		0.160	2.70	mg/kg dry	1	5/21/23 9:43
Arsenic	5.04		0.0963	1.35	mg/kg dry	1	5/21/23 9:43
Barium	132		0.0408	0.540	mg/kg dry	1	5/21/23 9:43
Beryllium	0.679		0.00313	0.0270	mg/kg dry	1	5/21/23 9:43
Cadmium	0.540		0.0526	0.270	mg/kg dry	1	5/21/23 9:43
Calcium	21100		3.04	27.0	mg/kg dry	1	5/21/23 9:43
Chromium	27.3		0.0305	0.270	mg/kg dry	1	5/21/23 9:43
Cobalt	7.96		0.0276	0.216	mg/kg dry	1	5/21/23 9:43
Copper	56.9		0.0755	0.270	mg/kg dry	1	5/21/23 9:43
Iron	17700		0.764	5.40	mg/kg dry	1	5/21/23 9:43
Lead	135		0.113	1.35	mg/kg dry	1	5/21/23 9:43
Magnesium	6900		9.53	54.0	mg/kg dry	1	5/21/23 9:43
Manganese	241		0.0336	0.270	mg/kg dry	1	5/21/23 9:43
Nickel	64.0		0.0237	0.135	mg/kg dry	1	5/21/23 9:43
Potassium	2080		32.1	108	mg/kg dry	1	5/21/23 9:43
Silver	0.164		0.0459	0.162	mg/kg dry	1	5/21/23 9:43
Sodium	1190		5.15	54.0	mg/kg dry	1	5/21/23 9:43
Thallium	2.20		0.0908	1.35	mg/kg dry	1	5/21/23 9:43
Vanadium	24.6		0.0621	0.540	mg/kg dry	1	5/21/23 9:43
Zinc	167		0.0824	0.810	mg/kg dry	1	5/21/23 9:43

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00142	J	0.000665	0.00145	mg/kg dry	1	5/12/23 21:15

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.423		0.0356	0.223	mg/kg dry	1	5/11/23 21:48
Acenaphthene	0.719		0.00848	0.149	mg/kg dry	1	5/11/23 21:48
Acenaphthylene	0.743		0.00517	0.149	mg/kg dry	1	5/11/23 21:48

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetophenone	0.133	J	0.0147	0.149	mg/kg dry	1	5/11/23 21:48
Anthracene	1.78		0.0216	0.149	mg/kg dry	1	5/11/23 21:48
Benzaldehyde	0.119	J	0.0457	0.149	mg/kg dry	1	5/11/23 21:48
Benzo(a)anthracene	4.06		0.0150	0.149	mg/kg dry	1	5/11/23 21:48
Benzo(a)pyrene	4.25		0.0259	0.149	mg/kg dry	1	5/11/23 21:48
Benzo(b)fluoranthene	4.23		0.0209	0.149	mg/kg dry	1	5/11/23 21:48
Benzo(g,h,i)perylene	2.26		0.0121	0.149	mg/kg dry	1	5/11/23 21:48
Benzo(k)fluoranthene	2.39		0.0171	0.149	mg/kg dry	1	5/11/23 21:48
Biphenyl	0.122	J	0.0131	0.149	mg/kg dry	1	5/11/23 21:48
bis(2-ethylhexyl)phthalate	0.308		0.0297	0.149	mg/kg dry	1	5/11/23 21:48
Carbazole	0.583		0.0286	0.372	mg/kg dry	1	5/11/23 21:48
Chrysene	4.03		0.0102	0.149	mg/kg dry	1	5/11/23 21:48
Dibenzo(a,h)anthracene	0.630		0.0147	0.149	mg/kg dry	1	5/11/23 21:48
Dibenzofuran	0.523		0.00886	0.149	mg/kg dry	1	5/11/23 21:48
Fluoranthene	7.94		0.0140	0.149	mg/kg dry	1	5/11/23 21:48
Fluorene	0.707		0.0124	0.149	mg/kg dry	1	5/11/23 21:48
Indeno(1,2,3-cd)pyrene	1.84		0.0160	0.149	mg/kg dry	1	5/11/23 21:48
Naphthalene	0.547		0.0110	0.149	mg/kg dry	1	5/11/23 21:48
Phenanthrene	6.38		0.0196	0.149	mg/kg dry	1	5/11/23 21:48
Pyrene	7.23		0.0109	0.149	mg/kg dry	1	5/11/23 21:48
TIC_1,4-Diphenyl-1,3-butadiene	1.04	J			mg/kg dry	1	5/11/23 21:48
TIC_Cyclohexanecarboxylic acid, 1-methyl-2-o	0.548	J			mg/kg dry	1	5/11/23 21:48
TIC_Hexadecanoic acid, butyl ester	4.73	J, B			mg/kg dry	1	5/11/23 21:48
TIC_Naphthalene, 2,6-dimethyl-	0.440	J			mg/kg dry	1	5/11/23 21:48
TIC_Naphthalene, 2-phenyl-	0.861	J			mg/kg dry	1	5/11/23 21:48
TIC_Octadecanoic acid, butyl ester	1.23	J, B			mg/kg dry	1	5/11/23 21:48
TIC_unknown (01)	0.478	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (02)	0.656	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (03)	1.13	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (04)	1.61	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (05)	0.708	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (06)	3.32	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (07)	0.665	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (08)	0.891	J			mg/kg dry	1	5/11/23 21:48
TIC_unknown (09)	1.87	J			mg/kg dry	1	5/11/23 21:48

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1254 [2C]	0.102		0.00343	0.0367	mg/kg dry	1	5/14/23 16:15
Total PCBs	0.102		0.00343	0.0367	mg/kg dry	1	5/14/23 16:15

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.158		0.00556	0.0223	mg/kg dry	1	5/11/23 13:16

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5680		0.160	2.70	mg/kg dry	1	5/21/23 9:45
Antimony	1.89		0.147	1.35	mg/kg dry	1	5/21/23 9:45
Arsenic	1.99		0.0964	1.35	mg/kg dry	1	5/21/23 9:45
Barium	62.6		0.0408	0.540	mg/kg dry	1	5/21/23 9:45
Beryllium	0.544		0.00313	0.0270	mg/kg dry	1	5/21/23 9:45
Calcium	8160		3.04	27.0	mg/kg dry	1	5/21/23 9:45
Chromium	16.8		0.0305	0.270	mg/kg dry	1	5/21/23 9:45
Cobalt	8.43		0.0276	0.216	mg/kg dry	1	5/21/23 9:45
Copper	28.1		0.0756	0.270	mg/kg dry	1	5/21/23 9:45
Iron	13100		0.765	5.40	mg/kg dry	1	5/21/23 9:45
Lead	125		0.113	1.35	mg/kg dry	1	5/21/23 9:45
Magnesium	4400		9.54	54.0	mg/kg dry	1	5/21/23 9:45
Manganese	228		0.0336	0.270	mg/kg dry	1	5/21/23 9:45
Nickel	37.3		0.0237	0.135	mg/kg dry	1	5/21/23 9:45
Potassium	1540		32.1	108	mg/kg dry	1	5/21/23 9:45
Sodium	543		5.15	54.0	mg/kg dry	1	5/21/23 9:45
Vanadium	17.7		0.0621	0.540	mg/kg dry	1	5/21/23 9:45
Zinc	81.3		0.0825	0.810	mg/kg dry	1	5/21/23 9:45

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.000927	J	0.000662	0.00145	mg/kg dry	1	5/12/23 21:59
4,4'-DDT	0.00630		0.00102	0.00145	mg/kg dry	1	5/12/23 21:59
Chlordane [2C]	0.00195		0.000643	0.00145	mg/kg dry	1	5/12/23 21:59

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	0.0272	J	0.0215	0.148	mg/kg dry	1	5/11/23 19:12
Benzo(a)anthracene	0.0881	J	0.0149	0.148	mg/kg dry	1	5/11/23 19:12
Benzo(a)pyrene	0.0883	J	0.0258	0.148	mg/kg dry	1	5/11/23 19:12
Benzo(b)fluoranthene	0.140	J	0.0208	0.148	mg/kg dry	1	5/11/23 19:12
Benzo(g,h,i)perylene	0.0644	J	0.0120	0.148	mg/kg dry	1	5/11/23 19:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chrysene	0.105	J	0.0101	0.148	mg/kg dry	1	5/11/23 19:12
Fluoranthene	0.194		0.0139	0.148	mg/kg dry	1	5/11/23 19:12
Indeno(1,2,3-cd)pyrene	0.0439	J	0.0159	0.148	mg/kg dry	1	5/11/23 19:12
Phenanthrene	0.135	J	0.0195	0.148	mg/kg dry	1	5/11/23 19:12
Pyrene	0.147	J	0.0109	0.148	mg/kg dry	1	5/11/23 19:12
TIC_Cyclopentane, (2-hexyloctyl)-	0.514	J			mg/kg dry	1	5/11/23 19:12
TIC_Hexadecanoic acid, butyl ester	7.13	J, B			mg/kg dry	1	5/11/23 19:12
TIC_Octadecanoic acid, butyl ester	4.86	J, B			mg/kg dry	1	5/11/23 19:12
TIC_unknown	0.377	J, B			mg/kg dry	1	5/11/23 19:12

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.35		0.00594	0.0238	mg/kg dry	1	5/12/23 15:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6560		0.174	2.93	mg/kg dry	1	5/21/23 9:47
Antimony	3.64		0.159	1.46	mg/kg dry	1	5/21/23 9:47
Arsenic	8.67		0.104	1.46	mg/kg dry	1	5/21/23 9:47
Barium	215		0.0443	0.585	mg/kg dry	1	5/21/23 9:47
Beryllium	0.579		0.00339	0.0293	mg/kg dry	1	5/21/23 9:47
Cadmium	0.761		0.0571	0.293	mg/kg dry	1	5/21/23 9:47
Calcium	25700		3.29	29.3	mg/kg dry	1	5/21/23 9:47
Chromium	21.6		0.0331	0.293	mg/kg dry	1	5/21/23 9:47
Cobalt	7.90		0.0299	0.234	mg/kg dry	1	5/21/23 9:47
Copper	213		0.0819	0.293	mg/kg dry	1	5/21/23 9:47
Iron	23800		0.829	5.85	mg/kg dry	1	5/21/23 9:47
Lead	369		0.122	1.46	mg/kg dry	1	5/21/23 9:47
Magnesium	4340		10.3	58.5	mg/kg dry	1	5/21/23 9:47
Manganese	244		0.0364	0.293	mg/kg dry	1	5/21/23 9:47
Nickel	46.3		0.0257	0.146	mg/kg dry	1	5/21/23 9:47
Potassium	1500		34.8	117	mg/kg dry	1	5/21/23 9:47
Silver	0.358		0.0498	0.176	mg/kg dry	1	5/21/23 9:47
Sodium	845		5.58	58.5	mg/kg dry	1	5/21/23 9:47
Thallium	2.92		0.0985	1.46	mg/kg dry	1	5/21/23 9:47
Vanadium	24.4		0.0673	0.585	mg/kg dry	1	5/21/23 9:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Zinc	580	D	0.894	8.78	mg/kg dry	10	5/21/23 10:50

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00796		0.000707	0.00155	mg/kg dry	1	5/12/23 22:21
4,4'-DDE [2C]	0.00330		0.000845	0.00155	mg/kg dry	1	5/12/23 22:21
4,4'-DDT [2C]	0.00229		0.00109	0.00155	mg/kg dry	1	5/12/23 22:21

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	3.34		0.0379	0.238	mg/kg dry	1	5/11/23 19:43
3+4-Methylphenol	0.293		0.0290	0.158	mg/kg dry	1	5/11/23 19:43
Acenaphthene	8.18		0.00902	0.158	mg/kg dry	1	5/11/23 19:43
Acenaphthylene	9.03		0.00550	0.158	mg/kg dry	1	5/11/23 19:43
Anthracene	14.5	D	0.229	1.58	mg/kg dry	10	5/16/23 22:21
Benzo(a)anthracene	29.3	D	0.159	1.58	mg/kg dry	10	5/16/23 22:21
Benzo(a)pyrene	32.6	D	0.276	1.58	mg/kg dry	10	5/16/23 22:21
Benzo(b)fluoranthene	34.6	D	0.222	1.58	mg/kg dry	10	5/16/23 22:21
Benzo(g,h,i)perylene	29.9	D	0.128	1.58	mg/kg dry	10	5/16/23 22:21
Benzo(k)fluoranthene	14.3	D	0.182	1.58	mg/kg dry	10	5/16/23 22:21
Biphenyl	1.06		0.0139	0.158	mg/kg dry	1	5/11/23 19:43
Carbazole	5.82		0.0304	0.396	mg/kg dry	1	5/11/23 19:43
Chrysene	28.9	D	0.108	1.58	mg/kg dry	10	5/16/23 22:21
Dibenzo(a,h)anthracene	4.49		0.0157	0.158	mg/kg dry	1	5/11/23 19:43
Dibenzofuran	3.89		0.00943	0.158	mg/kg dry	1	5/11/23 19:43
Fluoranthene	59.5	D	0.149	1.58	mg/kg dry	10	5/16/23 22:21
Fluorene	6.36		0.0132	0.158	mg/kg dry	1	5/11/23 19:43
Indeno(1,2,3-cd)pyrene	21.9	D	0.170	1.58	mg/kg dry	10	5/16/23 22:21
Naphthalene	7.20		0.0117	0.158	mg/kg dry	1	5/11/23 19:43
Phenanthrene	55.9	D	0.208	1.58	mg/kg dry	10	5/16/23 22:21
Pyrene	47.5	D	0.116	1.58	mg/kg dry	10	5/16/23 22:21
TIC_1,2,4-Trithiolane	5.16	J			mg/kg dry	1	5/11/23 19:43
TIC_1H-Indene, 1-methyl-	2.92	J			mg/kg dry	1	5/11/23 19:43
TIC_2-Methylindene	3.66	J			mg/kg dry	1	5/11/23 19:43
TIC_Benzene, (1-nitroethyl)-	8.00	J			mg/kg dry	1	5/11/23 19:43
TIC_Benzene, 1-ethenyl-4-methyl-	12.5	J			mg/kg dry	1	5/11/23 19:43
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	4.12	J			mg/kg dry	1	5/11/23 19:43
TIC_Benzene, 1-propynyl-	3.75	J			mg/kg dry	1	5/11/23 19:43

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Bicyclo[4.2.0]octa-1,3,5-triene, 7-methy	5.56	J			mg/kg dry	1	5/11/23 19:43
TIC_Naphthalene, 1-methyl-	2.89	J			mg/kg dry	1	5/11/23 19:43
TIC_unknown (01)	2.30	J			mg/kg dry	1	5/11/23 19:43
TIC_unknown (02)	5.62	J			mg/kg dry	1	5/11/23 19:43
TIC_unknown (03)	5.33	J			mg/kg dry	1	5/11/23 19:43
TIC_unknown (04)	2.36	J			mg/kg dry	1	5/11/23 19:43
TIC_unknown (05)	2.27	J			mg/kg dry	1	5/11/23 19:43
TIC_unknown (06)	3.17	J			mg/kg dry	1	5/11/23 19:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Tetrachloroethene	0.117		0.000274	0.00276	mg/kg dry	1	5/12/23 18:46
TIC_Cyclopropane, ethyl-	0.0185	J			mg/kg dry	1	5/12/23 18:46
TIC_TIC:Naphthalene	0.0116	J			mg/kg dry	1	5/12/23 18:46

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0390		0.00555	0.0222	mg/kg dry	1	5/12/23 15:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5930		0.160	2.69	mg/kg dry	1	5/21/23 9:50
Antimony	1.77		0.147	1.35	mg/kg dry	1	5/21/23 9:50
Arsenic	3.90		0.0961	1.35	mg/kg dry	1	5/21/23 9:50
Barium	107		0.0407	0.539	mg/kg dry	1	5/21/23 9:50
Beryllium	0.555		0.00312	0.0269	mg/kg dry	1	5/21/23 9:50
Cadmium	0.334		0.0525	0.269	mg/kg dry	1	5/21/23 9:50
Calcium	12400		3.03	26.9	mg/kg dry	1	5/21/23 9:50
Chromium	18.9		0.0304	0.269	mg/kg dry	1	5/21/23 9:50
Cobalt	9.94		0.0275	0.216	mg/kg dry	1	5/21/23 9:50
Copper	93.0		0.0754	0.269	mg/kg dry	1	5/21/23 9:50
Iron	16800		0.763	5.39	mg/kg dry	1	5/21/23 9:50
Lead	154		0.112	1.35	mg/kg dry	1	5/21/23 9:50
Magnesium	4230		9.52	53.9	mg/kg dry	1	5/21/23 9:50
Manganese	228		0.0335	0.269	mg/kg dry	1	5/21/23 9:50
Nickel	48.5		0.0237	0.135	mg/kg dry	1	5/21/23 9:50
Potassium	1570		32.0	108	mg/kg dry	1	5/21/23 9:50
Sodium	501		5.14	53.9	mg/kg dry	1	5/21/23 9:50

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	19.0		0.0620	0.539	mg/kg dry	1	5/21/23 9:50
Zinc	165		0.0823	0.808	mg/kg dry	1	5/21/23 9:50

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00226		0.000660	0.00144	mg/kg dry	1	5/12/23 23:05
4,4'-DDE [2C]	0.00102	J	0.000789	0.00144	mg/kg dry	1	5/12/23 23:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthylene	0.0586	J	0.00514	0.148	mg/kg dry	1	5/12/23 15:06
Anthracene	0.0374	J	0.0214	0.148	mg/kg dry	1	5/12/23 15:06
Benzo(a)anthracene	0.0845	J	0.0149	0.148	mg/kg dry	1	5/12/23 15:06
Benzo(a)pyrene	0.0942	J	0.0258	0.148	mg/kg dry	1	5/12/23 15:06
Benzo(b)fluoranthene	0.134	J	0.0208	0.148	mg/kg dry	1	5/12/23 15:06
Benzo(g,h,i)perylene	0.0913	J	0.0120	0.148	mg/kg dry	1	5/12/23 15:06
Benzo(k)fluoranthene	0.0733	J	0.0170	0.148	mg/kg dry	1	5/12/23 15:06
Chrysene	0.0996	J	0.0101	0.148	mg/kg dry	1	5/12/23 15:06
Fluoranthene	0.218		0.0139	0.148	mg/kg dry	1	5/12/23 15:06
Indeno(1,2,3-cd)pyrene	0.0611	J	0.0159	0.148	mg/kg dry	1	5/12/23 15:06
Phenanthrene	0.119	J	0.0194	0.148	mg/kg dry	1	5/12/23 15:06
Pyrene	0.142	J	0.0109	0.148	mg/kg dry	1	5/12/23 15:06
TIC_Hexadecanoic acid, butyl ester	5.11	J, B			mg/kg dry	1	5/12/23 15:06
TIC_Octadecanoic acid, butyl ester	3.07	J, B			mg/kg dry	1	5/12/23 15:06
TIC_unknown	0.325	J, B			mg/kg dry	1	5/12/23 15:06

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.16		0.00777	0.0652	mg/kg dry	1	5/12/23 11:45

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.235		0.00626	0.0250	mg/kg dry	1	5/12/23 15:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7380		0.187	3.15	mg/kg dry	1	5/21/23 9:52

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	11.4		0.112	1.57	mg/kg dry	1	5/21/23 9:52
Barium	169		0.0476	0.629	mg/kg dry	1	5/21/23 9:52
Beryllium	0.776		0.00364	0.0315	mg/kg dry	1	5/21/23 9:52
Cadmium	0.422		0.0613	0.315	mg/kg dry	1	5/21/23 9:52
Calcium	54900	D	35.4	315	mg/kg dry	10	5/21/23 10:52
Chromium	19.4		0.0355	0.315	mg/kg dry	1	5/21/23 9:52
Cobalt	9.28		0.0321	0.252	mg/kg dry	1	5/21/23 9:52
Copper	58.2		0.0880	0.315	mg/kg dry	1	5/21/23 9:52
Iron	17500		0.891	6.29	mg/kg dry	1	5/21/23 9:52
Lead	182		0.131	1.57	mg/kg dry	1	5/21/23 9:52
Magnesium	5120		11.1	62.9	mg/kg dry	1	5/21/23 9:52
Manganese	233		0.0391	0.315	mg/kg dry	1	5/21/23 9:52
Nickel	36.2		0.0276	0.157	mg/kg dry	1	5/21/23 9:52
Potassium	1580		37.4	126	mg/kg dry	1	5/21/23 9:52
Silver	0.237		0.0535	0.189	mg/kg dry	1	5/21/23 9:52
Sodium	1050		6.00	62.9	mg/kg dry	1	5/21/23 9:52
Thallium	2.46		0.106	1.57	mg/kg dry	1	5/21/23 9:52
Vanadium	23.5		0.0724	0.629	mg/kg dry	1	5/21/23 9:52
Zinc	189		0.0961	0.944	mg/kg dry	1	5/21/23 9:52

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	2.59		0.0399	0.250	mg/kg dry	1	5/11/23 17:16
Acenaphthene	1.83		0.00950	0.167	mg/kg dry	1	5/11/23 17:16
Acenaphthylene	2.08		0.00580	0.167	mg/kg dry	1	5/11/23 17:16
Acetophenone	1.20		0.0165	0.167	mg/kg dry	1	5/11/23 17:16
Anthracene	5.80		0.0242	0.167	mg/kg dry	1	5/11/23 17:16
Benzaldehyde	0.573		0.0512	0.167	mg/kg dry	1	5/11/23 17:16
Benzo(a)anthracene	6.27		0.0168	0.167	mg/kg dry	1	5/11/23 17:16
Benzo(a)pyrene	7.02		0.0290	0.167	mg/kg dry	1	5/11/23 17:16
Benzo(b)fluoranthene	8.46		0.0234	0.167	mg/kg dry	1	5/11/23 17:16
Benzo(g,h,i)perylene	3.73		0.0135	0.167	mg/kg dry	1	5/11/23 17:16
Benzo(k)fluoranthene	3.11		0.0192	0.167	mg/kg dry	1	5/11/23 17:16
Biphenyl	0.685		0.0146	0.167	mg/kg dry	1	5/11/23 17:16
Carbazole	0.868		0.0321	0.417	mg/kg dry	1	5/11/23 17:16
Chrysene	6.40		0.0114	0.167	mg/kg dry	1	5/11/23 17:16
Dibenzo(a,h)anthracene	1.14		0.0165	0.167	mg/kg dry	1	5/11/23 17:16
Dibenzofuran	1.03		0.00993	0.167	mg/kg dry	1	5/11/23 17:16
Fluoranthene	16.1	D	0.156	1.67	mg/kg dry	10	5/16/23 22:51
Fluorene	2.54		0.0139	0.167	mg/kg dry	1	5/11/23 17:16

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	3.44		0.0179	0.167	mg/kg dry	1	5/11/23 17:16
Naphthalene	1.57		0.0123	0.167	mg/kg dry	1	5/11/23 17:16
Phenanthrene	31.4	D	0.219	1.67	mg/kg dry	10	5/16/23 22:51
Pyrene	14.5	D	0.123	1.67	mg/kg dry	10	5/16/23 22:51
TIC_1R-.alpha.-Pinene	3.08	J			mg/kg dry	1	5/11/23 17:16
TIC_2-Pentanone, 4-hydroxy-4-methyl-	36.7	J, B			mg/kg dry	1	5/11/23 17:16
TIC_Ethyl Acetate	6.91	J			mg/kg dry	1	5/11/23 17:16
TIC_Naphthalene, 1,2,3-trimethyl-4-propenyl-	2.99	J			mg/kg dry	1	5/11/23 17:16
TIC_Naphthalene, 2,3-dimethyl-	2.34	J			mg/kg dry	1	5/11/23 17:16
TIC_Octadecanoic acid, butyl ester	2.22	J, B			mg/kg dry	1	5/11/23 17:16
TIC_unknown (01)	6.70	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (02)	7.47	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (03)	2.88	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (04)	6.80	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (05)	7.03	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (06)	6.27	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (07)	6.45	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (08)	2.84	J			mg/kg dry	1	5/11/23 17:16
TIC_unknown (09)	3.53	J			mg/kg dry	1	5/11/23 17:16

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1-Pyrrolidinyloxy, 2,2,5,5-tetramethyl-3	0.0345	J			mg/kg dry	1	5/12/23 20:52
TIC_Lab Contamination	0.0248	J, B			mg/kg dry	1	5/12/23 20:52

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508** Collected: **5/8/2023 2:00:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00491	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1221	ND	U	0.00965	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1232	ND	U	0.0123	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1242	ND	U	0.00719	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1248	ND	U	0.00752	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1254	ND	U	0.00590	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1260	ND	U	0.00458	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1262	ND	U	0.00984	0.0366	mg/kg	1	5/14/23 15:31
Aroclor-1268	ND	U	0.00443	0.0366	mg/kg	1	5/14/23 15:31
Total PCBs	ND	U	0.00342	0.0366	mg/kg	1	5/14/23 15:31

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	5/25/23 17:48
2,4-D	ND	U	0.0184	0.111	mg/kg	1	5/25/23 17:48

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0412**		**0.00554**	**0.0222**	**mg/kg**	**1**	**5/11/23 13:15**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7620**		**0.159**	**2.68**	**mg/kg**	**1**	**5/21/23 9:41**
Antimony	ND	U	0.146	1.34	mg/kg	1	5/21/23 9:41
Arsenic	**2.05**		**0.0955**	**1.34**	**mg/kg**	**1**	**5/21/23 9:41**
Barium	**34.4**		**0.0405**	**0.535**	**mg/kg**	**1**	**5/21/23 9:41**
Beryllium	**0.699**		**0.00310**	**0.0268**	**mg/kg**	**1**	**5/21/23 9:41**
Cadmium	ND	U	0.0522	0.268	mg/kg	1	5/21/23 9:41
Calcium	**4510**		**3.01**	**26.8**	**mg/kg**	**1**	**5/21/23 9:41**
Chromium	**30.5**		**0.0302**	**0.268**	**mg/kg**	**1**	**5/21/23 9:41**
Cobalt	**9.99**		**0.0274**	**0.214**	**mg/kg**	**1**	**5/21/23 9:41**
Copper	**15.4**		**0.0749**	**0.268**	**mg/kg**	**1**	**5/21/23 9:41**
Iron	**16700**		**0.758**	**5.35**	**mg/kg**	**1**	**5/21/23 9:41**
Lead	**10.8**		**0.112**	**1.34**	**mg/kg**	**1**	**5/21/23 9:41**
Magnesium	**6990**		**9.46**	**53.5**	**mg/kg**	**1**	**5/21/23 9:41**
Manganese	**262**		**0.0333**	**0.268**	**mg/kg**	**1**	**5/21/23 9:41**
Nickel	**108**		**0.0235**	**0.134**	**mg/kg**	**1**	**5/21/23 9:41**
Potassium	**2070**		**31.8**	**107**	**mg/kg**	**1**	**5/21/23 9:41**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508** Collected: **5/8/2023 2:00:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.257	1.34	mg/kg	1	5/21/23 9:41
Silver	ND	U	0.0455	0.161	mg/kg	1	5/21/23 9:41
Sodium	**679**		**5.11**	**53.5**	**mg/kg**	**1**	**5/21/23 9:41**
Thallium	ND	U	0.0901	1.34	mg/kg	1	5/21/23 9:41
Vanadium	**23.8**		**0.0616**	**0.535**	**mg/kg**	**1**	**5/21/23 9:41**
Zinc	**33.2**		**0.0818**	**0.803**	**mg/kg**	**1**	**5/21/23 9:41**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000660	0.00144	mg/kg	1	5/12/23 20:52
4,4'-DDE [2C]	ND	U	0.000788	0.00144	mg/kg	1	5/12/23 20:52
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	5/12/23 20:52
Aldrin	ND	U	0.000683	0.00144	mg/kg	1	5/12/23 20:52
alpha-BHC	ND	U	0.000429	0.00144	mg/kg	1	5/12/23 20:52
beta-BHC	ND	U	0.000688	0.00144	mg/kg	1	5/12/23 20:52
Chlordane	ND	U	0.000641	0.00144	mg/kg	1	5/12/23 20:52
delta-BHC	ND	U	0.000670	0.00144	mg/kg	1	5/12/23 20:52
Dieldrin	ND	U	0.000754	0.00144	mg/kg	1	5/12/23 20:52
Endosulfan I	ND	U	0.000681	0.00144	mg/kg	1	5/12/23 20:52
Endosulfan II	ND	U	0.000655	0.00144	mg/kg	1	5/12/23 20:52
Endosulfan sulfate	ND	U	0.000542	0.00144	mg/kg	1	5/12/23 20:52
Endosulfans, Total (alpha and beta)	ND	U	0.000655	0.00144	mg/kg	1	5/12/23 20:52
Endrin	ND	U	0.000498	0.00144	mg/kg	1	5/12/23 20:52
Endrin aldehyde	ND	U	0.000574	0.00144	mg/kg	1	5/12/23 20:52
Endrin ketone	ND	U	0.000508	0.00144	mg/kg	1	5/12/23 20:52
gamma-BHC (Lindane)	ND	U	0.000457	0.00144	mg/kg	1	5/12/23 20:52
Heptachlor	ND	U	0.000386	0.00144	mg/kg	1	5/12/23 20:52
Heptachlor Epoxide	ND	U	0.000727	0.00144	mg/kg	1	5/12/23 20:52
Methoxychlor	ND	U	0.000422	0.00144	mg/kg	1	5/12/23 20:52
Toxaphene	ND	U	0.0694	0.0732	mg/kg	1	5/12/23 20:52

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00417	0.0369	mg/kg	1	5/11/23 21:16
2,3,4,6-Tetrachlorophenol	ND	U	0.0227	0.147	mg/kg	1	5/11/23 21:16
2,4,5-Trichlorophenol	ND	U	0.0201	0.147	mg/kg	1	5/11/23 21:16
2,4,6-Trichlorophenol	ND	U	0.00923	0.147	mg/kg	1	5/11/23 21:16

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508** Collected: **5/8/2023 2:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0149	0.147	mg/kg	1	5/11/23 21:16	
2,4-Dimethylphenol	ND	U	0.0145	0.147	mg/kg	1	5/11/23 21:16	
2,4-Dinitrophenol	ND	U	0.0213	0.739	mg/kg	1	5/11/23 21:16	
2,4-Dinitrotoluene	ND	U	0.0157	0.147	mg/kg	1	5/11/23 21:16	
2,6-Dinitrotoluene	ND	U	0.0352	0.147	mg/kg	1	5/11/23 21:16	
2-Chloronaphthalene	ND	U	0.0170	0.147	mg/kg	1	5/11/23 21:16	
2-Chlorophenol	ND	U	0.0195	0.147	mg/kg	1	5/11/23 21:16	
2-Methylnaphthalene	ND	U	0.0354	0.222	mg/kg	1	5/11/23 21:16	
2-Methylphenol	ND	U	0.0292	0.147	mg/kg	1	5/11/23 21:16	
2-Nitroaniline	ND	U	0.0119	0.147	mg/kg	1	5/11/23 21:16	
2-Nitrophenol	ND	U	0.0164	0.147	mg/kg	1	5/11/23 21:16	
3,3'-Dichlorobenzidine	ND	U	0.0155	0.147	mg/kg	1	5/11/23 21:16	
3+4-Methylphenol	ND	U	0.0270	0.147	mg/kg	1	5/11/23 21:16	
3-Nitroaniline	ND	U	0.0274	0.147	mg/kg	1	5/11/23 21:16	
4,6-Dinitro-2-methylphenol	ND	U	0.0278	0.369	mg/kg	1	5/11/23 21:16	
4-Bromophenyl-phenyl ether	ND	U	0.0211	0.147	mg/kg	1	5/11/23 21:16	
4-Chloro-3-methylphenol	ND	U	0.0233	0.147	mg/kg	1	5/11/23 21:16	
4-Chloroaniline	ND	U	0.00517	0.147	mg/kg	1	5/11/23 21:16	
4-Chlorophenyl phenyl ether	ND	U	0.00797	0.147	mg/kg	1	5/11/23 21:16	
4-Nitroaniline	ND	U	0.0738	0.147	mg/kg	1	5/11/23 21:16	
4-Nitrophenol	ND	U	0.00944	0.147	mg/kg	1	5/11/23 21:16	
Acenaphthene	ND	U	0.00841	0.147	mg/kg	1	5/11/23 21:16	
Acenaphthylene	ND	U	0.00513	0.147	mg/kg	1	5/11/23 21:16	
Acetophenone	ND	U	0.0146	0.147	mg/kg	1	5/11/23 21:16	
Anthracene	ND	U	0.0214	0.147	mg/kg	1	5/11/23 21:16	
Atrazine	ND	U	0.0139	0.147	mg/kg	1	5/11/23 21:16	
Benzaldehyde	ND	U	0.0453	0.147	mg/kg	1	5/11/23 21:16	UJ, RC:SL
Benzo(a)anthracene	**0.0501**	J	**0.0149**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**	
Benzo(a)pyrene	**0.0551**	J	**0.0257**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**	
Benzo(b)fluoranthene	**0.0489**	J	**0.0207**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**	
Benzo(g,h,i)perylene	ND	U	0.0120	0.147	mg/kg	1	5/11/23 21:16	
Benzo(k)fluoranthene	ND	U	0.0170	0.147	mg/kg	1	5/11/23 21:16	
Biphenyl	ND	U	0.0130	0.147	mg/kg	1	5/11/23 21:16	
bis(2-chloroethoxy)methane	ND	U	0.0204	0.147	mg/kg	1	5/11/23 21:16	
bis(2-chloroethyl)ether	ND	U	0.0162	0.147	mg/kg	1	5/11/23 21:16	
bis(2-chloroisopropyl)ether	ND	U	0.0531	0.147	mg/kg	1	5/11/23 21:16	
bis(2-ethylhexyl)phthalate	ND	U	0.0295	0.147	mg/kg	1	5/11/23 21:16	
Butylbenzylphthalate	ND	U	0.0134	0.147	mg/kg	1	5/11/23 21:16	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508** Collected: **5/8/2023 2:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0191	0.147	mg/kg	1	5/11/23 21:16
Carbazole	ND	U	0.0284	0.369	mg/kg	1	5/11/23 21:16
Chrysene	**0.0332**	J	**0.0101**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**
Dibenzo(a,h)anthracene	ND	U	0.0146	0.147	mg/kg	1	5/11/23 21:16
Dibenzofuran	ND	U	0.00879	0.147	mg/kg	1	5/11/23 21:16
Diethylphthalate	ND	U	0.0286	0.147	mg/kg	1	5/11/23 21:16
Dimethylphthalate	ND	U	0.00916	0.147	mg/kg	1	5/11/23 21:16
Di-n-butylphthalate	ND	U	0.0603	0.147	mg/kg	1	5/11/23 21:16
Di-n-octylphthalate	ND	U	0.0303	0.147	mg/kg	1	5/11/23 21:16
Fluoranthene	**0.0576**	J	**0.0139**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**
Fluorene	ND	U	0.0123	0.147	mg/kg	1	5/11/23 21:16
Hexachlorobenzene	ND	U	0.0193	0.147	mg/kg	1	5/11/23 21:16
Hexachlorobutadiene	ND	U	0.0708	0.147	mg/kg	1	5/11/23 21:16
Hexachlorocyclopentadiene	ND	U	0.0615	0.369	mg/kg	1	5/11/23 21:16
Hexachloroethane	ND	U	0.0162	0.147	mg/kg	1	5/11/23 21:16
Indeno(1,2,3-cd)pyrene	ND	U	0.0159	0.147	mg/kg	1	5/11/23 21:16
Isophorone	ND	U	0.00967	0.147	mg/kg	1	5/11/23 21:16
Naphthalene	ND	U	0.0109	0.147	mg/kg	1	5/11/23 21:16
Nitrobenzene	ND	U	0.0251	0.147	mg/kg	1	5/11/23 21:16
n-Nitroso-di-n-propylamine	ND	U	0.00790	0.147	mg/kg	1	5/11/23 21:16
n-Nitrosodiphenylamine	ND	U	0.0315	0.147	mg/kg	1	5/11/23 21:16
Pentachlorophenol	ND	U	0.0203	0.369	mg/kg	1	5/11/23 21:16
Phenanthrene	**0.0345**	J	**0.0194**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**
Phenol	ND	U	0.0120	0.147	mg/kg	1	5/11/23 21:16
Pyrene	**0.0626**	J	**0.0109**	**0.147**	**mg/kg**	**1**	**5/11/23 21:16**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	~~5.84~~ R, RC:2	11.96	J, B	mg/kg	1	5/11/23 21:16
Octacosane	1.03	11.61	J	mg/kg	1	5/11/23 21:16
Octadecanoic acid, butyl ester	~~3.90~~ R, RC:2	12.76	J, B	mg/kg	1	5/11/23 21:16
unknown (01)	0.313	5.16	J	mg/kg	1	5/11/23 21:16
unknown (02)	1.01	10.96	J	mg/kg	1	5/11/23 21:16
unknown (03)	0.415	13.21	J	mg/kg	1	5/11/23 21:16
TIC Total	**12.5**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508** Collected: **5/8/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000317	0.00217	mg/kg	1	5/12/23 17:12
1,1,2,2-Tetrachloroethane	ND	U	0.000300	0.00217	mg/kg	1	5/12/23 17:12
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000930	0.00217	mg/kg	1	5/12/23 17:12
1,1,2-Trichloroethane	ND	U	0.000366	0.00217	mg/kg	1	5/12/23 17:12
1,1-Dichloroethane	ND	U	0.000317	0.00217	mg/kg	1	5/12/23 17:12
1,1-Dichloroethene	ND	U	0.000402	0.00217	mg/kg	1	5/12/23 17:12
1,2,3-Trichlorobenzene	ND	U	0.000469	0.00217	mg/kg	1	5/12/23 17:12
1,2,4-Trichlorobenzene	ND	U	0.000579	0.00217	mg/kg	1	5/12/23 17:12
1,2,4-Trimethylbenzene	ND	U	0.000300	0.00217	mg/kg	1	5/12/23 17:12
1,2-Dibromo-3-chloropropane	ND	U	0.000530	0.00217	mg/kg	1	5/12/23 17:12
1,2-Dibromoethane	ND	U	0.000274	0.00217	mg/kg	1	5/12/23 17:12
1,2-Dichlorobenzene	ND	U	0.000384	0.00217	mg/kg	1	5/12/23 17:12
1,2-Dichloroethane	ND	U	0.000306	0.00217	mg/kg	1	5/12/23 17:12
1,2-Dichloropropane	ND	U	0.000356	0.00217	mg/kg	1	5/12/23 17:12
1,3-Dichlorobenzene	ND	U	0.000160	0.00217	mg/kg	1	5/12/23 17:12
1,4-Dichlorobenzene	ND	U	0.000313	0.00217	mg/kg	1	5/12/23 17:12
2-Butanone	ND	U	0.000354	0.00543	mg/kg	1	5/12/23 17:12
2-Hexanone	ND	U	0.000203	0.00217	mg/kg	1	5/12/23 17:12
4-Methyl-2-pentanone	ND	U	0.000272	0.00217	mg/kg	1	5/12/23 17:12
Acetone	ND	U	0.000659	0.00543	mg/kg	1	5/12/23 17:12
Benzene	ND	U	0.000198	0.00217	mg/kg	1	5/12/23 17:12
Bromochloromethane	ND	U	0.000401	0.00217	mg/kg	1	5/12/23 17:12
Bromodichloromethane	ND	U	0.000273	0.00217	mg/kg	1	5/12/23 17:12
Bromoform	ND	U	0.000381	0.00217	mg/kg	1	5/12/23 17:12
Bromomethane	ND	U	0.000627	0.00217	mg/kg	1	5/12/23 17:12
Carbon disulfide	ND	U	0.000312	0.00217	mg/kg	1	5/12/23 17:12
Carbon Tetrachloride	ND	U	0.000327	0.00217	mg/kg	1	5/12/23 17:12
Chlorobenzene	ND	U	0.000315	0.00217	mg/kg	1	5/12/23 17:12
Chlorodibromomethane	ND	U	0.000267	0.00217	mg/kg	1	5/12/23 17:12
Chloroethane	ND	U	0.000371	0.00217	mg/kg	1	5/12/23 17:12
Chloroform	ND	U	0.000365	0.00217	mg/kg	1	5/12/23 17:12
Chloromethane	ND	U	0.000837	0.00217	mg/kg	1	5/12/23 17:12
cis-1,2-Dichloroethene	ND	U	0.000105	0.00217	mg/kg	1	5/12/23 17:12
cis-1,3-Dichloropropene	ND	U	0.000275	0.00217	mg/kg	1	5/12/23 17:12
Cyclohexane	ND	U	0.000481	0.00217	mg/kg	1	5/12/23 17:12
Dichlorodifluoromethane	ND	U	0.000734	0.00217	mg/kg	1	5/12/23 17:12
EthylBenzene	ND	U	0.000295	0.00217	mg/kg	1	5/12/23 17:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-01 (Soil) Sample Name: **OH-SB-42-1.0-2.0_20230508** Collected: **5/8/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000341	0.00217	mg/kg	1	5/12/23 17:12
m+p-Xylenes	ND	U	0.000549	0.00435	mg/kg	1	5/12/23 17:12
Methyl Acetate	ND	U	0.000288	0.00217	mg/kg	1	5/12/23 17:12
Methyl tert-Butyl Ether	ND	U	0.000367	0.00217	mg/kg	1	5/12/23 17:12
Methylcyclohexane	ND	U	0.000350	0.00217	mg/kg	1	5/12/23 17:12
Methylene Chloride	ND	U	0.000653	0.00217	mg/kg	1	5/12/23 17:12
o-Xylene	ND	U	0.000279	0.00217	mg/kg	1	5/12/23 17:12
Styrene	ND	U	0.000311	0.00217	mg/kg	1	5/12/23 17:12
tert-Butyl alcohol	ND	U	0.00456	0.0217	mg/kg	1	5/12/23 17:12
Tetrachloroethene	ND	U	0.000215	0.00217	mg/kg	1	5/12/23 17:12
Toluene	ND	U	0.000175	0.00217	mg/kg	1	5/12/23 17:12
Total Xylenes	ND	U	0.000279	0.00217	mg/kg	1	5/12/23 17:12
trans-1,2-Dichloroethene	ND	U	0.000295	0.00217	mg/kg	1	5/12/23 17:12
trans-1,3-Dichloropropene	ND	U	0.000415	0.00217	mg/kg	1	5/12/23 17:12
Trichloroethene	ND	U	0.000320	0.00217	mg/kg	1	5/12/23 17:12
Trichlorofluoromethane	ND	U	0.000250	0.00217	mg/kg	1	5/12/23 17:12
Vinyl chloride	ND	U	0.000413	0.00217	mg/kg	1	5/12/23 17:12

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.2**				**%**	**1**	**5/10/23 10:35**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.198**		**0.00809**	**0.0679**	**mg/kg**	**1**	**5/12/23 11:45**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00495	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1221	ND	U	0.00972	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1232	ND	U	0.0124	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1242	ND	U	0.00725	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1248	ND	U	0.00758	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1254	ND	U	0.00595	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1260	ND	U	0.00462	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1262	ND	U	0.00992	0.0369	mg/kg	1	5/14/23 15:53
Aroclor-1268	ND	U	0.00446	0.0369	mg/kg	1	5/14/23 15:53
Total PCBs	ND	U	0.00344	0.0369	mg/kg	1	5/14/23 15:53

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.112	mg/kg	1	5/25/23 18:12
2,4-D	ND	U	0.0185	0.112	mg/kg	1	5/25/23 18:12

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.27**		**0.00559**	**0.0223**	**mg/kg**	**1**	**5/11/23 13:16**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7780**		**0.160**	**2.70**	**mg/kg**	**1**	**5/21/23 9:43**
Antimony	ND	U	0.147	1.35	mg/kg	1	5/21/23 9:43
Arsenic	**5.04**		**0.0963**	**1.35**	**mg/kg**	**1**	**5/21/23 9:43**
Barium	**132**		**0.0408**	**0.540**	**mg/kg**	**1**	**5/21/23 9:43**
Beryllium	**0.679**		**0.00313**	**0.0270**	**mg/kg**	**1**	**5/21/23 9:43**
Cadmium	**0.540**		**0.0526**	**0.270**	**mg/kg**	**1**	**5/21/23 9:43**
Calcium	**21100**		**3.04**	**27.0**	**mg/kg**	**1**	**5/21/23 9:43**
Chromium	**27.3**		**0.0305**	**0.270**	**mg/kg**	**1**	**5/21/23 9:43**
Cobalt	**7.96**		**0.0276**	**0.216**	**mg/kg**	**1**	**5/21/23 9:43**
Copper	**56.9**		**0.0755**	**0.270**	**mg/kg**	**1**	**5/21/23 9:43**
Iron	**17700**		**0.764**	**5.40**	**mg/kg**	**1**	**5/21/23 9:43**
Lead	**135**		**0.113**	**1.35**	**mg/kg**	**1**	**5/21/23 9:43**
Magnesium	**6900**		**9.53**	**54.0**	**mg/kg**	**1**	**5/21/23 9:43**
Manganese	**241**		**0.0336**	**0.270**	**mg/kg**	**1**	**5/21/23 9:43**
Nickel	**64.0**		**0.0237**	**0.135**	**mg/kg**	**1**	**5/21/23 9:43**
Potassium	**2080**		**32.1**	**108**	**mg/kg**	**1**	**5/21/23 9:43**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.259	1.35	mg/kg	1	5/21/23 9:43
Silver	**0.164**		**0.0459**	**0.162**	**mg/kg**	**1**	**5/21/23 9:43**
Sodium	**1190**		**5.15**	**54.0**	**mg/kg**	**1**	**5/21/23 9:43**
Thallium	**2.20**		**0.0908**	**1.35**	**mg/kg**	**1**	**5/21/23 9:43**
Vanadium	**24.6**		**0.0621**	**0.540**	**mg/kg**	**1**	**5/21/23 9:43**
Zinc	**167**		**0.0824**	**0.810**	**mg/kg**	**1**	**5/21/23 9:43**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	**0.00142**	J	**0.000665**	**0.00145**	**mg/kg**	**1**	**5/12/23 21:15**
4,4'-DDE [2C]	ND	U	0.000794	0.00145	mg/kg	1	5/12/23 21:15
4,4'-DDT	ND	U	0.00103	0.00145	mg/kg	1	5/12/23 21:15
Aldrin	ND	U	0.000688	0.00145	mg/kg	1	5/12/23 21:15
alpha-BHC	ND	U	0.000432	0.00145	mg/kg	1	5/12/23 21:15
beta-BHC	ND	U	0.000694	0.00145	mg/kg	1	5/12/23 21:15
Chlordane	ND	U	0.000646	0.00145	mg/kg	1	5/12/23 21:15
delta-BHC	ND	U	0.000675	0.00145	mg/kg	1	5/12/23 21:15
Dieldrin	ND	U	0.000760	0.00145	mg/kg	1	5/12/23 21:15
Endosulfan I	ND	U	0.000686	0.00145	mg/kg	1	5/12/23 21:15
Endosulfan II	ND	U	0.000660	0.00145	mg/kg	1	5/12/23 21:15
Endosulfan sulfate	ND	U	0.000546	0.00145	mg/kg	1	5/12/23 21:15
Endosulfans, Total (alpha and beta)	ND	U	0.000660	0.00145	mg/kg	1	5/12/23 21:15
Endrin	ND	U	0.000502	0.00145	mg/kg	1	5/12/23 21:15
Endrin aldehyde	ND	U	0.000579	0.00145	mg/kg	1	5/12/23 21:15
Endrin ketone	ND	U	0.000512	0.00145	mg/kg	1	5/12/23 21:15
gamma-BHC (Lindane)	ND	U	0.000460	0.00145	mg/kg	1	5/12/23 21:15
Heptachlor	ND	U	0.000389	0.00145	mg/kg	1	5/12/23 21:15
Heptachlor Epoxide	ND	U	0.000733	0.00145	mg/kg	1	5/12/23 21:15
Methoxychlor	ND	U	0.000426	0.00145	mg/kg	1	5/12/23 21:15
Toxaphene	ND	U	0.0700	0.0737	mg/kg	1	5/12/23 21:15

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00420	0.0372	mg/kg	1	5/11/23 21:48
2,3,4,6-Tetrachlorophenol	ND	U	0.0229	0.149	mg/kg	1	5/11/23 21:48
2,4,5-Trichlorophenol	ND	U	0.0202	0.149	mg/kg	1	5/11/23 21:48
2,4,6-Trichlorophenol	ND	U	0.00931	0.149	mg/kg	1	5/11/23 21:48

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0150	0.149	mg/kg	1	5/11/23 21:48	
2,4-Dimethylphenol	ND	U	0.0146	0.149	mg/kg	1	5/11/23 21:48	
2,4-Dinitrophenol	ND	U	0.0215	0.745	mg/kg	1	5/11/23 21:48	
2,4-Dinitrotoluene	ND	U	0.0159	0.149	mg/kg	1	5/11/23 21:48	
2,6-Dinitrotoluene	ND	U	0.0355	0.149	mg/kg	1	5/11/23 21:48	
2-Chloronaphthalene	ND	U	0.0171	0.149	mg/kg	1	5/11/23 21:48	
2-Chlorophenol	ND	U	0.0197	0.149	mg/kg	1	5/11/23 21:48	
2-Methylnaphthalene	**0.423**		**0.0356**	**0.223**	**mg/kg**	**1**	**5/11/23 21:48**	
2-Methylphenol	ND	U	0.0294	0.149	mg/kg	1	5/11/23 21:48	
2-Nitroaniline	ND	U	0.0120	0.149	mg/kg	1	5/11/23 21:48	
2-Nitrophenol	ND	U	0.0165	0.149	mg/kg	1	5/11/23 21:48	
3,3'-Dichlorobenzidine	ND	U	0.0156	0.149	mg/kg	1	5/11/23 21:48	
3+4-Methylphenol	ND	U	0.0273	0.149	mg/kg	1	5/11/23 21:48	
3-Nitroaniline	ND	U	0.0276	0.149	mg/kg	1	5/11/23 21:48	
4,6-Dinitro-2-methylphenol	ND	U	0.0280	0.372	mg/kg	1	5/11/23 21:48	
4-Bromophenyl-phenyl ether	ND	U	0.0212	0.149	mg/kg	1	5/11/23 21:48	
4-Chloro-3-methylphenol	ND	U	0.0235	0.149	mg/kg	1	5/11/23 21:48	
4-Chloroaniline	ND	U	0.00521	0.149	mg/kg	1	5/11/23 21:48	
4-Chlorophenyl phenyl ether	ND	U	0.00803	0.149	mg/kg	1	5/11/23 21:48	
4-Nitroaniline	ND	U	0.0744	0.149	mg/kg	1	5/11/23 21:48	
4-Nitrophenol	ND	U	0.00952	0.149	mg/kg	1	5/11/23 21:48	
Acenaphthene	**0.719**		**0.00848**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Acenaphthylene	**0.743**		**0.00517**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Acetophenone	**0.133**	J	**0.0147**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Anthracene	**1.78**		**0.0216**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Atrazine	ND	U	0.0140	0.149	mg/kg	1	5/11/23 21:48	
Benzaldehyde	**0.119**	J	**0.0457**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	J, RC:SL
Benzo(a)anthracene	**4.06**		**0.0150**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Benzo(a)pyrene	**4.25**		**0.0259**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Benzo(b)fluoranthene	**4.23**		**0.0209**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Benzo(g,h,i)perylene	**2.26**		**0.0121**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Benzo(k)fluoranthene	**2.39**		**0.0171**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Biphenyl	**0.122**	J	**0.0131**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
bis(2-chloroethoxy)methane	ND	U	0.0206	0.149	mg/kg	1	5/11/23 21:48	
bis(2-chloroethyl)ether	ND	U	0.0163	0.149	mg/kg	1	5/11/23 21:48	
bis(2-chloroisopropyl)ether	ND	U	0.0535	0.149	mg/kg	1	5/11/23 21:48	
bis(2-ethylhexyl)phthalate	**0.308**		**0.0297**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**	
Butylbenzylphthalate	ND	U	0.0135	0.149	mg/kg	1	5/11/23 21:48	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0192	0.149	mg/kg	1	5/11/23 21:48
Carbazole	**0.583**		**0.0286**	**0.372**	**mg/kg**	**1**	**5/11/23 21:48**
Chrysene	**4.03**		**0.0102**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Dibenzo(a,h)anthracene	**0.630**		**0.0147**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Dibenzofuran	**0.523**		**0.00886**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Diethylphthalate	ND	U	0.0288	0.149	mg/kg	1	5/11/23 21:48
Dimethylphthalate	ND	U	0.00923	0.149	mg/kg	1	5/11/23 21:48
Di-n-butylphthalate	ND	U	0.0608	0.149	mg/kg	1	5/11/23 21:48
Di-n-octylphthalate	ND	U	0.0305	0.149	mg/kg	1	5/11/23 21:48
Fluoranthene	**7.94**		**0.0140**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Fluorene	**0.707**		**0.0124**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Hexachlorobenzene	ND	U	0.0194	0.149	mg/kg	1	5/11/23 21:48
Hexachlorobutadiene	ND	U	0.0714	0.149	mg/kg	1	5/11/23 21:48
Hexachlorocyclopentadiene	ND	U	0.0620	0.372	mg/kg	1	5/11/23 21:48
Hexachloroethane	ND	U	0.0163	0.149	mg/kg	1	5/11/23 21:48
Indeno(1,2,3-cd)pyrene	**1.84**		**0.0160**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Isophorone	ND	U	0.00974	0.149	mg/kg	1	5/11/23 21:48
Naphthalene	**0.547**		**0.0110**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Nitrobenzene	ND	U	0.0253	0.149	mg/kg	1	5/11/23 21:48
n-Nitroso-di-n-propylamine	ND	U	0.00797	0.149	mg/kg	1	5/11/23 21:48
n-Nitrosodiphenylamine	ND	U	0.0317	0.149	mg/kg	1	5/11/23 21:48
Pentachlorophenol	ND	U	0.0204	0.372	mg/kg	1	5/11/23 21:48
Phenanthrene	**6.38**		**0.0196**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**
Phenol	ND	U	0.0121	0.149	mg/kg	1	5/11/23 21:48
Pyrene	**7.23**		**0.0109**	**0.149**	**mg/kg**	**1**	**5/11/23 21:48**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,4-Diphenyl-1,3-butadiene	1.04	11.68	J	mg/kg	1	5/11/23 21:48
Cyclohexanecarboxylic acid, 1-methyl-2-o	0.548	10.52	J	mg/kg	1	5/11/23 21:48
Hexadecanoic acid, butyl ester	~~4.73~~ R, RC:2	11.96	J, B	mg/kg	1	5/11/23 21:48
Naphthalene, 2,6-dimethyl-	0.440	8.76	J	mg/kg	1	5/11/23 21:48
Naphthalene, 2-phenyl-	0.861	11.41	J	mg/kg	1	5/11/23 21:48
Octadecanoic acid, butyl ester	~~1.23~~ R, RC:2	12.76	J, B	mg/kg	1	5/11/23 21:48
unknown (01)	0.478	10.21	J	mg/kg	1	5/11/23 21:48
unknown (02)	0.656	10.77	J	mg/kg	1	5/11/23 21:48
unknown (03)	1.13	11.12	J	mg/kg	1	5/11/23 21:48

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (04)	1.61	11.16	J	mg/kg	1	5/11/23 21:48
unknown (05)	0.708	11.20	J	mg/kg	1	5/11/23 21:48
unknown (06)	3.32	11.25	J	mg/kg	1	5/11/23 21:48
unknown (07)	0.665	11.45	J	mg/kg	1	5/11/23 21:48
unknown (08)	0.891	11.79	J	mg/kg	1	5/11/23 21:48
unknown (09)	1.87	15.62	J	mg/kg	1	5/11/23 21:48
TIC Total	~~20.2~~ 14.24					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000276	0.00189	mg/kg	1	5/12/23 17:43
1,1,2,2-Tetrachloroethane	ND	U	0.000261	0.00189	mg/kg	1	5/12/23 17:43
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000810	0.00189	mg/kg	1	5/12/23 17:43
1,1,2-Trichloroethane	ND	U	0.000319	0.00189	mg/kg	1	5/12/23 17:43
1,1-Dichloroethane	ND	U	0.000276	0.00189	mg/kg	1	5/12/23 17:43
1,1-Dichloroethene	ND	U	0.000350	0.00189	mg/kg	1	5/12/23 17:43
1,2,3-Trichlorobenzene	ND	U	0.000409	0.00189	mg/kg	1	5/12/23 17:43
1,2,4-Trichlorobenzene	ND	U	0.000505	0.00189	mg/kg	1	5/12/23 17:43
1,2,4-Trimethylbenzene	ND	U	0.000261	0.00189	mg/kg	1	5/12/23 17:43
1,2-Dibromo-3-chloropropane	ND	U	0.000462	0.00189	mg/kg	1	5/12/23 17:43
1,2-Dibromoethane	ND	U	0.000239	0.00189	mg/kg	1	5/12/23 17:43
1,2-Dichlorobenzene	ND	U	0.000334	0.00189	mg/kg	1	5/12/23 17:43
1,2-Dichloroethane	ND	U	0.000267	0.00189	mg/kg	1	5/12/23 17:43
1,2-Dichloropropane	ND	U	0.000311	0.00189	mg/kg	1	5/12/23 17:43
1,3-Dichlorobenzene	ND	U	0.000139	0.00189	mg/kg	1	5/12/23 17:43
1,4-Dichlorobenzene	ND	U	0.000273	0.00189	mg/kg	1	5/12/23 17:43
2-Butanone	ND	U	0.000309	0.00473	mg/kg	1	5/12/23 17:43
2-Hexanone	ND	U	0.000177	0.00189	mg/kg	1	5/12/23 17:43
4-Methyl-2-pentanone	ND	U	0.000237	0.00189	mg/kg	1	5/12/23 17:43
Acetone	ND	U	0.000574	0.00473	mg/kg	1	5/12/23 17:43
Benzene	ND	U	0.000172	0.00189	mg/kg	1	5/12/23 17:43
Bromochloromethane	ND	U	0.000349	0.00189	mg/kg	1	5/12/23 17:43
Bromodichloromethane	ND	U	0.000238	0.00189	mg/kg	1	5/12/23 17:43
Bromoform	ND	U	0.000332	0.00189	mg/kg	1	5/12/23 17:43
Bromomethane	ND	U	0.000546	0.00189	mg/kg	1	5/12/23 17:43
Carbon disulfide	ND	U	0.000272	0.00189	mg/kg	1	5/12/23 17:43
Carbon Tetrachloride	ND	U	0.000285	0.00189	mg/kg	1	5/12/23 17:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.000275	0.00189	mg/kg	1	5/12/23 17:43
Chlorodibromomethane	ND	U	0.000233	0.00189	mg/kg	1	5/12/23 17:43
Chloroethane	ND	U	0.000323	0.00189	mg/kg	1	5/12/23 17:43
Chloroform	ND	U	0.000318	0.00189	mg/kg	1	5/12/23 17:43
Chloromethane	ND	U	0.000729	0.00189	mg/kg	1	5/12/23 17:43
cis-1,2-Dichloroethene	ND	U	0.0000916	0.00189	mg/kg	1	5/12/23 17:43
cis-1,3-Dichloropropene	ND	U	0.000240	0.00189	mg/kg	1	5/12/23 17:43
Cyclohexane	ND	U	0.000419	0.00189	mg/kg	1	5/12/23 17:43
Dichlorodifluoromethane	ND	U	0.000639	0.00189	mg/kg	1	5/12/23 17:43
EthylBenzene	ND	U	0.000257	0.00189	mg/kg	1	5/12/23 17:43
Isopropylbenzene	ND	U	0.000297	0.00189	mg/kg	1	5/12/23 17:43
m+p-Xylenes	ND	U	0.000478	0.00379	mg/kg	1	5/12/23 17:43
Methyl Acetate	ND	U	0.000251	0.00189	mg/kg	1	5/12/23 17:43
Methyl tert-Butyl Ether	ND	U	0.000320	0.00189	mg/kg	1	5/12/23 17:43
Methylcyclohexane	ND	U	0.000305	0.00189	mg/kg	1	5/12/23 17:43
Methylene Chloride	ND	U	0.000569	0.00189	mg/kg	1	5/12/23 17:43
o-Xylene	ND	U	0.000243	0.00189	mg/kg	1	5/12/23 17:43
Styrene	ND	U	0.000271	0.00189	mg/kg	1	5/12/23 17:43
tert-Butyl alcohol	ND	U	0.00398	0.0189	mg/kg	1	5/12/23 17:43
Tetrachloroethene	ND	U	0.000187	0.00189	mg/kg	1	5/12/23 17:43
Toluene	ND	U	0.000152	0.00189	mg/kg	1	5/12/23 17:43
Total Xylenes	ND	U	0.000243	0.00189	mg/kg	1	5/12/23 17:43
trans-1,2-Dichloroethene	ND	U	0.000257	0.00189	mg/kg	1	5/12/23 17:43
trans-1,3-Dichloropropene	ND	U	0.000362	0.00189	mg/kg	1	5/12/23 17:43
Trichloroethene	ND	U	0.000278	0.00189	mg/kg	1	5/12/23 17:43
Trichlorofluoromethane	ND	U	0.000218	0.00189	mg/kg	1	5/12/23 17:43
Vinyl chloride	ND	U	0.000360	0.00189	mg/kg	1	5/12/23 17:43

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.5**				**%**	**1**	**5/10/23 10:35**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-02 (Soil) Sample Name: **OH-SB-42-3.0-4.0_20230508** Collected: **5/8/2023 2:20:00PM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00852	0.0715	mg/kg	1	5/12/23 11:45

23E0462-03 (Ground Water) Sample Name: **TB_20230509** Collected: **5/9/2023 1:55:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/10/23 18:56	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/10/23 18:56	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/10/23 18:56	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/10/23 18:56	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/10/23 18:56	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/10/23 18:56	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/10/23 18:56	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/10/23 18:56	RC:SL6L
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/10/23 18:56	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/10/23 18:56	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/10/23 18:56	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/10/23 18:56	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/10/23 18:56	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/10/23 18:56	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/10/23 18:56	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/10/23 18:56	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/10/23 18:56	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/10/23 18:56	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/10/23 18:56	
Acetone	ND	U	10.0	10.0	ug/L	1	5/10/23 18:56	
Benzene	ND	U	0.129	1.00	ug/L	1	5/10/23 18:56	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/10/23 18:56	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/10/23 18:56	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/10/23 18:56	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/10/23 18:56	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/10/23 18:56	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/10/23 18:56	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/10/23 18:56	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/10/23 18:56	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/10/23 18:56	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/10/23 18:56	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-03 (Ground Water) Sample Name: **TB_20230509** Collected: **5/9/2023 1:55:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/10/23 18:56	UJ, RC:3L
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/10/23 18:56	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/10/23 18:56	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/10/23 18:56	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/10/23 18:56	RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/10/23 18:56	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/10/23 18:56	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/10/23 18:56	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/10/23 18:56	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/10/23 18:56	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/10/23 18:56	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/10/23 18:56	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/10/23 18:56	
Styrene	ND	U	0.176	1.00	ug/L	1	5/10/23 18:56	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/10/23 18:56	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/10/23 18:56	
Toluene	ND	U	0.205	1.00	ug/L	1	5/10/23 18:56	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/10/23 18:56	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/10/23 18:56	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/10/23 18:56	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/10/23 18:56	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/10/23 18:56	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/10/23 18:56	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-04 (Ground Water) Sample Name: **FB_20230508** Collected: **5/8/2023 2:40:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/14/23 12:12
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/14/23 12:12
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/14/23 12:12
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/14/23 12:12
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/14/23 12:12
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/14/23 12:12
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/14/23 12:12
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/14/23 12:12
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/14/23 12:12
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/14/23 12:12

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	5/24/23 10:44
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	5/24/23 10:44
2,4-D	ND	U	0.0300	1.00	ug/L	1	5/24/23 10:44

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/12/23 14:54

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/22/23 12:02
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/22/23 12:02
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/22/23 12:02
Barium	ND	U	0.000558	0.0200	mg/L	1	5/22/23 12:02
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/22/23 12:02
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/22/23 12:02
Calcium	ND	U	0.256	1.00	mg/L	1	5/22/23 12:02
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/22/23 12:02
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/22/23 12:02
Copper	ND	U	0.00177	0.0100	mg/L	1	5/22/23 12:02
Iron	ND	U	0.0580	0.200	mg/L	1	5/22/23 12:02
Lead	ND	U	0.00510	0.0500	mg/L	1	5/22/23 12:02
Magnesium	ND	U	0.681	2.00	mg/L	1	5/22/23 12:02
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/22/23 12:02
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/22/23 12:02
Potassium	ND	U	2.41	4.00	mg/L	1	5/22/23 12:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-04 (Ground Water) Sample Name: **FB_20230508** Collected: **5/8/2023 2:40:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/22/23 12:02
Silver	ND	U	0.00465	0.0200	mg/L	1	5/22/23 12:02
Sodium	ND	U	0.205	2.00	mg/L	1	5/22/23 12:02
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/22/23 12:02
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/22/23 12:02
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/22/23 12:02

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/12/23 21:37
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/12/23 21:37
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/12/23 21:37
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/12/23 21:37
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/12/23 21:37
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/12/23 21:37
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/12/23 21:37
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/12/23 21:37
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/12/23 21:37
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/12/23 21:37
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/12/23 21:37
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/12/23 21:37
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/12/23 21:37
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/12/23 21:37
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/12/23 21:37
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/12/23 21:37
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/12/23 21:37
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/12/23 21:37
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/12/23 21:37
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/12/23 21:37

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/15/23 16:11
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/15/23 16:11
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/15/23 16:11
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/15/23 16:11
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/15/23 16:11
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/15/23 16:11
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/15/23 16:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-04 (Ground Water) Sample Name: **FB_20230508** Collected: **5/8/2023 2:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/15/23 16:11	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/15/23 16:11	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/15/23 16:11	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/15/23 16:11	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/15/23 16:11	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/15/23 16:11	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/15/23 16:11	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/15/23 16:11	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/15/23 16:11	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/15/23 16:11	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/15/23 16:11	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/15/23 16:11	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/15/23 16:11	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/15/23 16:11	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/15/23 16:11	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/15/23 16:11	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/15/23 16:11	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/15/23 16:11	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/15/23 16:11	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/15/23 16:11	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/15/23 16:11	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/15/23 16:11	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/15/23 16:11	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/15/23 16:11	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/15/23 16:11	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/15/23 16:11	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/15/23 16:11	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/15/23 16:11	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/15/23 16:11	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/15/23 16:11	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/15/23 16:11	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/15/23 16:11	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/15/23 16:11	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/15/23 16:11	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/15/23 16:11	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/15/23 16:11	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/15/23 16:11	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/15/23 16:11	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/15/23 16:11	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-04 (Ground Water) Sample Name: **FB_20230508** Collected: **5/8/2023 2:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/15/23 16:11	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/15/23 16:11	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/15/23 16:11	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/15/23 16:11	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/15/23 16:11	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/15/23 16:11	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/15/23 16:11	UJ, RC:SL
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/15/23 16:11	UJ, RC:SL
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/15/23 16:11	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/15/23 16:11	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/15/23 16:11	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/10/23 19:17	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/10/23 19:17	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/10/23 19:17	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/10/23 19:17	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/10/23 19:17	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/10/23 19:17	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/10/23 19:17	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/10/23 19:17	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/10/23 19:17	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/10/23 19:17	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/10/23 19:17	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/10/23 19:17	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/10/23 19:17	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/10/23 19:17	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/10/23 19:17	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/10/23 19:17	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/10/23 19:17	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/10/23 19:17	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/10/23 19:17	
Acetone	ND	U	10.0	10.0	ug/L	1	5/10/23 19:17	

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-04 (Ground Water) Sample Name: **FB_20230508** Collected: **5/8/2023 2:40:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzene	ND	U	0.129	1.00	ug/L	1	5/10/23 19:17	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/10/23 19:17	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/10/23 19:17	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/10/23 19:17	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/10/23 19:17	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/10/23 19:17	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/10/23 19:17	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/10/23 19:17	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/10/23 19:17	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/10/23 19:17	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/10/23 19:17	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/10/23 19:17	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/10/23 19:17	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/10/23 19:17	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/10/23 19:17	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/10/23 19:17	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/10/23 19:17	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/10/23 19:17	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/10/23 19:17	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/10/23 19:17	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/10/23 19:17	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/10/23 19:17	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/10/23 19:17	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/10/23 19:17	
Styrene	ND	U	0.176	1.00	ug/L	1	5/10/23 19:17	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/10/23 19:17	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/10/23 19:17	
Toluene	ND	U	0.205	1.00	ug/L	1	5/10/23 19:17	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/10/23 19:17	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/10/23 19:17	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/10/23 19:17	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/10/23 19:17	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/10/23 19:17	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/10/23 19:17	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-04 (Ground Water) Sample Name: **FB_20230508** Collected: **5/8/2023 2:40:00PM**

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/10/23 17:38

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509** Collected: **5/9/2023 11:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00493	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1221	ND	U	0.00969	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1232	ND	U	0.0123	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1242	ND	U	0.00722	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1248	ND	U	0.00755	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1254 [2C]	**0.102**		**0.00343**	**0.0367**	**mg/kg**	**1**	**5/14/23 16:15**
Aroclor-1260	ND	U	0.00460	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1262	ND	U	0.00988	0.0367	mg/kg	1	5/14/23 16:15
Aroclor-1268	ND	U	0.00444	0.0367	mg/kg	1	5/14/23 16:15
Total PCBs	**0.102**		**0.00343**	**0.0367**	**mg/kg**	**1**	**5/14/23 16:15**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	5/25/23 18:36
2,4-D	ND	U	0.0185	0.111	mg/kg	1	5/25/23 18:36

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.158**		**0.00556**	**0.0223**	**mg/kg**	**1**	**5/11/23 13:16**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5680**		**0.160**	**2.70**	**mg/kg**	**1**	**5/21/23 9:45**
Antimony	**1.89**		**0.147**	**1.35**	**mg/kg**	**1**	**5/21/23 9:45**
Arsenic	**1.99**		**0.0964**	**1.35**	**mg/kg**	**1**	**5/21/23 9:45**
Barium	**62.6**		**0.0408**	**0.540**	**mg/kg**	**1**	**5/21/23 9:45**
Beryllium	**0.544**		**0.00313**	**0.0270**	**mg/kg**	**1**	**5/21/23 9:45**
Cadmium	ND	U	0.0527	0.270	mg/kg	1	5/21/23 9:45
Calcium	**8160**		**3.04**	**27.0**	**mg/kg**	**1**	**5/21/23 9:45**
Chromium	**16.8**		**0.0305**	**0.270**	**mg/kg**	**1**	**5/21/23 9:45**
Cobalt	**8.43**		**0.0276**	**0.216**	**mg/kg**	**1**	**5/21/23 9:45**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509** Collected: **5/9/2023 11:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**28.1**		**0.0756**	**0.270**	**mg/kg**	**1**	**5/21/23 9:45**
Iron	**13100**		**0.765**	**5.40**	**mg/kg**	**1**	**5/21/23 9:45**
Lead	**125**		**0.113**	**1.35**	**mg/kg**	**1**	**5/21/23 9:45**
Magnesium	**4400**		**9.54**	**54.0**	**mg/kg**	**1**	**5/21/23 9:45**
Manganese	**228**		**0.0336**	**0.270**	**mg/kg**	**1**	**5/21/23 9:45**
Nickel	**37.3**		**0.0237**	**0.135**	**mg/kg**	**1**	**5/21/23 9:45**
Potassium	**1540**		**32.1**	**108**	**mg/kg**	**1**	**5/21/23 9:45**
Selenium	ND	U	0.259	1.35	mg/kg	1	5/21/23 9:45
Silver	ND	U	0.0459	0.162	mg/kg	1	5/21/23 9:45
Sodium	**543**		**5.15**	**54.0**	**mg/kg**	**1**	**5/21/23 9:45**
Thallium	ND	U	0.0909	1.35	mg/kg	1	5/21/23 9:45
Vanadium	**17.7**		**0.0621**	**0.540**	**mg/kg**	**1**	**5/21/23 9:45**
Zinc	**81.3**		**0.0825**	**0.810**	**mg/kg**	**1**	**5/21/23 9:45**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	**0.000927**	J	**0.000662**	**0.00145**	**mg/kg**	**1**	**5/12/23 21:59**
4,4'-DDE [2C]	ND	U	0.000791	0.00145	mg/kg	1	5/12/23 21:59
4,4'-DDT	**0.00630**		**0.00102**	**0.00145**	**mg/kg**	**1**	**5/12/23 21:59**
Aldrin	ND	U	0.000685	0.00145	mg/kg	1	5/12/23 21:59
alpha-BHC	ND	U	0.000431	0.00145	mg/kg	1	5/12/23 21:59
beta-BHC	ND	U	0.000691	0.00145	mg/kg	1	5/12/23 21:59
Chlordane [2C]	**0.00195**		**0.000643**	**0.00145**	**mg/kg**	**1**	**5/12/23 21:59**
delta-BHC	ND	U	0.000672	0.00145	mg/kg	1	5/12/23 21:59
Dieldrin	ND	U	0.000757	0.00145	mg/kg	1	5/12/23 21:59
Endosulfan I	ND	U	0.000683	0.00145	mg/kg	1	5/12/23 21:59
Endosulfan II	ND	U	0.000658	0.00145	mg/kg	1	5/12/23 21:59
Endosulfan sulfate	ND	U	0.000544	0.00145	mg/kg	1	5/12/23 21:59
Endosulfans, Total (alpha and beta)	ND	U	0.000658	0.00145	mg/kg	1	5/12/23 21:59
Endrin	ND	U	0.000500	0.00145	mg/kg	1	5/12/23 21:59
Endrin aldehyde	ND	U	0.000576	0.00145	mg/kg	1	5/12/23 21:59
Endrin ketone	ND	U	0.000510	0.00145	mg/kg	1	5/12/23 21:59
gamma-BHC (Lindane)	ND	U	0.000458	0.00145	mg/kg	1	5/12/23 21:59
Heptachlor	ND	U	0.000387	0.00145	mg/kg	1	5/12/23 21:59
Heptachlor Epoxide	ND	U	0.000730	0.00145	mg/kg	1	5/12/23 21:59
Methoxychlor	ND	U	0.000424	0.00145	mg/kg	1	5/12/23 21:59
Toxaphene	ND	U	0.0697	0.0734	mg/kg	1	5/12/23 21:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509** Collected: **5/9/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00418	0.0371	mg/kg	1	5/11/23 19:12	
2,3,4,6-Tetrachlorophenol	ND	U	0.0228	0.148	mg/kg	1	5/11/23 19:12	
2,4,5-Trichlorophenol	ND	U	0.0201	0.148	mg/kg	1	5/11/23 19:12	
2,4,6-Trichlorophenol	ND	U	0.00927	0.148	mg/kg	1	5/11/23 19:12	
2,4-Dichlorophenol	ND	U	0.0149	0.148	mg/kg	1	5/11/23 19:12	
2,4-Dimethylphenol	ND	U	0.0146	0.148	mg/kg	1	5/11/23 19:12	
2,4-Dinitrophenol	ND	U	0.0214	0.742	mg/kg	1	5/11/23 19:12	
2,4-Dinitrotoluene	ND	U	0.0158	0.148	mg/kg	1	5/11/23 19:12	
2,6-Dinitrotoluene	ND	U	0.0354	0.148	mg/kg	1	5/11/23 19:12	
2-Chloronaphthalene	ND	U	0.0170	0.148	mg/kg	1	5/11/23 19:12	
2-Chlorophenol	ND	U	0.0196	0.148	mg/kg	1	5/11/23 19:12	
2-Methylnaphthalene	ND	U	0.0355	0.223	mg/kg	1	5/11/23 19:12	
2-Methylphenol	ND	U	0.0293	0.148	mg/kg	1	5/11/23 19:12	
2-Nitroaniline	ND	U	0.0119	0.148	mg/kg	1	5/11/23 19:12	
2-Nitrophenol	ND	U	0.0165	0.148	mg/kg	1	5/11/23 19:12	
3,3'-Dichlorobenzidine	ND	U	0.0156	0.148	mg/kg	1	5/11/23 19:12	
3+4-Methylphenol	ND	U	0.0272	0.148	mg/kg	1	5/11/23 19:12	
3-Nitroaniline	ND	U	0.0275	0.148	mg/kg	1	5/11/23 19:12	
4,6-Dinitro-2-methylphenol	ND	U	0.0279	0.371	mg/kg	1	5/11/23 19:12	
4-Bromophenyl-phenyl ether	ND	U	0.0211	0.148	mg/kg	1	5/11/23 19:12	
4-Chloro-3-methylphenol	ND	U	0.0234	0.148	mg/kg	1	5/11/23 19:12	
4-Chloroaniline	ND	U	0.00519	0.148	mg/kg	1	5/11/23 19:12	
4-Chlorophenyl phenyl ether	ND	U	0.00800	0.148	mg/kg	1	5/11/23 19:12	
4-Nitroaniline	ND	U	0.0741	0.148	mg/kg	1	5/11/23 19:12	
4-Nitrophenol	ND	U	0.00948	0.148	mg/kg	1	5/11/23 19:12	
Acenaphthene	ND	U	0.00845	0.148	mg/kg	1	5/11/23 19:12	
Acenaphthylene	ND	U	0.00515	0.148	mg/kg	1	5/11/23 19:12	
Acetophenone	ND	U	0.0147	0.148	mg/kg	1	5/11/23 19:12	
Anthracene	**0.0272**	J	**0.0215**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**	
Atrazine	ND	U	0.0139	0.148	mg/kg	1	5/11/23 19:12	
Benzaldehyde	ND	U	0.0455	0.148	mg/kg	1	5/11/23 19:12	UJ, RC:SL
Benzo(a)anthracene	**0.0881**	J	**0.0149**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**	
Benzo(a)pyrene	**0.0883**	J	**0.0258**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**	
Benzo(b)fluoranthene	**0.140**	J	**0.0208**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**	
Benzo(g,h,i)perylene	**0.0644**	J	**0.0120**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**	
Benzo(k)fluoranthene	ND	U	0.0170	0.148	mg/kg	1	5/11/23 19:12	
Biphenyl	ND	U	0.0130	0.148	mg/kg	1	5/11/23 19:12	
bis(2-chloroethoxy)methane	ND	U	0.0205	0.148	mg/kg	1	5/11/23 19:12	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509** Collected: **5/9/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0162	0.148	mg/kg	1	5/11/23 19:12
bis(2-chloroisopropyl)ether	ND	U	0.0533	0.148	mg/kg	1	5/11/23 19:12
bis(2-ethylhexyl)phthalate	ND	U	0.0296	0.148	mg/kg	1	5/11/23 19:12
Butylbenzylphthalate	ND	U	0.0135	0.148	mg/kg	1	5/11/23 19:12
Caprolactam	ND	U	0.0191	0.148	mg/kg	1	5/11/23 19:12
Carbazole	ND	U	0.0285	0.371	mg/kg	1	5/11/23 19:12
Chrysene	**0.105**	J	**0.0101**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**
Dibenzo(a,h)anthracene	ND	U	0.0147	0.148	mg/kg	1	5/11/23 19:12
Dibenzofuran	ND	U	0.00882	0.148	mg/kg	1	5/11/23 19:12
Diethylphthalate	ND	U	0.0287	0.148	mg/kg	1	5/11/23 19:12
Dimethylphthalate	ND	U	0.00919	0.148	mg/kg	1	5/11/23 19:12
Di-n-butylphthalate	ND	U	0.0605	0.148	mg/kg	1	5/11/23 19:12
Di-n-octylphthalate	ND	U	0.0304	0.148	mg/kg	1	5/11/23 19:12
Fluoranthene	**0.194**		**0.0139**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**
Fluorene	ND	U	0.0124	0.148	mg/kg	1	5/11/23 19:12
Hexachlorobenzene	ND	U	0.0194	0.148	mg/kg	1	5/11/23 19:12
Hexachlorobutadiene	ND	U	0.0711	0.148	mg/kg	1	5/11/23 19:12
Hexachlorocyclopentadiene	ND	U	0.0618	0.371	mg/kg	1	5/11/23 19:12
Hexachloroethane	ND	U	0.0162	0.148	mg/kg	1	5/11/23 19:12
Indeno(1,2,3-cd)pyrene	**0.0439**	J	**0.0159**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**
Isophorone	ND	U	0.00970	0.148	mg/kg	1	5/11/23 19:12
Naphthalene	ND	U	0.0110	0.148	mg/kg	1	5/11/23 19:12
Nitrobenzene	ND	U	0.0251	0.148	mg/kg	1	5/11/23 19:12
n-Nitroso-di-n-propylamine	ND	U	0.00793	0.148	mg/kg	1	5/11/23 19:12
n-Nitrosodiphenylamine	ND	U	0.0316	0.148	mg/kg	1	5/11/23 19:12
Pentachlorophenol	ND	U	0.0204	0.371	mg/kg	1	5/11/23 19:12
Phenanthrene	**0.135**	J	**0.0195**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**
Phenol	ND	U	0.0120	0.148	mg/kg	1	5/11/23 19:12
Pyrene	**0.147**	J	**0.0109**	**0.148**	**mg/kg**	**1**	**5/11/23 19:12**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane, (2-hexyloctyl)-	0.514	13.22	J	mg/kg	1	5/11/23 19:12
Hexadecanoic acid, butyl ester	~~7.13~~ R, RC:2	11.96	J, B	mg/kg	1	5/11/23 19:12
Octadecanoic acid, butyl ester	~~4.86~~ R, RC:2	12.75	J, B	mg/kg	1	5/11/23 19:12
unknown	~~0.377~~ R, RC:2	5.16	J, B	mg/kg	1	5/11/23 19:12
TIC Total	~~12.9~~ 0.514					

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509** Collected: **5/9/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000396	0.00271	mg/kg	1	5/12/23 18:15
1,1,2,2-Tetrachloroethane	ND	U	0.000375	0.00271	mg/kg	1	5/12/23 18:15
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00116	0.00271	mg/kg	1	5/12/23 18:15
1,1,2-Trichloroethane	ND	U	0.000457	0.00271	mg/kg	1	5/12/23 18:15
1,1-Dichloroethane	ND	U	0.000396	0.00271	mg/kg	1	5/12/23 18:15
1,1-Dichloroethene	ND	U	0.000502	0.00271	mg/kg	1	5/12/23 18:15
1,2,3-Trichlorobenzene	ND	U	0.000586	0.00271	mg/kg	1	5/12/23 18:15
1,2,4-Trichlorobenzene	ND	U	0.000723	0.00271	mg/kg	1	5/12/23 18:15
1,2,4-Trimethylbenzene	ND	U	0.000375	0.00271	mg/kg	1	5/12/23 18:15
1,2-Dibromo-3-chloropropane	ND	U	0.000662	0.00271	mg/kg	1	5/12/23 18:15
1,2-Dibromoethane	ND	U	0.000342	0.00271	mg/kg	1	5/12/23 18:15
1,2-Dichlorobenzene	ND	U	0.000479	0.00271	mg/kg	1	5/12/23 18:15
1,2-Dichloroethane	ND	U	0.000383	0.00271	mg/kg	1	5/12/23 18:15
1,2-Dichloropropane	ND	U	0.000445	0.00271	mg/kg	1	5/12/23 18:15
1,3-Dichlorobenzene	ND	U	0.000199	0.00271	mg/kg	1	5/12/23 18:15
1,4-Dichlorobenzene	ND	U	0.000391	0.00271	mg/kg	1	5/12/23 18:15
2-Butanone	ND	U	0.000442	0.00679	mg/kg	1	5/12/23 18:15
2-Hexanone	ND	U	0.000254	0.00271	mg/kg	1	5/12/23 18:15
4-Methyl-2-pentanone	ND	U	0.000339	0.00271	mg/kg	1	5/12/23 18:15
Acetone	ND	U	0.000822	0.00679	mg/kg	1	5/12/23 18:15
Benzene	ND	U	0.000247	0.00271	mg/kg	1	5/12/23 18:15
Bromochloromethane	ND	U	0.000501	0.00271	mg/kg	1	5/12/23 18:15
Bromodichloromethane	ND	U	0.000341	0.00271	mg/kg	1	5/12/23 18:15
Bromoform	ND	U	0.000476	0.00271	mg/kg	1	5/12/23 18:15
Bromomethane	ND	U	0.000783	0.00271	mg/kg	1	5/12/23 18:15
Carbon disulfide	ND	U	0.000389	0.00271	mg/kg	1	5/12/23 18:15
Carbon Tetrachloride	ND	U	0.000408	0.00271	mg/kg	1	5/12/23 18:15
Chlorobenzene	ND	U	0.000394	0.00271	mg/kg	1	5/12/23 18:15
Chlorodibromomethane	ND	U	0.000334	0.00271	mg/kg	1	5/12/23 18:15
Chloroethane	ND	U	0.000463	0.00271	mg/kg	1	5/12/23 18:15
Chloroform	ND	U	0.000456	0.00271	mg/kg	1	5/12/23 18:15
Chloromethane	ND	U	0.00104	0.00271	mg/kg	1	5/12/23 18:15
cis-1,2-Dichloroethene	ND	U	0.000131	0.00271	mg/kg	1	5/12/23 18:15
cis-1,3-Dichloropropene	ND	U	0.000343	0.00271	mg/kg	1	5/12/23 18:15
Cyclohexane	ND	U	0.000601	0.00271	mg/kg	1	5/12/23 18:15
Dichlorodifluoromethane	ND	U	0.000916	0.00271	mg/kg	1	5/12/23 18:15
EthylBenzene	ND	U	0.000368	0.00271	mg/kg	1	5/12/23 18:15

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-05 (Soil) Sample Name: **OH-SB-40-1.0-2.0_20230509** Collected: **5/9/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000426	0.00271	mg/kg	1	5/12/23 18:15
m+p-Xylenes	ND	U	0.000685	0.00543	mg/kg	1	5/12/23 18:15
Methyl Acetate	ND	U	0.000360	0.00271	mg/kg	1	5/12/23 18:15
Methyl tert-Butyl Ether	ND	U	0.000459	0.00271	mg/kg	1	5/12/23 18:15
Methylcyclohexane	ND	U	0.000437	0.00271	mg/kg	1	5/12/23 18:15
Methylene Chloride	ND	U	0.000816	0.00271	mg/kg	1	5/12/23 18:15
o-Xylene	ND	U	0.000349	0.00271	mg/kg	1	5/12/23 18:15
Styrene	ND	U	0.000388	0.00271	mg/kg	1	5/12/23 18:15
tert-Butyl alcohol	ND	U	0.00570	0.0271	mg/kg	1	5/12/23 18:15
Tetrachloroethene	ND	U	0.000269	0.00271	mg/kg	1	5/12/23 18:15
Toluene	ND	U	0.000218	0.00271	mg/kg	1	5/12/23 18:15
Total Xylenes	ND	U	0.000349	0.00271	mg/kg	1	5/12/23 18:15
trans-1,2-Dichloroethene	ND	U	0.000368	0.00271	mg/kg	1	5/12/23 18:15
trans-1,3-Dichloropropene	ND	U	0.000518	0.00271	mg/kg	1	5/12/23 18:15
Trichloroethene	ND	U	0.000399	0.00271	mg/kg	1	5/12/23 18:15
Trichlorofluoromethane	ND	U	0.000312	0.00271	mg/kg	1	5/12/23 18:15
Vinyl chloride	ND	U	0.000516	0.00271	mg/kg	1	5/12/23 18:15

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.9**				**%**	**1**	**5/10/23 10:35**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00749	0.0628	mg/kg	1	5/12/23 11:45

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509** Collected: **5/9/2023 11:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00526	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1221	ND	U	0.0103	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1232	ND	U	0.0132	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1242	ND	U	0.00771	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1248	ND	U	0.00806	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1254	ND	U	0.00633	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1260	ND	U	0.00491	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1262	ND	U	0.0106	0.0392	mg/kg	1	5/14/23 16:37
Aroclor-1268	ND	U	0.00474	0.0392	mg/kg	1	5/14/23 16:37
Total PCBs	ND	U	0.00366	0.0392	mg/kg	1	5/14/23 16:37

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0116	0.119	mg/kg	1	5/25/23 19:00
2,4-D	ND	U	0.0197	0.119	mg/kg	1	5/25/23 19:00

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.35**		**0.00594**	**0.0238**	**mg/kg**	**1**	**5/12/23 15:06**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6560**		**0.174**	**2.93**	**mg/kg**	**1**	**5/21/23 9:47**
Antimony	**3.64**		**0.159**	**1.46**	**mg/kg**	**1**	**5/21/23 9:47**
Arsenic	**8.67**		**0.104**	**1.46**	**mg/kg**	**1**	**5/21/23 9:47**
Barium	**215**		**0.0443**	**0.585**	**mg/kg**	**1**	**5/21/23 9:47**
Beryllium	**0.579**		**0.00339**	**0.0293**	**mg/kg**	**1**	**5/21/23 9:47**
Cadmium	**0.761**		**0.0571**	**0.293**	**mg/kg**	**1**	**5/21/23 9:47**
Calcium	**25700**		**3.29**	**29.3**	**mg/kg**	**1**	**5/21/23 9:47**
Chromium	**21.6**		**0.0331**	**0.293**	**mg/kg**	**1**	**5/21/23 9:47**
Cobalt	**7.90**		**0.0299**	**0.234**	**mg/kg**	**1**	**5/21/23 9:47**
Copper	**213**		**0.0819**	**0.293**	**mg/kg**	**1**	**5/21/23 9:47**
Iron	**23800**		**0.829**	**5.85**	**mg/kg**	**1**	**5/21/23 9:47**
Lead	**369**		**0.122**	**1.46**	**mg/kg**	**1**	**5/21/23 9:47**
Magnesium	**4340**		**10.3**	**58.5**	**mg/kg**	**1**	**5/21/23 9:47**
Manganese	**244**		**0.0364**	**0.293**	**mg/kg**	**1**	**5/21/23 9:47**
Nickel	**46.3**		**0.0257**	**0.146**	**mg/kg**	**1**	**5/21/23 9:47**
Potassium	**1500**		**34.8**	**117**	**mg/kg**	**1**	**5/21/23 9:47**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509** Collected: **5/9/2023 11:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.281	1.46	mg/kg	1	5/21/23 9:47
Silver	**0.358**		**0.0498**	**0.176**	**mg/kg**	**1**	**5/21/23 9:47**
Sodium	**845**		**5.58**	**58.5**	**mg/kg**	**1**	**5/21/23 9:47**
Thallium	**2.92**		**0.0985**	**1.46**	**mg/kg**	**1**	**5/21/23 9:47**
Vanadium	**24.4**		**0.0673**	**0.585**	**mg/kg**	**1**	**5/21/23 9:47**
Zinc	**580**	D	**0.894**	**8.78**	**mg/kg**	**10**	**5/21/23 10:50**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.00796**		**0.000707**	**0.00155**	**mg/kg**	**1**	**5/12/23 22:21**	J, RC:3
4,4'-DDE [2C]	**0.00330**		**0.000845**	**0.00155**	**mg/kg**	**1**	**5/12/23 22:21**	J, RC:3
4,4'-DDT [2C]	**0.00229**		**0.00109**	**0.00155**	**mg/kg**	**1**	**5/12/23 22:21**	J, RC:3
Aldrin	ND	U	0.000732	0.00155	mg/kg	1	5/12/23 22:21	
alpha-BHC	ND	U	0.000460	0.00155	mg/kg	1	5/12/23 22:21	
beta-BHC	ND	U	0.000738	0.00155	mg/kg	1	5/12/23 22:21	
Chlordane	ND	U	0.000687	0.00155	mg/kg	1	5/12/23 22:21	
delta-BHC	ND	U	0.000718	0.00155	mg/kg	1	5/12/23 22:21	
Dieldrin	ND	U	0.000808	0.00155	mg/kg	1	5/12/23 22:21	
Endosulfan I	ND	U	0.000730	0.00155	mg/kg	1	5/12/23 22:21	
Endosulfan II	ND	U	0.000702	0.00155	mg/kg	1	5/12/23 22:21	
Endosulfan sulfate	ND	U	0.000581	0.00155	mg/kg	1	5/12/23 22:21	
Endosulfans, Total (alpha and beta)	ND	U	0.000702	0.00155	mg/kg	1	5/12/23 22:21	
Endrin	ND	U	0.000534	0.00155	mg/kg	1	5/12/23 22:21	
Endrin aldehyde	ND	U	0.000616	0.00155	mg/kg	1	5/12/23 22:21	
Endrin ketone	ND	U	0.000544	0.00155	mg/kg	1	5/12/23 22:21	
gamma-BHC (Lindane)	ND	U	0.000490	0.00155	mg/kg	1	5/12/23 22:21	
Heptachlor	ND	U	0.000414	0.00155	mg/kg	1	5/12/23 22:21	
Heptachlor Epoxide	ND	U	0.000780	0.00155	mg/kg	1	5/12/23 22:21	
Methoxychlor	ND	U	0.000453	0.00155	mg/kg	1	5/12/23 22:21	
Toxaphene	ND	U	0.0744	0.0784	mg/kg	1	5/12/23 22:21	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00447	0.0396	mg/kg	1	5/11/23 19:43
2,3,4,6-Tetrachlorophenol	ND	U	0.0244	0.158	mg/kg	1	5/11/23 19:43
2,4,5-Trichlorophenol	ND	U	0.0215	0.158	mg/kg	1	5/11/23 19:43
2,4,6-Trichlorophenol	ND	U	0.00990	0.158	mg/kg	1	5/11/23 19:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509** Collected: **5/9/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0159	0.158	mg/kg	1	5/11/23 19:43	
2,4-Dimethylphenol	ND	U	0.0156	0.158	mg/kg	1	5/11/23 19:43	
2,4-Dinitrophenol	ND	U	0.0228	0.793	mg/kg	1	5/11/23 19:43	
2,4-Dinitrotoluene	ND	U	0.0169	0.158	mg/kg	1	5/11/23 19:43	
2,6-Dinitrotoluene	ND	U	0.0378	0.158	mg/kg	1	5/11/23 19:43	
2-Chloronaphthalene	ND	U	0.0182	0.158	mg/kg	1	5/11/23 19:43	
2-Chlorophenol	ND	U	0.0209	0.158	mg/kg	1	5/11/23 19:43	
2-Methylnaphthalene	**3.34**		**0.0379**	**0.238**	**mg/kg**	**1**	**5/11/23 19:43**	
2-Methylphenol	ND	U	0.0313	0.158	mg/kg	1	5/11/23 19:43	
2-Nitroaniline	ND	U	0.0127	0.158	mg/kg	1	5/11/23 19:43	
2-Nitrophenol	ND	U	0.0176	0.158	mg/kg	1	5/11/23 19:43	
3,3'-Dichlorobenzidine	ND	U	0.0166	0.158	mg/kg	1	5/11/23 19:43	
3+4-Methylphenol	**0.293**		**0.0290**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**	
3-Nitroaniline	ND	U	0.0294	0.158	mg/kg	1	5/11/23 19:43	
4,6-Dinitro-2-methylphenol	ND	U	0.0298	0.396	mg/kg	1	5/11/23 19:43	
4-Bromophenyl-phenyl ether	ND	U	0.0226	0.158	mg/kg	1	5/11/23 19:43	
4-Chloro-3-methylphenol	ND	U	0.0250	0.158	mg/kg	1	5/11/23 19:43	
4-Chloroaniline	ND	U	0.00554	0.158	mg/kg	1	5/11/23 19:43	
4-Chlorophenyl phenyl ether	ND	U	0.00855	0.158	mg/kg	1	5/11/23 19:43	
4-Nitroaniline	ND	U	0.0792	0.158	mg/kg	1	5/11/23 19:43	
4-Nitrophenol	ND	U	0.0101	0.158	mg/kg	1	5/11/23 19:43	
Acenaphthene	**8.18**		**0.00902**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**	
Acenaphthylene	**9.03**		**0.00550**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**	
Acetophenone	ND	U	0.0157	0.158	mg/kg	1	5/11/23 19:43	
Anthracene	**14.5**	D	**0.229**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**	
Atrazine	ND	U	0.0149	0.158	mg/kg	1	5/11/23 19:43	
Benzaldehyde	ND	U	0.0486	0.158	mg/kg	1	5/11/23 19:43	UJ, RC:SL
Benzo(a)anthracene	**29.3**	D	**0.159**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**	
Benzo(a)pyrene	**32.6**	D	**0.276**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**	
Benzo(b)fluoranthene	**34.6**	D	**0.222**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**	
Benzo(g,h,i)perylene	**29.9**	D	**0.128**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**	
Benzo(k)fluoranthene	**14.3**	D	**0.182**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**	
Biphenyl	**1.06**		**0.0139**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**	
bis(2-chloroethoxy)methane	ND	U	0.0219	0.158	mg/kg	1	5/11/23 19:43	
bis(2-chloroethyl)ether	ND	U	0.0174	0.158	mg/kg	1	5/11/23 19:43	
bis(2-chloroisopropyl)ether	ND	U	0.0569	0.158	mg/kg	1	5/11/23 19:43	
bis(2-ethylhexyl)phthalate	ND	U	0.0316	0.158	mg/kg	1	5/11/23 19:43	
Butylbenzylphthalate	ND	U	0.0144	0.158	mg/kg	1	5/11/23 19:43	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509** Collected: **5/9/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0204	0.158	mg/kg	1	5/11/23 19:43
Carbazole	**5.82**		**0.0304**	**0.396**	**mg/kg**	**1**	**5/11/23 19:43**
Chrysene	**28.9**	D	**0.108**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**
Dibenzo(a,h)anthracene	**4.49**		**0.0157**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**
Dibenzofuran	**3.89**		**0.00943**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**
Diethylphthalate	ND	U	0.0307	0.158	mg/kg	1	5/11/23 19:43
Dimethylphthalate	ND	U	0.00982	0.158	mg/kg	1	5/11/23 19:43
Di-n-butylphthalate	ND	U	0.0647	0.158	mg/kg	1	5/11/23 19:43
Di-n-octylphthalate	ND	U	0.0324	0.158	mg/kg	1	5/11/23 19:43
Fluoranthene	**59.5**	D	**0.149**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**
Fluorene	**6.36**		**0.0132**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**
Hexachlorobenzene	ND	U	0.0207	0.158	mg/kg	1	5/11/23 19:43
Hexachlorobutadiene	ND	U	0.0759	0.158	mg/kg	1	5/11/23 19:43
Hexachlorocyclopentadiene	ND	U	0.0660	0.396	mg/kg	1	5/11/23 19:43
Hexachloroethane	ND	U	0.0174	0.158	mg/kg	1	5/11/23 19:43
Indeno(1,2,3-cd)pyrene	**21.9**	D	**0.170**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**
Isophorone	ND	U	0.0104	0.158	mg/kg	1	5/11/23 19:43
Naphthalene	**7.20**		**0.0117**	**0.158**	**mg/kg**	**1**	**5/11/23 19:43**
Nitrobenzene	ND	U	0.0269	0.158	mg/kg	1	5/11/23 19:43
n-Nitroso-di-n-propylamine	ND	U	0.00847	0.158	mg/kg	1	5/11/23 19:43
n-Nitrosodiphenylamine	ND	U	0.0338	0.158	mg/kg	1	5/11/23 19:43
Pentachlorophenol	ND	U	0.0218	0.396	mg/kg	1	5/11/23 19:43
Phenanthrene	**55.9**	D	**0.208**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**
Phenol	ND	U	0.0128	0.158	mg/kg	1	5/11/23 19:43
Pyrene	**47.5**	D	**0.116**	**1.58**	**mg/kg**	**10**	**5/16/23 22:21**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,2,4-Trithiolane	5.16	6.78	J	mg/kg	1	5/11/23 19:43
1H-Indene, 1-methyl-	2.92	7.13	J	mg/kg	1	5/11/23 19:43
2-Methylindene	3.66	7.08	J	mg/kg	1	5/11/23 19:43
Benzene, (1-nitroethyl)-	8.00	6.90	J	mg/kg	1	5/11/23 19:43
Benzene, 1-ethenyl-4-methyl-	12.5	5.90	J	mg/kg	1	5/11/23 19:43
Benzene, 1-methyl-4-(1-methylethyl)-	4.12	7.53	J	mg/kg	1	5/11/23 19:43
Benzene, 1-propynyl-	3.75	6.33	J	mg/kg	1	5/11/23 19:43
Bicyclo[4.2.0]octa-1,3,5-triene, 7-methy	5.56	5.94	J	mg/kg	1	5/11/23 19:43

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509** Collected: **5/9/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1-methyl-	2.89	8.16	J	mg/kg	1	5/11/23 19:43
unknown (01)	2.30	5.78	J	mg/kg	1	5/11/23 19:43
unknown (02)	5.62	7.59	J	mg/kg	1	5/11/23 19:43
unknown (03)	5.33	8.82	J	mg/kg	1	5/11/23 19:43
unknown (04)	2.36	15.33	J	mg/kg	1	5/11/23 19:43
unknown (05)	2.27	15.66	J	mg/kg	1	5/11/23 19:43
unknown (06)	3.17	15.92	J	mg/kg	1	5/11/23 19:43
TIC Total	**69.6**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000404	0.00276	mg/kg	1	5/12/23 18:46
1,1,2,2-Tetrachloroethane	ND	U	0.000381	0.00276	mg/kg	1	5/12/23 18:46
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00118	0.00276	mg/kg	1	5/12/23 18:46
1,1,2-Trichloroethane	ND	U	0.000466	0.00276	mg/kg	1	5/12/23 18:46
1,1-Dichloroethane	ND	U	0.000404	0.00276	mg/kg	1	5/12/23 18:46
1,1-Dichloroethene	ND	U	0.000511	0.00276	mg/kg	1	5/12/23 18:46
1,2,3-Trichlorobenzene	ND	U	0.000597	0.00276	mg/kg	1	5/12/23 18:46
1,2,4-Trichlorobenzene	ND	U	0.000737	0.00276	mg/kg	1	5/12/23 18:46
1,2,4-Trimethylbenzene	ND	U	0.000381	0.00276	mg/kg	1	5/12/23 18:46
1,2-Dibromo-3-chloropropane	ND	U	0.000674	0.00276	mg/kg	1	5/12/23 18:46
1,2-Dibromoethane	ND	U	0.000348	0.00276	mg/kg	1	5/12/23 18:46
1,2-Dichlorobenzene	ND	U	0.000488	0.00276	mg/kg	1	5/12/23 18:46
1,2-Dichloroethane	ND	U	0.000390	0.00276	mg/kg	1	5/12/23 18:46
1,2-Dichloropropane	ND	U	0.000453	0.00276	mg/kg	1	5/12/23 18:46
1,3-Dichlorobenzene	ND	U	0.000203	0.00276	mg/kg	1	5/12/23 18:46
1,4-Dichlorobenzene	ND	U	0.000398	0.00276	mg/kg	1	5/12/23 18:46
2-Butanone	ND	U	0.000451	0.00691	mg/kg	1	5/12/23 18:46
2-Hexanone	ND	U	0.000258	0.00276	mg/kg	1	5/12/23 18:46
4-Methyl-2-pentanone	ND	U	0.000346	0.00276	mg/kg	1	5/12/23 18:46
Acetone	ND	U	0.000838	0.00691	mg/kg	1	5/12/23 18:46
Benzene	ND	U	0.000252	0.00276	mg/kg	1	5/12/23 18:46
Bromochloromethane	ND	U	0.000510	0.00276	mg/kg	1	5/12/23 18:46
Bromodichloromethane	ND	U	0.000347	0.00276	mg/kg	1	5/12/23 18:46
Bromoform	ND	U	0.000485	0.00276	mg/kg	1	5/12/23 18:46
Bromomethane	ND	U	0.000797	0.00276	mg/kg	1	5/12/23 18:46
Carbon disulfide	ND	U	0.000397	0.00276	mg/kg	1	5/12/23 18:46

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil) Sample Name: **OH-SB-40-2.0-3.0_20230509** Collected: **5/9/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon Tetrachloride	ND	U	0.000416	0.00276	mg/kg	1	5/12/23 18:46
Chlorobenzene	ND	U	0.000401	0.00276	mg/kg	1	5/12/23 18:46
Chlorodibromomethane	ND	U	0.000340	0.00276	mg/kg	1	5/12/23 18:46
Chloroethane	ND	U	0.000471	0.00276	mg/kg	1	5/12/23 18:46
Chloroform	ND	U	0.000464	0.00276	mg/kg	1	5/12/23 18:46
Chloromethane	ND	U	0.00106	0.00276	mg/kg	1	5/12/23 18:46
cis-1,2-Dichloroethene	ND	U	0.000134	0.00276	mg/kg	1	5/12/23 18:46
cis-1,3-Dichloropropene	ND	U	0.000350	0.00276	mg/kg	1	5/12/23 18:46
Cyclohexane	ND	U	0.000612	0.00276	mg/kg	1	5/12/23 18:46
Dichlorodifluoromethane	ND	U	0.000933	0.00276	mg/kg	1	5/12/23 18:46
EthylBenzene	ND	U	0.000375	0.00276	mg/kg	1	5/12/23 18:46
Isopropylbenzene	ND	U	0.000434	0.00276	mg/kg	1	5/12/23 18:46
m+p-Xylenes	ND	U	0.000698	0.00553	mg/kg	1	5/12/23 18:46
Methyl Acetate	ND	U	0.000366	0.00276	mg/kg	1	5/12/23 18:46
Methyl tert-Butyl Ether	ND	U	0.000467	0.00276	mg/kg	1	5/12/23 18:46
Methylcyclohexane	ND	U	0.000445	0.00276	mg/kg	1	5/12/23 18:46
Methylene Chloride	ND	U	0.000831	0.00276	mg/kg	1	5/12/23 18:46
o-Xylene	ND	U	0.000355	0.00276	mg/kg	1	5/12/23 18:46
Styrene	ND	U	0.000395	0.00276	mg/kg	1	5/12/23 18:46
tert-Butyl alcohol	ND	U	0.00580	0.0276	mg/kg	1	5/12/23 18:46
Tetrachloroethene	**0.117**		**0.000274**	**0.00276**	**mg/kg**	**1**	**5/12/23 18:46**
Toluene	ND	U	0.000223	0.00276	mg/kg	1	5/12/23 18:46
Total Xylenes	ND	U	0.000355	0.00276	mg/kg	1	5/12/23 18:46
trans-1,2-Dichloroethene	ND	U	0.000375	0.00276	mg/kg	1	5/12/23 18:46
trans-1,3-Dichloropropene	ND	U	0.000528	0.00276	mg/kg	1	5/12/23 18:46
Trichloroethene	ND	U	0.000406	0.00276	mg/kg	1	5/12/23 18:46
Trichlorofluoromethane	ND	U	0.000318	0.00276	mg/kg	1	5/12/23 18:46
Vinyl chloride	ND	U	0.000525	0.00276	mg/kg	1	5/12/23 18:46

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopropane, ethyl-	0.0185	5.42	J	mg/kg	1	5/12/23 18:46
TIC:Naphthalene	0.0116	23.22	J	mg/kg	1	5/12/23 18:46
TIC Total	**0.030**					

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-06 (Soil)

Sample Name: **OH-SB-40-2.0-3.0_20230509**
Collected: **5/9/2023 11:15:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.1**				**%**	**1**	**5/10/23 10:35**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00868	0.0728	mg/kg	1	5/12/23 11:45

23E0462-07 (Ground Water)

Sample Name: **FB_20230509**
Collected: **5/9/2023 1:30:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/14/23 12:34
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/14/23 12:34
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/14/23 12:34
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/14/23 12:34
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/14/23 12:34
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/14/23 12:34
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/14/23 12:34
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/14/23 12:34
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/14/23 12:34
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/14/23 12:34

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	5/24/23 9:56
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	5/24/23 9:56
2,4-D	ND	U	0.0300	1.00	ug/L	1	5/24/23 9:56

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/12/23 14:57

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/22/23 12:04
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/22/23 12:04
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/22/23 12:04
Barium	ND	U	0.000558	0.0200	mg/L	1	5/22/23 12:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-07 (Ground Water) Sample Name: **FB_20230509** Collected: **5/9/2023 1:30:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/22/23 12:04
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/22/23 12:04
Calcium	ND	U	0.256	1.00	mg/L	1	5/22/23 12:04
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/22/23 12:04
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/22/23 12:04
Copper	ND	U	0.00177	0.0100	mg/L	1	5/22/23 12:04
Iron	ND	U	0.0580	0.200	mg/L	1	5/22/23 12:04
Lead	ND	U	0.00510	0.0500	mg/L	1	5/22/23 12:04
Magnesium	ND	U	0.681	2.00	mg/L	1	5/22/23 12:04
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/22/23 12:04
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/22/23 12:04
Potassium	ND	U	2.41	4.00	mg/L	1	5/22/23 12:04
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/22/23 12:04
Silver	ND	U	0.00465	0.0200	mg/L	1	5/22/23 12:04
Sodium	ND	U	0.205	2.00	mg/L	1	5/22/23 12:04
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/22/23 12:04
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/22/23 12:04
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/22/23 12:04

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/12/23 22:43
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/12/23 22:43
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/12/23 22:43
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/12/23 22:43
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/12/23 22:43
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/12/23 22:43
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/12/23 22:43
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/12/23 22:43
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/12/23 22:43
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/12/23 22:43
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/12/23 22:43
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/12/23 22:43
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/12/23 22:43
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/12/23 22:43
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/12/23 22:43
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/12/23 22:43
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/12/23 22:43
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/12/23 22:43

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-07 (Ground Water) Sample Name: **FB_20230509** Collected: **5/9/2023 1:30:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/12/23 22:43
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/12/23 22:43

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/15/23 16:41	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/15/23 16:41	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/15/23 16:41	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/15/23 16:41	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/15/23 16:41	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/15/23 16:41	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/15/23 16:41	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/15/23 16:41	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/15/23 16:41	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/15/23 16:41	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/15/23 16:41	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/15/23 16:41	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/15/23 16:41	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/15/23 16:41	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/15/23 16:41	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/15/23 16:41	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/15/23 16:41	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/15/23 16:41	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/15/23 16:41	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/15/23 16:41	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/15/23 16:41	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/15/23 16:41	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/15/23 16:41	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/15/23 16:41	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/15/23 16:41	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/15/23 16:41	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/15/23 16:41	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/15/23 16:41	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/15/23 16:41	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/15/23 16:41	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/15/23 16:41	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/15/23 16:41	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/15/23 16:41	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/15/23 16:41	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-07 (Ground Water) Sample Name: **FB_20230509** Collected: **5/9/2023 1:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/15/23 16:41	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/15/23 16:41	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/15/23 16:41	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/15/23 16:41	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/15/23 16:41	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/15/23 16:41	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/15/23 16:41	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/15/23 16:41	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/15/23 16:41	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/15/23 16:41	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/15/23 16:41	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/15/23 16:41	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/15/23 16:41	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/15/23 16:41	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/15/23 16:41	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/15/23 16:41	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/15/23 16:41	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/15/23 16:41	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/15/23 16:41	UJ, RC:SL
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/15/23 16:41	UJ, RC:SL
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/15/23 16:41	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/15/23 16:41	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/15/23 16:41	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/10/23 19:22	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/10/23 19:22	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/10/23 19:22	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/10/23 19:22	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/10/23 19:22	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/10/23 19:22	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/10/23 19:22	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/10/23 19:22	RC:SL,6L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-07 (Ground Water) Sample Name: **FB_20230509** Collected: **5/9/2023 1:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/10/23 19:22	UJ, RC:3L
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/10/23 19:22	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/10/23 19:22	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/10/23 19:22	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/10/23 19:22	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/10/23 19:22	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/10/23 19:22	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/10/23 19:22	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/10/23 19:22	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/10/23 19:22	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/10/23 19:22	
Acetone	ND	U	10.0	10.0	ug/L	1	5/10/23 19:22	
Benzene	ND	U	0.129	1.00	ug/L	1	5/10/23 19:22	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/10/23 19:22	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/10/23 19:22	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/10/23 19:22	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/10/23 19:22	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/10/23 19:22	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/10/23 19:22	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/10/23 19:22	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/10/23 19:22	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/10/23 19:22	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/10/23 19:22	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/10/23 19:22	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/10/23 19:22	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/10/23 19:22	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/10/23 19:22	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/10/23 19:22	RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/10/23 19:22	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/10/23 19:22	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/10/23 19:22	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/10/23 19:22	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/10/23 19:22	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/10/23 19:22	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/10/23 19:22	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/10/23 19:22	
Styrene	ND	U	0.176	1.00	ug/L	1	5/10/23 19:22	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/10/23 19:22	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/10/23 19:22	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-07 (Ground Water) Sample Name: FB_20230509 Collected: 5/9/2023 1:30:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	ND	U	0.205	1.00	ug/L	1	5/10/23 19:22
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/10/23 19:22
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/10/23 19:22
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/10/23 19:22
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/10/23 19:22
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/10/23 19:22
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/10/23 19:22

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/10/23 17:38

23E0462-08 (Soil) Sample Name: OH-SB-41-1.0-2.0_20230509 Collected: 5/9/2023 2:10:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00491	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1221	ND	U	0.00966	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1232	ND	U	0.0123	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1242	ND	U	0.00720	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1248	ND	U	0.00753	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1254	ND	U	0.00591	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1260	ND	U	0.00459	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1262	ND	U	0.00986	0.0366	mg/kg	1	5/14/23 17:00
Aroclor-1268	ND	U	0.00443	0.0366	mg/kg	1	5/14/23 17:00
Total PCBs	ND	U	0.00342	0.0366	mg/kg	1	5/14/23 17:00

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	5/25/23 19:24
2,4-D	ND	U	0.0184	0.111	mg/kg	1	5/25/23 19:24

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509** Collected: **5/9/2023 2:10:00PM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0390**		**0.00555**	**0.0222**	**mg/kg**	**1**	**5/12/23 15:06**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5930**		**0.160**	**2.69**	**mg/kg**	**1**	**5/21/23 9:50**
Antimony	**1.77**		**0.147**	**1.35**	**mg/kg**	**1**	**5/21/23 9:50**
Arsenic	**3.90**		**0.0961**	**1.35**	**mg/kg**	**1**	**5/21/23 9:50**
Barium	**107**		**0.0407**	**0.539**	**mg/kg**	**1**	**5/21/23 9:50**
Beryllium	**0.555**		**0.00312**	**0.0269**	**mg/kg**	**1**	**5/21/23 9:50**
Cadmium	**0.334**		**0.0525**	**0.269**	**mg/kg**	**1**	**5/21/23 9:50**
Calcium	**12400**		**3.03**	**26.9**	**mg/kg**	**1**	**5/21/23 9:50**
Chromium	**18.9**		**0.0304**	**0.269**	**mg/kg**	**1**	**5/21/23 9:50**
Cobalt	**9.94**		**0.0275**	**0.216**	**mg/kg**	**1**	**5/21/23 9:50**
Copper	**93.0**		**0.0754**	**0.269**	**mg/kg**	**1**	**5/21/23 9:50**
Iron	**16800**		**0.763**	**5.39**	**mg/kg**	**1**	**5/21/23 9:50**
Lead	**154**		**0.112**	**1.35**	**mg/kg**	**1**	**5/21/23 9:50**
Magnesium	**4230**		**9.52**	**53.9**	**mg/kg**	**1**	**5/21/23 9:50**
Manganese	**228**		**0.0335**	**0.269**	**mg/kg**	**1**	**5/21/23 9:50**
Nickel	**48.5**		**0.0237**	**0.135**	**mg/kg**	**1**	**5/21/23 9:50**
Potassium	**1570**		**32.0**	**108**	**mg/kg**	**1**	**5/21/23 9:50**
Selenium	ND	U	0.259	1.35	mg/kg	1	5/21/23 9:50
Silver	ND	U	0.0458	0.162	mg/kg	1	5/21/23 9:50
Sodium	**501**		**5.14**	**53.9**	**mg/kg**	**1**	**5/21/23 9:50**
Thallium	ND	U	0.0907	1.35	mg/kg	1	5/21/23 9:50
Vanadium	**19.0**		**0.0620**	**0.539**	**mg/kg**	**1**	**5/21/23 9:50**
Zinc	**165**		**0.0823**	**0.808**	**mg/kg**	**1**	**5/21/23 9:50**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	**0.00226**		**0.000660**	**0.00144**	**mg/kg**	**1**	**5/12/23 23:05**
4,4'-DDE [2C]	**0.00102**	J	**0.000789**	**0.00144**	**mg/kg**	**1**	**5/12/23 23:05** J, RC:3H
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	5/12/23 23:05
Aldrin	ND	U	0.000684	0.00144	mg/kg	1	5/12/23 23:05
alpha-BHC	ND	U	0.000430	0.00144	mg/kg	1	5/12/23 23:05
beta-BHC	ND	U	0.000689	0.00144	mg/kg	1	5/12/23 23:05
Chlordane	ND	U	0.000642	0.00144	mg/kg	1	5/12/23 23:05
delta-BHC	ND	U	0.000670	0.00144	mg/kg	1	5/12/23 23:05
Dieldrin	ND	U	0.000755	0.00144	mg/kg	1	5/12/23 23:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509** Collected: **5/9/2023 2:10:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan I	ND	U	0.000682	0.00144	mg/kg	1	5/12/23 23:05
Endosulfan II	ND	U	0.000656	0.00144	mg/kg	1	5/12/23 23:05
Endosulfan sulfate	ND	U	0.000543	0.00144	mg/kg	1	5/12/23 23:05
Endosulfans, Total (alpha and beta)	ND	U	0.000656	0.00144	mg/kg	1	5/12/23 23:05
Endrin	ND	U	0.000498	0.00144	mg/kg	1	5/12/23 23:05
Endrin aldehyde	ND	U	0.000575	0.00144	mg/kg	1	5/12/23 23:05
Endrin ketone	ND	U	0.000508	0.00144	mg/kg	1	5/12/23 23:05
gamma-BHC (Lindane)	ND	U	0.000457	0.00144	mg/kg	1	5/12/23 23:05
Heptachlor	ND	U	0.000386	0.00144	mg/kg	1	5/12/23 23:05
Heptachlor Epoxide	ND	U	0.000728	0.00144	mg/kg	1	5/12/23 23:05
Methoxychlor	ND	U	0.000423	0.00144	mg/kg	1	5/12/23 23:05
Toxaphene	ND	U	0.0695	0.0733	mg/kg	1	5/12/23 23:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00417	0.0370	mg/kg	1	5/12/23 15:06
2,3,4,6-Tetrachlorophenol	ND	U	0.0228	0.148	mg/kg	1	5/12/23 15:06
2,4,5-Trichlorophenol	ND	U	0.0201	0.148	mg/kg	1	5/12/23 15:06
2,4,6-Trichlorophenol	ND	U	0.00925	0.148	mg/kg	1	5/12/23 15:06
2,4-Dichlorophenol	ND	U	0.0149	0.148	mg/kg	1	5/12/23 15:06
2,4-Dimethylphenol	ND	U	0.0145	0.148	mg/kg	1	5/12/23 15:06
2,4-Dinitrophenol	ND	U	0.0213	0.740	mg/kg	1	5/12/23 15:06
2,4-Dinitrotoluene	ND	U	0.0158	0.148	mg/kg	1	5/12/23 15:06
2,6-Dinitrotoluene	ND	U	0.0353	0.148	mg/kg	1	5/12/23 15:06
2-Chloronaphthalene	ND	U	0.0170	0.148	mg/kg	1	5/12/23 15:06
2-Chlorophenol	ND	U	0.0195	0.148	mg/kg	1	5/12/23 15:06
2-Methylnaphthalene	ND	U	0.0354	0.222	mg/kg	1	5/12/23 15:06
2-Methylphenol	ND	U	0.0292	0.148	mg/kg	1	5/12/23 15:06
2-Nitroaniline	ND	U	0.0119	0.148	mg/kg	1	5/12/23 15:06
2-Nitrophenol	ND	U	0.0164	0.148	mg/kg	1	5/12/23 15:06
3,3'-Dichlorobenzidine	ND	U	0.0155	0.148	mg/kg	1	5/12/23 15:06
3+4-Methylphenol	ND	U	0.0271	0.148	mg/kg	1	5/12/23 15:06
3-Nitroaniline	ND	U	0.0274	0.148	mg/kg	1	5/12/23 15:06
4,6-Dinitro-2-methylphenol	ND	U	0.0279	0.370	mg/kg	1	5/12/23 15:06
4-Bromophenyl-phenyl ether	ND	U	0.0211	0.148	mg/kg	1	5/12/23 15:06
4-Chloro-3-methylphenol	ND	U	0.0233	0.148	mg/kg	1	5/12/23 15:06
4-Chloroaniline	ND	U	0.00517	0.148	mg/kg	1	5/12/23 15:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509** Collected: **5/9/2023 2:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chlorophenyl phenyl ether	ND	U	0.00798	0.148	mg/kg	1	5/12/23 15:06	
4-Nitroaniline	ND	U	0.0739	0.148	mg/kg	1	5/12/23 15:06	
4-Nitrophenol	ND	U	0.00946	0.148	mg/kg	1	5/12/23 15:06	
Acenaphthene	ND	U	0.00843	0.148	mg/kg	1	5/12/23 15:06	
Acenaphthylene	**0.0586**	J	**0.00514**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Acetophenone	ND	U	0.0147	0.148	mg/kg	1	5/12/23 15:06	
Anthracene	**0.0374**	J	**0.0214**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Atrazine	ND	U	0.0139	0.148	mg/kg	1	5/12/23 15:06	
Benzaldehyde	ND	U	0.0454	0.148	mg/kg	1	5/12/23 15:06	UJ, RC:SL
Benzo(a)anthracene	**0.0845**	J	**0.0149**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Benzo(a)pyrene	**0.0942**	J	**0.0258**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Benzo(b)fluoranthene	**0.134**	J	**0.0208**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Benzo(g,h,i)perylene	**0.0913**	J	**0.0120**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Benzo(k)fluoranthene	**0.0733**	J	**0.0170**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Biphenyl	ND	U	0.0130	0.148	mg/kg	1	5/12/23 15:06	
bis(2-chloroethoxy)methane	ND	U	0.0204	0.148	mg/kg	1	5/12/23 15:06	
bis(2-chloroethyl)ether	ND	U	0.0162	0.148	mg/kg	1	5/12/23 15:06	
bis(2-chloroisopropyl)ether	ND	U	0.0532	0.148	mg/kg	1	5/12/23 15:06	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0295	0.148	mg/kg	1	5/12/23 15:06	
Butylbenzylphthalate	ND	U	0.0134	0.148	mg/kg	1	5/12/23 15:06	
Caprolactam	ND	U	0.0191	0.148	mg/kg	1	5/12/23 15:06	
Carbazole	ND	U	0.0284	0.370	mg/kg	1	5/12/23 15:06	
Chrysene	**0.0996**	J	**0.0101**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Dibenzo(a,h)anthracene	ND	U	0.0147	0.148	mg/kg	1	5/12/23 15:06	
Dibenzofuran	ND	U	0.00880	0.148	mg/kg	1	5/12/23 15:06	
Diethylphthalate	ND	U	0.0286	0.148	mg/kg	1	5/12/23 15:06	
Dimethylphthalate	ND	U	0.00917	0.148	mg/kg	1	5/12/23 15:06	
Di-n-butylphthalate	ND	U	0.0604	0.148	mg/kg	1	5/12/23 15:06	
Di-n-octylphthalate	ND	U	0.0303	0.148	mg/kg	1	5/12/23 15:06	
Fluoranthene	**0.218**		**0.0139**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Fluorene	ND	U	0.0123	0.148	mg/kg	1	5/12/23 15:06	
Hexachlorobenzene	ND	U	0.0193	0.148	mg/kg	1	5/12/23 15:06	
Hexachlorobutadiene	ND	U	0.0709	0.148	mg/kg	1	5/12/23 15:06	
Hexachlorocyclopentadiene	ND	U	0.0616	0.370	mg/kg	1	5/12/23 15:06	
Hexachloroethane	ND	U	0.0162	0.148	mg/kg	1	5/12/23 15:06	
Indeno(1,2,3-cd)pyrene	**0.0611**	J	**0.0159**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**	
Isophorone	ND	U	0.00968	0.148	mg/kg	1	5/12/23 15:06	
Naphthalene	ND	U	0.0109	0.148	mg/kg	1	5/12/23 15:06	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509** Collected: **5/9/2023 2:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nitrobenzene	ND	U	0.0251	0.148	mg/kg	1	5/12/23 15:06
n-Nitroso-di-n-propylamine	ND	U	0.00791	0.148	mg/kg	1	5/12/23 15:06
n-Nitrosodiphenylamine	ND	U	0.0315	0.148	mg/kg	1	5/12/23 15:06
Pentachlorophenol	ND	U	0.0203	0.370	mg/kg	1	5/12/23 15:06
Phenanthrene	**0.119**	J	**0.0194**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**
Phenol	ND	U	0.0120	0.148	mg/kg	1	5/12/23 15:06
Pyrene	**0.142**	J	**0.0109**	**0.148**	**mg/kg**	**1**	**5/12/23 15:06**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	~~5.11~~ R, RC:2	11.96	J, B	mg/kg	1	5/12/23 15:06
Octadecanoic acid, butyl ester	~~3.07~~ R, RC:2	12.75	J, B	mg/kg	1	5/12/23 15:06
unknown	~~0.325~~ R, RC:2	5.16	J, B	mg/kg	1	5/12/23 15:06
TIC Total	~~8.51~~					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000345	0.00236	mg/kg	1	5/12/23 19:18
1,1,2,2-Tetrachloroethane	ND	U	0.000326	0.00236	mg/kg	1	5/12/23 19:18
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00101	0.00236	mg/kg	1	5/12/23 19:18
1,1,2-Trichloroethane	ND	U	0.000398	0.00236	mg/kg	1	5/12/23 19:18
1,1-Dichloroethane	ND	U	0.000345	0.00236	mg/kg	1	5/12/23 19:18
1,1-Dichloroethene	ND	U	0.000437	0.00236	mg/kg	1	5/12/23 19:18
1,2,3-Trichlorobenzene	ND	U	0.000510	0.00236	mg/kg	1	5/12/23 19:18
1,2,4-Trichlorobenzene	ND	U	0.000629	0.00236	mg/kg	1	5/12/23 19:18
1,2,4-Trimethylbenzene	ND	U	0.000326	0.00236	mg/kg	1	5/12/23 19:18
1,2-Dibromo-3-chloropropane	ND	U	0.000576	0.00236	mg/kg	1	5/12/23 19:18
1,2-Dibromoethane	ND	U	0.000298	0.00236	mg/kg	1	5/12/23 19:18
1,2-Dichlorobenzene	ND	U	0.000417	0.00236	mg/kg	1	5/12/23 19:18
1,2-Dichloroethane	ND	U	0.000333	0.00236	mg/kg	1	5/12/23 19:18
1,2-Dichloropropane	ND	U	0.000387	0.00236	mg/kg	1	5/12/23 19:18
1,3-Dichlorobenzene	ND	U	0.000174	0.00236	mg/kg	1	5/12/23 19:18
1,4-Dichlorobenzene	ND	U	0.000340	0.00236	mg/kg	1	5/12/23 19:18
2-Butanone	ND	U	0.000385	0.00590	mg/kg	1	5/12/23 19:18
2-Hexanone	ND	U	0.000221	0.00236	mg/kg	1	5/12/23 19:18
4-Methyl-2-pentanone	ND	U	0.000295	0.00236	mg/kg	1	5/12/23 19:18
Acetone	ND	U	0.000716	0.00590	mg/kg	1	5/12/23 19:18

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509** Collected: **5/9/2023 2:10:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	ND	U	0.000215	0.00236	mg/kg	1	5/12/23 19:18
Bromochloromethane	ND	U	0.000436	0.00236	mg/kg	1	5/12/23 19:18
Bromodichloromethane	ND	U	0.000296	0.00236	mg/kg	1	5/12/23 19:18
Bromoform	ND	U	0.000414	0.00236	mg/kg	1	5/12/23 19:18
Bromomethane	ND	U	0.000681	0.00236	mg/kg	1	5/12/23 19:18
Carbon disulfide	ND	U	0.000339	0.00236	mg/kg	1	5/12/23 19:18
Carbon Tetrachloride	ND	U	0.000355	0.00236	mg/kg	1	5/12/23 19:18
Chlorobenzene	ND	U	0.000342	0.00236	mg/kg	1	5/12/23 19:18
Chlorodibromomethane	ND	U	0.000290	0.00236	mg/kg	1	5/12/23 19:18
Chloroethane	ND	U	0.000403	0.00236	mg/kg	1	5/12/23 19:18
Chloroform	ND	U	0.000397	0.00236	mg/kg	1	5/12/23 19:18
Chloromethane	ND	U	0.000909	0.00236	mg/kg	1	5/12/23 19:18
cis-1,2-Dichloroethene	ND	U	0.000114	0.00236	mg/kg	1	5/12/23 19:18
cis-1,3-Dichloropropene	ND	U	0.000299	0.00236	mg/kg	1	5/12/23 19:18
Cyclohexane	ND	U	0.000523	0.00236	mg/kg	1	5/12/23 19:18
Dichlorodifluoromethane	ND	U	0.000797	0.00236	mg/kg	1	5/12/23 19:18
EthylBenzene	ND	U	0.000320	0.00236	mg/kg	1	5/12/23 19:18
Isopropylbenzene	ND	U	0.000371	0.00236	mg/kg	1	5/12/23 19:18
m+p-Xylenes	ND	U	0.000596	0.00472	mg/kg	1	5/12/23 19:18
Methyl Acetate	ND	U	0.000313	0.00236	mg/kg	1	5/12/23 19:18
Methyl tert-Butyl Ether	ND	U	0.000399	0.00236	mg/kg	1	5/12/23 19:18
Methylcyclohexane	ND	U	0.000380	0.00236	mg/kg	1	5/12/23 19:18
Methylene Chloride	ND	U	0.000710	0.00236	mg/kg	1	5/12/23 19:18
o-Xylene	ND	U	0.000303	0.00236	mg/kg	1	5/12/23 19:18
Styrene	ND	U	0.000338	0.00236	mg/kg	1	5/12/23 19:18
tert-Butyl alcohol	ND	U	0.00496	0.0236	mg/kg	1	5/12/23 19:18
Tetrachloroethene	ND	U	0.000234	0.00236	mg/kg	1	5/12/23 19:18
Toluene	ND	U	0.000190	0.00236	mg/kg	1	5/12/23 19:18
Total Xylenes	ND	U	0.000303	0.00236	mg/kg	1	5/12/23 19:18
trans-1,2-Dichloroethene	ND	U	0.000320	0.00236	mg/kg	1	5/12/23 19:18
trans-1,3-Dichloropropene	ND	U	0.000451	0.00236	mg/kg	1	5/12/23 19:18
Trichloroethene	ND	U	0.000347	0.00236	mg/kg	1	5/12/23 19:18
Trichlorofluoromethane	ND	U	0.000272	0.00236	mg/kg	1	5/12/23 19:18
Vinyl chloride	ND	U	0.000449	0.00236	mg/kg	1	5/12/23 19:18

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-08 (Soil) Sample Name: **OH-SB-41-1.0-2.0_20230509** Collected: **5/9/2023 2:10:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.1**				**%**	**1**	**5/10/23 10:35**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**2.16**		**0.00777**	**0.0652**	**mg/kg**	**1**	**5/12/23 11:45**

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00554	0.0413	mg/kg	1	5/23/23 14:27	UJ, RC:3L
Aroclor-1221	ND	U	0.0109	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1232	ND	U	0.0139	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1242	ND	U	0.00812	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1248	ND	U	0.00849	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1254	ND	U	0.00667	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1260	ND	U	0.00517	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1262	ND	U	0.0111	0.0413	mg/kg	1	5/23/23 14:27	
Aroclor-1268	ND	U	0.00500	0.0413	mg/kg	1	5/23/23 14:27	
Total PCBs	ND	U	0.00386	0.0413	mg/kg	1	5/23/23 14:27	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0123	0.125	mg/kg	1	5/25/23 19:48
2,4-D	ND	U	0.0208	0.125	mg/kg	1	5/25/23 19:48

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.235**		**0.00626**	**0.0250**	**mg/kg**	**1**	**5/12/23 15:06**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7380**		**0.187**	**3.15**	**mg/kg**	**1**	**5/21/23 9:52**
Antimony	ND	U	0.171	1.57	mg/kg	1	5/21/23 9:52
Arsenic	**11.4**		**0.112**	**1.57**	**mg/kg**	**1**	**5/21/23 9:52**
Barium	**169**		**0.0476**	**0.629**	**mg/kg**	**1**	**5/21/23 9:52**
Beryllium	**0.776**		**0.00364**	**0.0315**	**mg/kg**	**1**	**5/21/23 9:52**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	**0.422**		**0.0613**	**0.315**	**mg/kg**	**1**	**5/21/23 9:52**
Calcium	**54900**	D	**35.4**	**315**	**mg/kg**	**10**	**5/21/23 10:52**
Chromium	**19.4**		**0.0355**	**0.315**	**mg/kg**	**1**	**5/21/23 9:52**
Cobalt	**9.28**		**0.0321**	**0.252**	**mg/kg**	**1**	**5/21/23 9:52**
Copper	**58.2**		**0.0880**	**0.315**	**mg/kg**	**1**	**5/21/23 9:52**
Iron	**17500**		**0.891**	**6.29**	**mg/kg**	**1**	**5/21/23 9:52**
Lead	**182**		**0.131**	**1.57**	**mg/kg**	**1**	**5/21/23 9:52**
Magnesium	**5120**		**11.1**	**62.9**	**mg/kg**	**1**	**5/21/23 9:52**
Manganese	**233**		**0.0391**	**0.315**	**mg/kg**	**1**	**5/21/23 9:52**
Nickel	**36.2**		**0.0276**	**0.157**	**mg/kg**	**1**	**5/21/23 9:52**
Potassium	**1580**		**37.4**	**126**	**mg/kg**	**1**	**5/21/23 9:52**
Selenium	ND	U	0.302	1.57	mg/kg	1	5/21/23 9:52
Silver	**0.237**		**0.0535**	**0.189**	**mg/kg**	**1**	**5/21/23 9:52**
Sodium	**1050**		**6.00**	**62.9**	**mg/kg**	**1**	**5/21/23 9:52**
Thallium	**2.46**		**0.106**	**1.57**	**mg/kg**	**1**	**5/21/23 9:52**
Vanadium	**23.5**		**0.0724**	**0.629**	**mg/kg**	**1**	**5/21/23 9:52**
Zinc	**189**		**0.0961**	**0.944**	**mg/kg**	**1**	**5/21/23 9:52**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000745	0.00163	mg/kg	1	5/15/23 22:23
4,4'-DDE	ND	U	0.000890	0.00163	mg/kg	1	5/15/23 22:23
4,4'-DDT	ND	U	0.00115	0.00163	mg/kg	1	5/15/23 22:23
Aldrin	ND	U	0.000771	0.00163	mg/kg	1	5/15/23 22:23
alpha-BHC	ND	U	0.000485	0.00163	mg/kg	1	5/15/23 22:23
beta-BHC	ND	U	0.000777	0.00163	mg/kg	1	5/15/23 22:23
Chlordane	ND	U	0.000724	0.00163	mg/kg	1	5/15/23 22:23
delta-BHC	ND	U	0.000756	0.00163	mg/kg	1	5/15/23 22:23
Dieldrin	ND	U	0.000851	0.00163	mg/kg	1	5/15/23 22:23
Endosulfan I	ND	U	0.000769	0.00163	mg/kg	1	5/15/23 22:23
Endosulfan II	ND	U	0.000740	0.00163	mg/kg	1	5/15/23 22:23
Endosulfan sulfate	ND	U	0.000612	0.00163	mg/kg	1	5/15/23 22:23
Endosulfans, Total (alpha and beta)	ND	U	0.000740	0.00163	mg/kg	1	5/15/23 22:23
Endrin	ND	U	0.000562	0.00163	mg/kg	1	5/15/23 22:23
Endrin aldehyde	ND	U	0.000649	0.00163	mg/kg	1	5/15/23 22:23
Endrin ketone	ND	U	0.000573	0.00163	mg/kg	1	5/15/23 22:23
gamma-BHC (Lindane)	ND	U	0.000516	0.00163	mg/kg	1	5/15/23 22:23

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000436	0.00163	mg/kg	1	5/15/23 22:23
Heptachlor Epoxide	ND	U	0.000821	0.00163	mg/kg	1	5/15/23 22:23
Methoxychlor	ND	U	0.000477	0.00163	mg/kg	1	5/15/23 22:23
Toxaphene	ND	U	0.0784	0.0826	mg/kg	1	5/15/23 22:23

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00471	0.0417	mg/kg	1	5/11/23 17:16	UJ, RC:SL
2,3,4,6-Tetrachlorophenol	ND	U	0.0257	0.167	mg/kg	1	5/11/23 17:16	
2,4,5-Trichlorophenol	ND	U	0.0227	0.167	mg/kg	1	5/11/23 17:16	
2,4,6-Trichlorophenol	ND	U	0.0104	0.167	mg/kg	1	5/11/23 17:16	
2,4-Dichlorophenol	ND	U	0.0168	0.167	mg/kg	1	5/11/23 17:16	
2,4-Dimethylphenol	ND	U	0.0164	0.167	mg/kg	1	5/11/23 17:16	
2,4-Dinitrophenol	ND	U	0.0240	0.835	mg/kg	1	5/11/23 17:16	
2,4-Dinitrotoluene	ND	U	0.0178	0.167	mg/kg	1	5/11/23 17:16	
2,6-Dinitrotoluene	ND	U	0.0398	0.167	mg/kg	1	5/11/23 17:16	
2-Chloronaphthalene	ND	U	0.0192	0.167	mg/kg	1	5/11/23 17:16	
2-Chlorophenol	ND	U	0.0220	0.167	mg/kg	1	5/11/23 17:16	
2-Methylnaphthalene	**2.59**		**0.0399**	**0.250**	**mg/kg**	**1**	**5/11/23 17:16**	
2-Methylphenol	ND	U	0.0329	0.167	mg/kg	1	5/11/23 17:16	
2-Nitroaniline	ND	U	0.0134	0.167	mg/kg	1	5/11/23 17:16	
2-Nitrophenol	ND	U	0.0185	0.167	mg/kg	1	5/11/23 17:16	
3,3'-Dichlorobenzidine	ND	U	0.0175	0.167	mg/kg	1	5/11/23 17:16	
3+4-Methylphenol	ND	U	0.0305	0.167	mg/kg	1	5/11/23 17:16	
3-Nitroaniline	ND	U	0.0309	0.167	mg/kg	1	5/11/23 17:16	
4,6-Dinitro-2-methylphenol	ND	U	0.0314	0.417	mg/kg	1	5/11/23 17:16	
4-Bromophenyl-phenyl ether	ND	U	0.0238	0.167	mg/kg	1	5/11/23 17:16	
4-Chloro-3-methylphenol	ND	U	0.0263	0.167	mg/kg	1	5/11/23 17:16	
4-Chloroaniline	ND	U	0.00583	0.167	mg/kg	1	5/11/23 17:16	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00900	0.167	mg/kg	1	5/11/23 17:16	
4-Nitroaniline	ND	U	0.0834	0.167	mg/kg	1	5/11/23 17:16	
4-Nitrophenol	ND	U	0.0107	0.167	mg/kg	1	5/11/23 17:16	
Acenaphthene	**1.83**		**0.00950**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Acenaphthylene	**2.08**		**0.00580**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Acetophenone	**1.20**		**0.0165**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Anthracene	**5.80**		**0.0242**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Atrazine	ND	U	0.0156	0.167	mg/kg	1	5/11/23 17:16	
Benzaldehyde	**0.573**		**0.0512**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	J, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	**6.27**		**0.0168**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Benzo(a)pyrene	**7.02**		**0.0290**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Benzo(b)fluoranthene	**8.46**		**0.0234**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Benzo(g,h,i)perylene	**3.73**		**0.0135**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Benzo(k)fluoranthene	**3.11**		**0.0192**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Biphenyl	**0.685**		**0.0146**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
bis(2-chloroethoxy)methane	ND	U	0.0230	0.167	mg/kg	1	5/11/23 17:16	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0183	0.167	mg/kg	1	5/11/23 17:16	UJ, RC:SL
bis(2-chloroisopropyl)ether	ND	U	0.0600	0.167	mg/kg	1	5/11/23 17:16	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0333	0.167	mg/kg	1	5/11/23 17:16	
Butylbenzylphthalate	ND	U	0.0151	0.167	mg/kg	1	5/11/23 17:16	
Caprolactam	ND	U	0.0215	0.167	mg/kg	1	5/11/23 17:16	
Carbazole	**0.868**		**0.0321**	**0.417**	**mg/kg**	**1**	**5/11/23 17:16**	
Chrysene	**6.40**		**0.0114**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Dibenzo(a,h)anthracene	**1.14**		**0.0165**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Dibenzofuran	**1.03**		**0.00993**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Diethylphthalate	ND	U	0.0323	0.167	mg/kg	1	5/11/23 17:16	
Dimethylphthalate	ND	U	0.0103	0.167	mg/kg	1	5/11/23 17:16	
Di-n-butylphthalate	ND	U	0.0681	0.167	mg/kg	1	5/11/23 17:16	
Di-n-octylphthalate	ND	U	0.0342	0.167	mg/kg	1	5/11/23 17:16	
Fluoranthene	**16.1**	D	**0.156**	**1.67**	**mg/kg**	**10**	**5/16/23 22:51**	
Fluorene	**2.54**		**0.0139**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Hexachlorobenzene	ND	U	0.0218	0.167	mg/kg	1	5/11/23 17:16	
Hexachlorobutadiene	ND	U	0.0800	0.167	mg/kg	1	5/11/23 17:16	
Hexachlorocyclopentadiene	ND	U	0.0695	0.417	mg/kg	1	5/11/23 17:16	UJ, RC:SL
Hexachloroethane	ND	U	0.0183	0.167	mg/kg	1	5/11/23 17:16	
Indeno(1,2,3-cd)pyrene	**3.44**		**0.0179**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Isophorone	ND	U	0.0109	0.167	mg/kg	1	5/11/23 17:16	
Naphthalene	**1.57**		**0.0123**	**0.167**	**mg/kg**	**1**	**5/11/23 17:16**	
Nitrobenzene	ND	U	0.0283	0.167	mg/kg	1	5/11/23 17:16	
n-Nitroso-di-n-propylamine	ND	U	0.00893	0.167	mg/kg	1	5/11/23 17:16	
n-Nitrosodiphenylamine	ND	U	0.0356	0.167	mg/kg	1	5/11/23 17:16	
Pentachlorophenol	ND	U	0.0229	0.417	mg/kg	1	5/11/23 17:16	UJ, RC:SL
Phenanthrene	**31.4**	D	**0.219**	**1.67**	**mg/kg**	**10**	**5/16/23 22:51**	
Phenol	ND	U	0.0135	0.167	mg/kg	1	5/11/23 17:16	UJ, RC:SL
Pyrene	**14.5**	D	**0.123**	**1.67**	**mg/kg**	**10**	**5/16/23 22:51**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1R-.alpha.-Pinene	3.08	6.06	J	mg/kg	1	5/11/23 17:16
2-Pentanone, 4-hydroxy-4-methyl-	~~36.7~~ R, RC:2	5.08	J, B	mg/kg	1	5/11/23 17:16
Ethyl Acetate	6.91	4.44	J	mg/kg	1	5/11/23 17:16
Naphthalene, 1,2,3-trimethyl-4-propenyl-	2.99	10.82	J	mg/kg	1	5/11/23 17:16
Naphthalene, 2,3-dimethyl-	2.34	9.47	J	mg/kg	1	5/11/23 17:16
Octadecanoic acid, butyl ester	~~2.22~~ R, RC:2	13.46	J, B	mg/kg	1	5/11/23 17:16
unknown (01)	6.70	10.70	J	mg/kg	1	5/11/23 17:16
unknown (02)	7.47	11.15	J	mg/kg	1	5/11/23 17:16
unknown (03)	2.88	11.49	J	mg/kg	1	5/11/23 17:16
unknown (04)	6.80	11.85	J	mg/kg	1	5/11/23 17:16
unknown (05)	7.03	11.88	J	mg/kg	1	5/11/23 17:16
unknown (06)	6.27	11.97	J	mg/kg	1	5/11/23 17:16
unknown (07)	6.45	11.99	J	mg/kg	1	5/11/23 17:16
unknown (08)	2.84	12.13	J	mg/kg	1	5/11/23 17:16
unknown (09)	3.53	12.41	J	mg/kg	1	5/11/23 17:16
TIC Total	~~104~~ 65.08					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.00102	0.00696	mg/kg	1	5/12/23 20:52
1,1,2,2-Tetrachloroethane	ND	U	0.000960	0.00696	mg/kg	1	5/12/23 20:52
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00298	0.00696	mg/kg	1	5/12/23 20:52
1,1,2-Trichloroethane	ND	U	0.00117	0.00696	mg/kg	1	5/12/23 20:52
1,1-Dichloroethane	ND	U	0.00102	0.00696	mg/kg	1	5/12/23 20:52
1,1-Dichloroethene	ND	U	0.00129	0.00696	mg/kg	1	5/12/23 20:52
1,2,3-Trichlorobenzene	ND	U	0.00150	0.00696	mg/kg	1	5/12/23 20:52
1,2,4-Trichlorobenzene	ND	U	0.00185	0.00696	mg/kg	1	5/12/23 20:52
1,2,4-Trimethylbenzene	ND	U	0.000960	0.00696	mg/kg	1	5/12/23 20:52
1,2-Dibromo-3-chloropropane	ND	U	0.00170	0.00696	mg/kg	1	5/12/23 20:52
1,2-Dibromoethane	ND	U	0.000876	0.00696	mg/kg	1	5/12/23 20:52
1,2-Dichlorobenzene	ND	U	0.00123	0.00696	mg/kg	1	5/12/23 20:52
1,2-Dichloroethane	ND	U	0.000981	0.00696	mg/kg	1	5/12/23 20:52
1,2-Dichloropropane	ND	U	0.00114	0.00696	mg/kg	1	5/12/23 20:52
1,3-Dichlorobenzene	ND	U	0.000511	0.00696	mg/kg	1	5/12/23 20:52
1,4-Dichlorobenzene	ND	U	0.00100	0.00696	mg/kg	1	5/12/23 20:52
2-Butanone	ND	U	0.00113	0.0174	mg/kg	1	5/12/23 20:52

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Hexanone	ND	U	0.000650	0.00696	mg/kg	1	5/12/23 20:52
4-Methyl-2-pentanone	ND	U	0.000869	0.00696	mg/kg	1	5/12/23 20:52
Acetone	ND	U	0.00211	0.0174	mg/kg	1	5/12/23 20:52
Benzene	ND	U	0.000633	0.00696	mg/kg	1	5/12/23 20:52
Bromochloromethane	ND	U	0.00128	0.00696	mg/kg	1	5/12/23 20:52
Bromodichloromethane	ND	U	0.000873	0.00696	mg/kg	1	5/12/23 20:52
Bromoform	ND	U	0.00122	0.00696	mg/kg	1	5/12/23 20:52
Bromomethane	ND	U	0.00201	0.00696	mg/kg	1	5/12/23 20:52
Carbon disulfide	ND	U	0.000998	0.00696	mg/kg	1	5/12/23 20:52
Carbon Tetrachloride	ND	U	0.00105	0.00696	mg/kg	1	5/12/23 20:52
Chlorobenzene	ND	U	0.00101	0.00696	mg/kg	1	5/12/23 20:52
Chlorodibromomethane	ND	U	0.000856	0.00696	mg/kg	1	5/12/23 20:52
Chloroethane	ND	U	0.00119	0.00696	mg/kg	1	5/12/23 20:52
Chloroform	ND	U	0.00117	0.00696	mg/kg	1	5/12/23 20:52
Chloromethane	ND	U	0.00268	0.00696	mg/kg	1	5/12/23 20:52
cis-1,2-Dichloroethene	ND	U	0.000336	0.00696	mg/kg	1	5/12/23 20:52
cis-1,3-Dichloropropene	ND	U	0.000880	0.00696	mg/kg	1	5/12/23 20:52
Cyclohexane	ND	U	0.00154	0.00696	mg/kg	1	5/12/23 20:52
Dichlorodifluoromethane	ND	U	0.00235	0.00696	mg/kg	1	5/12/23 20:52
EthylBenzene	ND	U	0.000942	0.00696	mg/kg	1	5/12/23 20:52
Isopropylbenzene	ND	U	0.00109	0.00696	mg/kg	1	5/12/23 20:52
m+p-Xylenes	ND	U	0.00176	0.0139	mg/kg	1	5/12/23 20:52
Methyl Acetate	ND	U	0.000922	0.00696	mg/kg	1	5/12/23 20:52
Methyl tert-Butyl Ether	ND	U	0.00118	0.00696	mg/kg	1	5/12/23 20:52
Methylcyclohexane	ND	U	0.00112	0.00696	mg/kg	1	5/12/23 20:52
Methylene Chloride	ND	U	0.00209	0.00696	mg/kg	1	5/12/23 20:52
o-Xylene	ND	U	0.000894	0.00696	mg/kg	1	5/12/23 20:52
Styrene	ND	U	0.000995	0.00696	mg/kg	1	5/12/23 20:52
tert-Butyl alcohol	ND	U	0.0146	0.0696	mg/kg	1	5/12/23 20:52
Tetrachloroethene	ND	U	0.000689	0.00696	mg/kg	1	5/12/23 20:52
Toluene	ND	U	0.000560	0.00696	mg/kg	1	5/12/23 20:52
Total Xylenes	ND	U	0.000894	0.00696	mg/kg	1	5/12/23 20:52
trans-1,2-Dichloroethene	ND	U	0.000942	0.00696	mg/kg	1	5/12/23 20:52
trans-1,3-Dichloropropene	ND	U	0.00133	0.00696	mg/kg	1	5/12/23 20:52
Trichloroethene	ND	U	0.00102	0.00696	mg/kg	1	5/12/23 20:52
Trichlorofluoromethane	ND	U	0.000800	0.00696	mg/kg	1	5/12/23 20:52
Vinyl chloride	ND	U	0.00132	0.00696	mg/kg	1	5/12/23 20:52

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0462
Date to Lab: 5/9/2023 5:30:00PM

23E0462-09 (Soil) Sample Name: **OH-SB-41-3.0-4.0_20230509** Collected: **5/9/2023 2:20:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Pyrrolidinyloxy, 2,2,5,5-tetramethyl-3	0.0345	20.96	J	mg/kg	1	5/12/23 20:52
Lab Contamination	~~0.0248~~ R, RC:2	5.29	J, B	mg/kg	1	5/12/23 20:52
TIC Total	~~0.059~~ 0.0345					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.9**				**%**	**1**	**5/10/23 10:35**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00796	0.0668	mg/kg	1	5/12/23 11:45

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-01	**Date Collected**	: 05/08/23 14:00
Client ID	: OH-SB-42-1.0-2.0-20230508	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 08:22
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222314	**Analyst**	: CNC
Sample Amount	: 30.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	5.62	1.14	0.326	
91-20-3C1	C1-Naphthalenes	5.06	1.14	0.326	
91-20-3C2	C2-Naphthalenes	7.36	1.14	0.326	
91-20-3C3	C3-Naphthalenes	7.70	1.14	0.326	
91-20-3C4	C4-Naphthalenes	5.12	1.14	0.326	
208-96-8	Acenaphthylene	8.85	1.14	0.217	
83-32-9	Acenaphthene	3.29	1.14	0.200	
86-73-7	Fluorene	4.05	1.14	0.303	
86-73-7C1	C1-Fluorenes	3.38	1.14	0.303	
86-73-7C2	C2-Fluorenes	6.68	1.14	0.303	
86-73-7C3	C3-Fluorenes	9.93	1.14	0.303	
85-01-8	Phenanthrene	53.0	1.14	0.376	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	35.4	1.14	0.376	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	21.8	1.14	0.376	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	10.9	1.14	0.376	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	4.18	1.14	0.376	
120-12-7	Anthracene	11.9	1.14	0.234	
206-44-0	Fluoranthene	62.1	1.14	0.361	
129-00-0	Pyrene	62.8	1.14	0.299	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	34.6	1.14	0.299	
56-55-3	Benz(a)anthracene	35.8	1.14	0.231	
218-01-9	Chrysene	36.6	1.14	0.229	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-01	**Date Collected**	: 05/08/23 14:00
Client ID	: OH-SB-42-1.0-2.0-20230508	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 08:22
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222314	**Analyst**	: CNC
Sample Amount	: 30.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	20.5	1.14	0.229	
218-01-9C2	C2-Chrysenes BS	12.2	1.14	0.229	
218-01-9C3	C3-Chrysenes	12.5	1.14	0.229	
218-01-9C4	C4-Chrysenes	9.71	1.14	0.229	
205-99-2	Benzo(b)fluoranthene	31.6	1.14	0.295	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	28.5	1.14	0.225	
192-97-2	Benzo(e)pyrene	25.7	1.14	0.234	
50-32-8	Benzo(a)pyrene	37.8	1.14	0.324	
198-55-0	Perylene	9.59	1.14	0.219	
193-39-5	Indeno(1,2,3-cd)pyrene	24.6	1.14	0.308	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	6.42	1.14	0.307	
191-24-2	Benzo(g,h,i)perylene	24.9	1.14	0.302	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-02	**Date Collected**	: 05/08/23 14:20
Client ID	: OH-SB-42-3.0-4.0-20230508	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 11:43
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222315	**Analyst**	: CNC
Sample Amount	: 30.08 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	263	15.0	4.30	
91-20-3C1	C1-Naphthalenes	232	15.0	4.30	
91-20-3C2	C2-Naphthalenes	351	15.0	4.30	
91-20-3C3	C3-Naphthalenes	342	15.0	4.30	
91-20-3C4	C4-Naphthalenes	210	15.0	4.30	
208-96-8	Acenaphthylene	425	15.0	2.86	
83-32-9	Acenaphthene	418	15.0	2.64	
86-73-7	Fluorene	408	15.0	3.99	
86-73-7C1	C1-Fluorenes	210	15.0	3.99	
86-73-7C2	C2-Fluorenes	304	15.0	3.99	
86-73-7C3	C3-Fluorenes	492	15.0	3.99	
85-01-8	Phenanthrene	4560	15.0	4.96	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	2120	15.0	4.96	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1360	15.0	4.96	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	635	15.0	4.96	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	326	15.0	4.96	
120-12-7	Anthracene	1060	15.0	3.09	
206-44-0	Fluoranthene	5570	15.0	4.76	
129-00-0	Pyrene	5190	15.0	3.94	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2200	15.0	3.94	
56-55-3	Benz(a)anthracene	2720	15.0	3.05	
218-01-9	Chrysene	2640	15.0	3.03	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-02	**Date Collected**	: 05/08/23 14:20
Client ID	: OH-SB-42-3.0-4.0-20230508	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 11:43
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222315	**Analyst**	: CNC
Sample Amount	: 30.08 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1330	15.0	3.03	
218-01-9C2	C2-Chrysenes BS	853	15.0	3.03	
218-01-9C3	C3-Chrysenes	1010	15.0	3.03	
218-01-9C4	C4-Chrysenes	764	15.0	3.03	
205-99-2	Benzo(b)fluoranthene	2190	15.0	3.89	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2270	15.0	2.97	
192-97-2	Benzo(e)pyrene	1810	15.0	3.09	
50-32-8	Benzo(a)pyrene	2700	15.0	4.27	
198-55-0	Perylene	707	15.0	2.89	
193-39-5	Indeno(1,2,3-cd)pyrene	1700	15.0	4.06	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	438	15.0	4.04	
191-24-2	Benzo(g,h,i)perylene	1690	15.0	3.98	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-03	**Date Collected**	: 05/09/23 11:00
Client ID	: OH-SB-40-1.0-2.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 13:10
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222316	**Analyst**	: CNC
Sample Amount	: 30.44 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	14.3	1.14	0.329	
91-20-3C1	C1-Naphthalenes	13.3	1.14	0.329	
91-20-3C2	C2-Naphthalenes	21.0	1.14	0.329	
91-20-3C3	C3-Naphthalenes	24.9	1.14	0.329	
91-20-3C4	C4-Naphthalenes	18.9	1.14	0.329	
208-96-8	Acenaphthylene	31.5	1.14	0.219	
83-32-9	Acenaphthene	18.3	1.14	0.202	
86-73-7	Fluorene	15.5	1.14	0.306	
86-73-7C1	C1-Fluorenes	13.7	1.14	0.306	
86-73-7C2	C2-Fluorenes	26.8	1.14	0.306	
86-73-7C3	C3-Fluorenes	46.2	1.14	0.306	
85-01-8	Phenanthrene	251	1.14	0.380	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	151	1.14	0.380	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	115	1.14	0.380	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	51.7	1.14	0.380	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	17.0	1.14	0.380	
120-12-7	Anthracene	51.3	1.14	0.236	
206-44-0	Fluoranthene	393	1.14	0.364	
129-00-0	Pyrene	380	1.14	0.301	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	203	1.14	0.301	
56-55-3	Benz(a)anthracene	207	1.14	0.234	
218-01-9	Chrysene	223	1.14	0.232	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-03	**Date Collected**	: 05/09/23 11:00
Client ID	: OH-SB-40-1.0-2.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 13:10
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222316	**Analyst**	: CNC
Sample Amount	: 30.44 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	116	1.14	0.232	
218-01-9C2	C2-Chrysenes BS	62.3	1.14	0.232	
218-01-9C3	C3-Chrysenes	42.4	1.14	0.232	
218-01-9C4	C4-Chrysenes	22.2	1.14	0.232	
205-99-2	Benzo(b)fluoranthene	196	1.14	0.298	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	181	1.14	0.227	
192-97-2	Benzo(e)pyrene	154	1.14	0.236	
50-32-8	Benzo(a)pyrene	205	1.14	0.327	
198-55-0	Perylene	55.6	1.14	0.221	
193-39-5	Indeno(1,2,3-cd)pyrene	157	1.14	0.311	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	41.6	1.14	0.310	
191-24-2	Benzo(g,h,i)perylene	156	1.14	0.304	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326372
Project Name	: 23E0462	Project Number	: 23E0462
Lab ID	: L2326372-04D	Date Collected	: 05/09/23 11:15
Client ID	: OH-SB-40-2.0-3.0-20230509	Date Received	: 05/11/23
Sample Location	:	Date Analyzed	: 06/08/23 07:44
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 2
Lab File ID	: F206052322	Analyst	: CNC
Sample Amount	: 5.43 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	2780	49.1	14.1	J, RC:SL
91-20-3C1	C1-Naphthalenes	1920	49.1	14.1	
91-20-3C2	C2-Naphthalenes	2130	49.1	14.1	
91-20-3C3	C3-Naphthalenes	1520	49.1	14.1	
91-20-3C4	C4-Naphthalenes	853	49.1	14.1	
208-96-8	Acenaphthylene	4380	49.1	9.36	
83-32-9	Acenaphthene	4260	49.1	8.65	
86-73-7	Fluorene	3590	49.1	13.1	
86-73-7C1	C1-Fluorenes	1250	49.1	13.1	
86-73-7C2	C2-Fluorenes	1870	49.1	13.1	
86-73-7C3	C3-Fluorenes	3120	49.1	13.1	
85-01-8	Phenanthrene	27400	49.1	16.2	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	9740	49.1	16.2	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	5750	49.1	16.2	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	2600	49.1	16.2	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	913	49.1	16.2	
120-12-7	Anthracene	7880	49.1	10.1	
206-44-0	Fluoranthene	30600	49.1	15.6	
129-00-0	Pyrene	28200	49.1	12.9	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	14200	49.1	12.9	
56-55-3	Benz(a)anthracene	16600	49.1	10.0	
218-01-9	Chrysene	16200	49.1	9.92	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-04D	**Date Collected**	: 05/09/23 11:15
Client ID	: OH-SB-40-2.0-3.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 06/08/23 07:44
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 2
Lab File ID	: F206052322	**Analyst**	: CNC
Sample Amount	: 5.43 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	7160	49.1	9.92	
218-01-9C2	C2-Chrysenes BS	3760	49.1	9.92	
218-01-9C3	C3-Chrysenes	3170	49.1	9.92	
218-01-9C4	C4-Chrysenes	1410	49.1	9.92	
205-99-2	Benzo(b)fluoranthene	15900	49.1	12.8	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	15100	49.1	9.74	
192-97-2	Benzo(e)pyrene	13800	49.1	10.1	
50-32-8	Benzo(a)pyrene	20000	49.1	14.0	
198-55-0	Perylene	5580	49.1	9.47	
193-39-5	Indeno(1,2,3-cd)pyrene	15100	49.1	13.3	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	4000	49.1	13.2	
191-24-2	Benzo(g,h,i)perylene	19400	49.1	13.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-05	**Date Collected**	: 05/09/23 14:10
Client ID	: OH-SB-41-1.0-2.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 14:37
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222317	**Analyst**	: CNC
Sample Amount	: 30.92 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 87
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	6.97	1.12	0.320	
91-20-3C1	C1-Naphthalenes	5.62	1.12	0.320	
91-20-3C2	C2-Naphthalenes	6.95	1.12	0.320	
91-20-3C3	C3-Naphthalenes	6.08	1.12	0.320	
91-20-3C4	C4-Naphthalenes	4.62	1.12	0.320	
208-96-8	Acenaphthylene	16.6	1.12	0.213	
83-32-9	Acenaphthene	11.3	1.12	0.196	
86-73-7	Fluorene	9.23	1.12	0.297	
86-73-7C1	C1-Fluorenes	4.95	1.12	0.297	
86-73-7C2	C2-Fluorenes	6.88	1.12	0.297	
86-73-7C3	C3-Fluorenes	13.5	1.12	0.297	
85-01-8	Phenanthrene	95.4	1.12	0.370	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	37.2	1.12	0.370	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	23.5	1.12	0.370	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	11.3	1.12	0.370	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	5.22	1.12	0.370	
120-12-7	Anthracene	22.3	1.12	0.230	
206-44-0	Fluoranthene	128	1.12	0.354	
129-00-0	Pyrene	120	1.12	0.293	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	62.1	1.12	0.293	
56-55-3	Benz(a)anthracene	70.7	1.12	0.227	
218-01-9	Chrysene	72.7	1.12	0.225	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-05	**Date Collected**	: 05/09/23 14:10
Client ID	: OH-SB-41-1.0-2.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 14:37
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222317	**Analyst**	: CNC
Sample Amount	: 30.92 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 87
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	36.0	1.12	0.225	
218-01-9C2	C2-Chrysenes BS	18.4	1.12	0.225	
218-01-9C3	C3-Chrysenes	13.8	1.12	0.225	
218-01-9C4	C4-Chrysenes	8.05	1.12	0.225	
205-99-2	Benzo(b)fluoranthene	65.9	1.12	0.290	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	67.3	1.12	0.221	
192-97-2	Benzo(e)pyrene	55.3	1.12	0.230	
50-32-8	Benzo(a)pyrene	82.6	1.12	0.318	
198-55-0	Perylene	21.2	1.12	0.215	
193-39-5	Indeno(1,2,3-cd)pyrene	59.9	1.12	0.303	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	14.7	1.12	0.301	
191-24-2	Benzo(g,h,i)perylene	66.1	1.12	0.296	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-06D	**Date Collected**	: 05/09/23 14:20
Client ID	: OH-SB-41-3.0-4.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/30/23 21:37
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F205302308	**Analyst**	: CNC
Sample Amount	: 15.57 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 72
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	711	25.1	7.21	
91-20-3C1	C1-Naphthalenes	1080	25.1	7.21	
91-20-3C2	C2-Naphthalenes	2070	25.1	7.21	
91-20-3C3	C3-Naphthalenes	2240	25.1	7.21	
91-20-3C4	C4-Naphthalenes	1170	25.1	7.21	
208-96-8	Acenaphthylene	1180	25.1	4.78	
83-32-9	Acenaphthene	1120	25.1	4.42	
86-73-7	Fluorene	1390	25.1	6.69	
86-73-7C1	C1-Fluorenes	1060	25.1	6.69	
86-73-7C2	C2-Fluorenes	1890	25.1	6.69	
86-73-7C3	C3-Fluorenes	1970	25.1	6.69	
85-01-8	Phenanthrene	15700	25.1	8.31	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	8940	25.1	8.31	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	3940	25.1	8.31	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1040	25.1	8.31	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	230	25.1	8.31	
120-12-7	Anthracene	2730	25.1	5.17	
206-44-0	Fluoranthene	9720	25.1	7.97	
129-00-0	Pyrene	9000	25.1	6.60	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	4100	25.1	6.60	
56-55-3	Benz(a)anthracene	4620	25.1	5.11	
218-01-9	Chrysene	4560	25.1	5.07	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-06D	**Date Collected**	: 05/09/23 14:20
Client ID	: OH-SB-41-3.0-4.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/30/23 21:37
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F205302308	**Analyst**	: CNC
Sample Amount	: 15.57 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 72
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1790	25.1	5.07	
218-01-9C2	C2-Chrysenes BS	763	25.1	5.07	
218-01-9C3	C3-Chrysenes	524	25.1	5.07	
218-01-9C4	C4-Chrysenes	259	25.1	5.07	
205-99-2	Benzo(b)fluoranthene	4300	25.1	6.52	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3720	25.1	4.98	
192-97-2	Benzo(e)pyrene	2980	25.1	5.18	
50-32-8	Benzo(a)pyrene	4660	25.1	7.16	
198-55-0	Perylene	1260	25.1	4.84	
193-39-5	Indeno(1,2,3-cd)pyrene	3270	25.1	6.81	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	795	25.1	6.78	
191-24-2	Benzo(g,h,i)perylene	3100	25.1	6.66	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-01	**Date Collected**	: 05/08/23 14:00
Client ID	: OH-SB-42-1.0-2.0-20230508	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 88
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-02	**Date Collected**	: 05/08/23 14:20
Client ID	: OH-SB-42-3.0-4.0-20230508	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 89
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-03	**Date Collected**	: 05/09/23 11:00
Client ID	: OH-SB-40-1.0-2.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-04	**Date Collected**	: 05/09/23 11:15
Client ID	: OH-SB-40-2.0-3.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-05	**Date Collected**	: 05/09/23 14:10
Client ID	: OH-SB-41-1.0-2.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 87
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326372
Project Name	: 23E0462	**Project Number**	: 23E0462
Lab ID	: L2326372-06	**Date Collected**	: 05/09/23 14:20
Client ID	: OH-SB-41-3.0-4.0-20230509	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 72
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2326380 and 23E0505
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: April 1, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
FB_20230510	23E0505-01	5/10/2023	Water
OH-SB-39_1.0-2.0_20230510	23E0505-02 L2326380-01	5/10/2023	Soil
OH-SB-39_2.0-3.0_20230510	23E0505-03 L2326380-02	5/10/2023	Soil

Data validation was performed on the analytical data for three (3) samples collected on May 10, 2023 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270E-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW-846 6010D/200.7
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW-846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, and laboratory control samples.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures. All QA/QC blanks were free of contamination with the following exceptions:

- The method blank [BAE0547-BLK1] associated with soil samples had TIC detections of "lab contamination" (0.00602 mg/kg wet). Samples were non-detect for "lab contamination."
- The field blank had detections of Methylene Chloride (6.91 ug/L). Associated sample non-detections are not qualified.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on subject samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB_20230510	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (NDs)	Q
8260D	All soil samples	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (NDs)	Q
		Methyl Acetate	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB_20230510	1,2,4-Trichlorobenzene 2-Hexanone	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, J, reason code A.

System Performance and Overall Assessment (Sequence/Tune)

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270E-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester (0.933 mg/kg wet), n-Butyl myristate (1.03 mg/kg wet), and unknowns (0.326 mg/kg wet). Samples were non-detect for these TICs, except for unknowns, and therefore are not qualified. Sample detections of unknowns were not qualified based on professional judgment.
- The method blank associated with soil samples had detections of Naphthalene (0.337 ug/kg, method 8270E-SIM). Sample detections greater than five times the method blank detection (1.685 ug/kg) are not qualified.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	FB_20230510	Phenol-d6 (PHN-D6)	%R < CL	No Qualification based on only one surrogate < CL	N/A

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	FB_20230510 All Soil Samples	Benzaldehyde	%RSD >20% and correlation coefficient <0.99	J (Detects) UJ (Non-Detects)	Q

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E (APL)	All Soil Samples	Benzaldehyde Bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,4-Dinitrophenol 2,6-Dinitrotoluene 4,6-Dinitro-2-methylphenol 4-Bromophenyl-phenyl ether Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	FB_20230510	4-Nitrophenol Benzaldehyde n-Nitroso-dimethylamine n-Nitroso-di-n-propylamine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-SIM (Alpha)	OH-SB-39_1.0-2.0_20230510 [23E0505-02]	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	OH-SB-39_1.0-2.0_20230510 [23E0505-02]	Decachlorobiphenyl (Column 1 and 2)	%R > CL	J (detects) No action (NDs)	3H
	OH-SB-39_2.0-3.0_20230510 [23E0505-03]	Decachlorobiphenyl (Column 2	%R > CL	J (detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis and LCS/LCSD RPDs exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB_20230510	Endosulfan sulfate	%R < CL	J (Detects) UJ (NDs)	6L
		Endrin aldehyde Endrin ketone Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	OH-SB-39_1.0-2.0_20230510 OH-SB-39_2.0-3.0_20230510	4,4'-DDD 4,4'-DDE alpha-BHC beta-BHC Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L

- In the original report, an LCS and/or LCSD analysis was not reported for method 8151A for water sample FB_20230510; an addendum was provided on 6/27/2024 that included this missing information.
- In the original report, an LCS and/or LCSD analysis was not reported for method 8081B for soil samples OH-SB-39_1.0-2.0_20230510 and OH-SB-39_2.0-3.0_20230510; an addendum was provided on 6/27/2024 that included this missing information.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- An MS/MSD analysis was performed on soil sample OH-SB-39_2.0-3.0_20230510 for method 8081B. The MS/MSD analysis exhibited acceptable recoveries and RPDs.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.
- ICVs and CCVs were within the specified control limits.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by EPA 200.7	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
Metals by SW 846 6010D	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Cyanide by SM 846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
200.7	FB_20230510	Arsenic	%R > CL	J (Detects) No Action (NDs)	6H
		Silver	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Benjamin Long
Validator
Brown and Caldwell

Dated: April 1, 2024

Peer Review: JLD

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0505

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 02, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E0505

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB_20230510	23E0505-01	Ground Water	05/10/2023 08:00	05/10/2023 14:40
OH-SB-39_1.0-2.0_20230510	23E0505-02	Soil	05/10/2023 11:30	05/10/2023 14:40
OH-SB-39_2.0-3.0_20230510	23E0505-03	Soil	05/10/2023 12:00	05/10/2023 14:40

PN: 23E0505

APL 23E0505

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TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive, 3rd floor	ADDRESS: " "
Elmwood Park, NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: HAS

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☑ LOW

TURN-AROUND TIME
- ☑ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required
  - ☐ 48 hr. date & time required
  - ☐ 72 hr. date & time required
  - ☐ 1 week

REPORT FORMAT
- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP#

PWSID#

NY State category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0505 -01	FB_20230510	5/10/23	800	-		DI	10		VOC, SVOC, PCB, Pest, Herb, Tal metals, CN
-02	OH-SB-39_1.0-3.0_20230510	5/10/23	1130	X		S	5		VOC, SVOC, PCB, Pest, Herb, Tal Metals, Total Cyanide, Free cyanide, Alkylated PAH by 8270SIM
-03	OH-SB-39_2.0-3.0_20230510	5/10/23	1200	X		S	5		"
	~~FB_20230510~~ HS 5/10/23								

RELINQUISHED BY (Print) Harrison Sinclitico	DATE 5/10/23	RECEIVED BY (Print) Alfonso Rivera	
Signature	Time 1320	Signature	
RELINQUISHED BY (Print) Alfonso Rivera	DATE 5/10/23	RECEIVED BY (Print)	
Signature AAC	Time 1440	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
COMMENTS/SPECIAL INSTRUCTIONS		Cooler Temp. upon receipt at lab 3.1	

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Method 200.7:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike (low). The blank spike met all QC criteria.

Methods 7473 / 245.1 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23E0505-02 has one surrogate (2,4-DCAA [2C]) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PCBs [8082A]
All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]
Samples 23E0505-02 and -03 have surrogates outside of the QC limits (high), due to matrix interferences.

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for several compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Sample 23E0505-01 has one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).



Reviewed By: _____ (SK) 8/2/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0505-01 (Ground Water) Sample Name: FB_20230510

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylene Chloride	6.91		3.00	3.00	ug/L	1	5/11/23 21:13

23E0505-02 (Soil) Sample Name: OH-SB-39_1.0-2.0_20230510

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.294		0.00567	0.0227	mg/kg dry	1	5/15/23 12:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8150		0.173	2.91	mg/kg dry	1	5/24/23 12:21
Arsenic	4.62		0.104	1.46	mg/kg dry	1	5/24/23 12:21
Barium	89.1		0.0440	0.582	mg/kg dry	1	5/24/23 12:21
Beryllium	0.645		0.00337	0.0291	mg/kg dry	1	5/24/23 12:21
Calcium	14000		3.27	29.1	mg/kg dry	1	5/24/23 12:21
Chromium	24.0		0.0329	0.291	mg/kg dry	1	5/24/23 12:21
Cobalt	18.8		0.0297	0.233	mg/kg dry	1	5/24/23 12:21
Copper	48.9		0.0814	0.291	mg/kg dry	1	5/24/23 12:21
Iron	16100		0.824	5.82	mg/kg dry	1	5/24/23 12:21
Lead	143		0.121	1.46	mg/kg dry	1	5/24/23 12:21
Magnesium	4190		10.3	58.2	mg/kg dry	1	5/24/23 12:21
Manganese	271		0.0362	0.291	mg/kg dry	1	5/24/23 12:21
Nickel	38.7		0.0256	0.146	mg/kg dry	1	5/24/23 12:21
Potassium	1920		34.6	116	mg/kg dry	1	5/24/23 12:21
Sodium	798		5.55	58.2	mg/kg dry	1	5/24/23 12:21
Vanadium	23.5		0.0669	0.582	mg/kg dry	1	5/24/23 12:21
Zinc	95.5		0.0889	0.873	mg/kg dry	1	5/24/23 12:21

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00332		0.000675	0.00148	mg/kg dry	1	5/23/23 19:05
4,4'-DDT [2C]	0.00266		0.00104	0.00148	mg/kg dry	1	5/23/23 19:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.181	J	0.0362	0.227	mg/kg dry	1	5/12/23 17:42
Acenaphthene	0.653		0.00861	0.151	mg/kg dry	1	5/12/23 17:42
Acenaphthylene	0.231		0.00525	0.151	mg/kg dry	1	5/12/23 17:42
Anthracene	1.33		0.0219	0.151	mg/kg dry	1	5/12/23 17:42
Benzo(a)anthracene	2.37		0.0152	0.151	mg/kg dry	1	5/12/23 17:42

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)pyrene	2.41		0.0263	0.151	mg/kg dry	1	5/12/23 17:42
Benzo(b)fluoranthene	2.69		0.0212	0.151	mg/kg dry	1	5/12/23 17:42
Benzo(g,h,i)perylene	1.59		0.0123	0.151	mg/kg dry	1	5/12/23 17:42
Benzo(k)fluoranthene	0.970		0.0174	0.151	mg/kg dry	1	5/12/23 17:42
Biphenyl	0.0762	J	0.0133	0.151	mg/kg dry	1	5/12/23 17:42
Carbazole	0.413		0.0291	0.378	mg/kg dry	1	5/12/23 17:42
Chrysene	2.34		0.0104	0.151	mg/kg dry	1	5/12/23 17:42
Dibenzo(a,h)anthracene	0.463		0.0150	0.151	mg/kg dry	1	5/12/23 17:42
Dibenzofuran	0.306		0.00900	0.151	mg/kg dry	1	5/12/23 17:42
Fluoranthene	5.27		0.0142	0.151	mg/kg dry	1	5/12/23 17:42
Fluorene	0.636		0.0126	0.151	mg/kg dry	1	5/12/23 17:42
Indeno(1,2,3-cd)pyrene	1.30		0.0162	0.151	mg/kg dry	1	5/12/23 17:42
Naphthalene	0.201		0.0112	0.151	mg/kg dry	1	5/12/23 17:42
Phenanthrene	5.18		0.0199	0.151	mg/kg dry	1	5/12/23 17:42
Pyrene	4.84		0.0111	0.151	mg/kg dry	1	5/12/23 17:42
TIC_2-Methyl-9-chloro-acridine	0.634	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (01)	0.841	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (02)	0.962	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (03)	1.99	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (04)	0.546	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (05)	0.573	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (06)	0.669	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (07)	0.520	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (08)	0.873	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (09)	1.04	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (10)	0.494	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (11)	0.567	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (12)	0.927	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (13)	0.571	J			mg/kg dry	1	5/12/23 17:42
TIC_unknown (14)	2.55	J			mg/kg dry	1	5/12/23 17:42

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.196		0.00749	0.0629	mg/kg dry	1	5/12/23 11:45

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.615		0.00569	0.0228	mg/kg dry	1	5/15/23 12:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7850		0.173	2.92	mg/kg dry	1	5/24/23 12:23
Arsenic	7.05		0.104	1.46	mg/kg dry	1	5/24/23 12:23
Barium	130		0.0441	0.583	mg/kg dry	1	5/24/23 12:23
Beryllium	0.614		0.00338	0.0292	mg/kg dry	1	5/24/23 12:23
Cadmium	0.330		0.0569	0.292	mg/kg dry	1	5/24/23 12:23
Calcium	32900	D	32.8	292	mg/kg dry	10	5/24/23 14:00
Chromium	24.4		0.0329	0.292	mg/kg dry	1	5/24/23 12:23
Cobalt	15.5		0.0298	0.233	mg/kg dry	1	5/24/23 12:23
Copper	54.5		0.0816	0.292	mg/kg dry	1	5/24/23 12:23
Iron	16100		0.826	5.83	mg/kg dry	1	5/24/23 12:23
Lead	275		0.122	1.46	mg/kg dry	1	5/24/23 12:23
Magnesium	4020		10.3	58.3	mg/kg dry	1	5/24/23 12:23
Manganese	208		0.0363	0.292	mg/kg dry	1	5/24/23 12:23
Nickel	30.9		0.0256	0.146	mg/kg dry	1	5/24/23 12:23
Potassium	1790		34.7	117	mg/kg dry	1	5/24/23 12:23
Sodium	986		5.56	58.3	mg/kg dry	1	5/24/23 12:23
Vanadium	23.7		0.0671	0.583	mg/kg dry	1	5/24/23 12:23
Zinc	123		0.0891	0.875	mg/kg dry	1	5/24/23 12:23

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00705		0.000677	0.00148	mg/kg dry	1	5/23/23 19:27
4,4'-DDE [2C]	0.00122	J	0.000809	0.00148	mg/kg dry	1	5/23/23 19:27
4,4'-DDT [2C]	0.00549		0.00104	0.00148	mg/kg dry	1	5/23/23 19:27

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.344		0.0363	0.228	mg/kg dry	1	5/12/23 18:13
Acenaphthene	0.325		0.00863	0.151	mg/kg dry	1	5/12/23 18:13
Acenaphthylene	0.268		0.00527	0.151	mg/kg dry	1	5/12/23 18:13
Anthracene	0.931		0.0220	0.151	mg/kg dry	1	5/12/23 18:13
Benzo(a)anthracene	1.85		0.0152	0.151	mg/kg dry	1	5/12/23 18:13
Benzo(a)pyrene	2.12		0.0264	0.151	mg/kg dry	1	5/12/23 18:13
Benzo(b)fluoranthene	2.40		0.0213	0.151	mg/kg dry	1	5/12/23 18:13
Benzo(g,h,i)perylene	1.45		0.0123	0.151	mg/kg dry	1	5/12/23 18:13
Benzo(k)fluoranthene	0.813		0.0174	0.151	mg/kg dry	1	5/12/23 18:13
Biphenyl	0.0690	J	0.0133	0.151	mg/kg dry	1	5/12/23 18:13
Carbazole	0.256	J	0.0291	0.379	mg/kg dry	1	5/12/23 18:13
Chrysene	2.09		0.0104	0.151	mg/kg dry	1	5/12/23 18:13
Dibenzo(a,h)anthracene	0.388		0.0150	0.151	mg/kg dry	1	5/12/23 18:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzofuran	0.204		0.00902	0.151	mg/kg dry	1	5/12/23 18:13
Fluoranthene	4.22		0.0142	0.151	mg/kg dry	1	5/12/23 18:13
Fluorene	0.350		0.0126	0.151	mg/kg dry	1	5/12/23 18:13
Indeno(1,2,3-cd)pyrene	1.25		0.0163	0.151	mg/kg dry	1	5/12/23 18:13
Naphthalene	0.380		0.0112	0.151	mg/kg dry	1	5/12/23 18:13
Phenanthrene	3.48		0.0199	0.151	mg/kg dry	1	5/12/23 18:13
Pyrene	3.56		0.0111	0.151	mg/kg dry	1	5/12/23 18:13
TIC_1,4-Methanonaphthalene, 1,4-dihydro-	0.304	J			mg/kg dry	1	5/12/23 18:13
TIC_9,10-Anthracenedione	0.424	J			mg/kg dry	1	5/12/23 18:13
TIC_9,10-Dimethylanthracene	0.647	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (01)	0.325	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (02)	0.840	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (03)	0.918	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (04)	0.389	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (05)	1.99	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (06)	0.481	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (07)	0.335	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (08)	0.480	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (09)	0.371	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (10)	0.647	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (11)	0.307	J			mg/kg dry	1	5/12/23 18:13
TIC_unknown (12)	1.79	J			mg/kg dry	1	5/12/23 18:13

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopropane, ethyl-	0.00599	J			mg/kg dry	1	5/12/23 16:40

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.362		0.00797	0.0669	mg/kg dry	1	5/12/23 11:45

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-01 (Ground Water) Sample Name: **FB_20230510** Collected: **5/10/2023 8:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/18/23 14:22
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/18/23 14:22
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/18/23 14:22
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/18/23 14:22
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/18/23 14:22
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/18/23 14:22
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/18/23 14:22
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/18/23 14:22
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/18/23 14:22
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/18/23 14:22

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	5/24/23 9:32
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	5/24/23 9:32
2,4-D	ND	U	0.0300	1.00	ug/L	1	5/24/23 9:32

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/12/23 15:02

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/24/23 11:01
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/24/23 11:01
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/24/23 11:01
Barium	ND	U	0.000558	0.0200	mg/L	1	5/24/23 11:01
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/24/23 11:01
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/24/23 11:01
Calcium	ND	U	0.256	1.00	mg/L	1	5/24/23 11:01
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/24/23 11:01
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/24/23 11:01
Copper	ND	U	0.00177	0.0100	mg/L	1	5/24/23 11:01
Iron	ND	U	0.0580	0.200	mg/L	1	5/24/23 11:01
Lead	ND	U	0.00510	0.0500	mg/L	1	5/24/23 11:01
Magnesium	ND	U	0.681	2.00	mg/L	1	5/24/23 11:01
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/24/23 11:01
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/24/23 11:01
Potassium	ND	U	2.41	4.00	mg/L	1	5/24/23 11:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0505
Project: Owls Head Phase 2 **Date to Lab:** 5/10/2023 2:40:00PM

23E0505-01 (Ground Water) Sample Name: **FB_20230510** Collected: **5/10/2023 8:00:00AM**

EPA 200.7 - Total Metals (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium		ND	U	0.0152	0.0500	mg/L	1	5/24/23 11:01
Silver	UJ, RC:6L	ND	U	0.00465	0.0200	mg/L	1	5/24/23 11:01
Sodium		ND	U	0.205	2.00	mg/L	1	5/24/23 11:01
Thallium		ND	U	0.00828	0.0500	mg/L	1	5/24/23 11:01
Vanadium		ND	U	0.00668	0.00800	mg/L	1	5/24/23 11:01
Zinc		ND	U	0.00144	0.0300	mg/L	1	5/24/23 11:01

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD		ND	U	0.000378	0.0200	ug/L	1	5/16/23 18:35
4,4'-DDE		ND	U	0.000234	0.0200	ug/L	1	5/16/23 18:35
4,4'-DDT		ND	U	0.000319	0.0200	ug/L	1	5/16/23 18:35
Aldrin		ND	U	0.000527	0.0200	ug/L	1	5/16/23 18:35
alpha-BHC		ND	U	0.000255	0.0200	ug/L	1	5/16/23 18:35
beta-BHC		ND	U	0.000371	0.0200	ug/L	1	5/16/23 18:35
Chlordane		ND	U	0.000327	0.0500	ug/L	1	5/16/23 18:35
delta-BHC		ND	U	0.000320	0.0200	ug/L	1	5/16/23 18:35
Dieldrin		ND	U	0.000271	0.0200	ug/L	1	5/16/23 18:35
Endosulfan I		ND	U	0.000380	0.0200	ug/L	1	5/16/23 18:35
Endosulfan II		ND	U	0.000254	0.0200	ug/L	1	5/16/23 18:35
Endosulfan sulfate	UJ, RC:6L	ND	U	0.000138	0.0200	ug/L	1	5/16/23 18:35
Endrin		ND	U	0.000229	0.0200	ug/L	1	5/16/23 18:35
Endrin aldehyde		ND	U	0.000318	0.0200	ug/L	1	5/16/23 18:35
Endrin ketone		ND	U	0.000203	0.0200	ug/L	1	5/16/23 18:35
gamma-BHC (Lindane)		ND	U	0.000241	0.0200	ug/L	1	5/16/23 18:35
Heptachlor		ND	U	0.000563	0.0200	ug/L	1	5/16/23 18:35
Heptachlor Epoxide		ND	U	0.000302	0.0200	ug/L	1	5/16/23 18:35
Methoxychlor		ND	U	0.000343	0.0200	ug/L	1	5/16/23 18:35
Toxaphene		ND	U	0.0237	0.200	ug/L	1	5/16/23 18:35

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/15/23 17:11
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/15/23 17:11
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/15/23 17:11
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/15/23 17:11
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/15/23 17:11
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/15/23 17:11
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/15/23 17:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-01 (Ground Water) Sample Name: **FB_20230510** Collected: **5/10/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/15/23 17:11
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/15/23 17:11
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/15/23 17:11
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/15/23 17:11
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/15/23 17:11
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/15/23 17:11
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/15/23 17:11
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/15/23 17:11
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/15/23 17:11
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/15/23 17:11
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/15/23 17:11
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/15/23 17:11
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/15/23 17:11
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/15/23 17:11
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/15/23 17:11
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/15/23 17:11
4-Nitrophenol UJ, RC:SL	ND	U	0.168	2.00	ug/L	1	5/15/23 17:11
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/15/23 17:11
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/15/23 17:11
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/15/23 17:11
Anthracene	ND	U	0.121	2.00	ug/L	1	5/15/23 17:11
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/15/23 17:11
Benzaldehyde UJ, RC:Q,SL	ND	U	0.134	2.00	ug/L	1	5/15/23 17:11
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/15/23 17:11
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/15/23 17:11
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/15/23 17:11
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/15/23 17:11
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/15/23 17:11
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/15/23 17:11
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/15/23 17:11
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/15/23 17:11
Carbazole	ND	U	0.188	2.00	ug/L	1	5/15/23 17:11
Chrysene	ND	U	0.129	2.00	ug/L	1	5/15/23 17:11
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/15/23 17:11
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/15/23 17:11
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/15/23 17:11
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/15/23 17:11
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/15/23 17:11
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/15/23 17:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-01 (Ground Water) Sample Name: **FB_20230510** Collected: **5/10/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	ND	U	0.109	2.00	ug/L	1	5/15/23 17:11
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/15/23 17:11
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/15/23 17:11
Isophorone	ND	U	0.111	2.00	ug/L	1	5/15/23 17:11
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/15/23 17:11
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/15/23 17:11
n-Nitroso-di-n-propylamine UJ, RC:SL	ND	U	0.130	2.00	ug/L	1	5/15/23 17:11
n-Nitrosodiphenylamine UJ, RC:SL	ND	U	0.0626	2.00	ug/L	1	5/15/23 17:11
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/15/23 17:11
Phenol	ND	U	0.0973	2.00	ug/L	1	5/15/23 17:11
Pyrene	ND	U	0.115	2.00	ug/L	1	5/15/23 17:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/11/23 21:13
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/11/23 21:13
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/11/23 21:13
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/11/23 21:13
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/11/23 21:13
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/11/23 21:13
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/11/23 21:13
1,2,4-Trichlorobenzene UJ, RC:SL	ND	U	0.437	1.00	ug/L	1	5/11/23 21:13
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/11/23 21:13
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/11/23 21:13
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/11/23 21:13
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/11/23 21:13
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/11/23 21:13
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/11/23 21:13
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/11/23 21:13
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/11/23 21:13
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/11/23 21:13
2-Hexanone UJ, RC:SL	ND	U	0.635	2.00	ug/L	1	5/11/23 21:13
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/11/23 21:13
Acetone	ND	U	10.0	10.0	ug/L	1	5/11/23 21:13

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-01 (Ground Water) Sample Name: **FB_20230510** Collected: **5/10/2023 8:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene		ND	U	0.129	1.00	ug/L	1	5/11/23 21:13
Bromochloromethane		ND	U	0.307	1.00	ug/L	1	5/11/23 21:13
Bromodichloromethane		ND	U	0.258	1.00	ug/L	1	5/11/23 21:13
Bromoform		ND	U	0.421	1.00	ug/L	1	5/11/23 21:13
Bromomethane		ND	U	0.702	10.0	ug/L	1	5/11/23 21:13
Carbon disulfide		ND	U	0.477	1.00	ug/L	1	5/11/23 21:13
Carbon Tetrachloride		ND	U	0.372	1.00	ug/L	1	5/11/23 21:13
Chlorobenzene		ND	U	0.300	1.00	ug/L	1	5/11/23 21:13
Chlorodibromomethane		ND	U	0.504	1.00	ug/L	1	5/11/23 21:13
Chloroethane		ND	U	0.299	2.00	ug/L	1	5/11/23 21:13
Chloroform		ND	U	0.365	1.00	ug/L	1	5/11/23 21:13
Chloromethane		ND	U	0.758	1.00	ug/L	1	5/11/23 21:13
cis-1,2-Dichloroethene		ND	U	0.352	1.00	ug/L	1	5/11/23 21:13
cis-1,3-Dichloropropene		ND	U	0.294	1.00	ug/L	1	5/11/23 21:13
Cyclohexane		ND	U	0.298	2.00	ug/L	1	5/11/23 21:13
Dichlorodifluoromethane		ND	U	0.328	2.00	ug/L	1	5/11/23 21:13
EthylBenzene		ND	U	0.244	1.00	ug/L	1	5/11/23 21:13
Isopropylbenzene		ND	U	0.275	1.00	ug/L	1	5/11/23 21:13
m+p-Xylenes		ND	U	0.461	2.00	ug/L	1	5/11/23 21:13
Methyl Acetate		ND	U	0.373	1.00	ug/L	1	5/11/23 21:13
Methyl tert-Butyl Ether		ND	U	0.596	1.00	ug/L	1	5/11/23 21:13
Methylcyclohexane		ND	U	0.222	1.00	ug/L	1	5/11/23 21:13
Methylene Chloride		**6.91**		**3.00**	**3.00**	**ug/L**	**1**	**5/11/23 21:13**
o-Xylene		ND	U	0.244	1.00	ug/L	1	5/11/23 21:13
Styrene		ND	U	0.176	1.00	ug/L	1	5/11/23 21:13
tert-Butyl alcohol	UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	5/11/23 21:13
Tetrachloroethene		ND	U	0.466	1.00	ug/L	1	5/11/23 21:13
Toluene		ND	U	0.205	1.00	ug/L	1	5/11/23 21:13
Total Xylenes		ND	U	0.244	1.00	ug/L	1	5/11/23 21:13
trans-1,2-Dichloroethene		ND	U	0.241	1.00	ug/L	1	5/11/23 21:13
trans-1,3-Dichloropropene		ND	U	0.279	1.00	ug/L	1	5/11/23 21:13
Trichloroethene		ND	U	0.146	1.00	ug/L	1	5/11/23 21:13
Trichlorofluoromethane		ND	U	0.413	1.00	ug/L	1	5/11/23 21:13
Vinyl chloride		ND	U	0.157	1.00	ug/L	1	5/11/23 21:13

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-01 (Ground Water) Sample Name: **FB_20230510** Collected: **5/10/2023 8:00:00AM**

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/12/23 17:15

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00502	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1221	ND	U	0.00988	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1232	ND	U	0.0126	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1242	ND	U	0.00736	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1248	ND	U	0.00770	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1254	ND	U	0.00604	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1260	ND	U	0.00469	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1262	ND	U	0.0101	0.0375	mg/kg	1	5/13/23 9:52
Aroclor-1268	ND	U	0.00453	0.0375	mg/kg	1	5/13/23 9:52
Total PCBs	ND	U	0.00350	0.0375	mg/kg	1	5/13/23 9:52

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0111	0.113	mg/kg	1	5/25/23 21:00
2,4-D	ND	U	0.0188	0.113	mg/kg	1	5/25/23 21:00

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.294**		**0.00567**	**0.0227**	**mg/kg**	**1**	**5/15/23 12:13**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8150**		**0.173**	**2.91**	**mg/kg**	**1**	**5/24/23 12:21**
Antimony	ND	U	0.159	1.46	mg/kg	1	5/24/23 12:21
Arsenic	**4.62**		**0.104**	**1.46**	**mg/kg**	**1**	**5/24/23 12:21**
Barium	**89.1**		**0.0440**	**0.582**	**mg/kg**	**1**	**5/24/23 12:21**
Beryllium	**0.645**		**0.00337**	**0.0291**	**mg/kg**	**1**	**5/24/23 12:21**
Cadmium	ND	U	0.0567	0.291	mg/kg	1	5/24/23 12:21
Calcium	**14000**		**3.27**	**29.1**	**mg/kg**	**1**	**5/24/23 12:21**
Chromium	**24.0**		**0.0329**	**0.291**	**mg/kg**	**1**	**5/24/23 12:21**
Cobalt	**18.8**		**0.0297**	**0.233**	**mg/kg**	**1**	**5/24/23 12:21**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**48.9**		**0.0814**	**0.291**	**mg/kg**	**1**	**5/24/23 12:21**
Iron	**16100**		**0.824**	**5.82**	**mg/kg**	**1**	**5/24/23 12:21**
Lead	**143**		**0.121**	**1.46**	**mg/kg**	**1**	**5/24/23 12:21**
Magnesium	**4190**		**10.3**	**58.2**	**mg/kg**	**1**	**5/24/23 12:21**
Manganese	**271**		**0.0362**	**0.291**	**mg/kg**	**1**	**5/24/23 12:21**
Nickel	**38.7**		**0.0256**	**0.146**	**mg/kg**	**1**	**5/24/23 12:21**
Potassium	**1920**		**34.6**	**116**	**mg/kg**	**1**	**5/24/23 12:21**
Selenium	ND	U	0.279	1.46	mg/kg	1	5/24/23 12:21
Silver	ND	U	0.0495	0.175	mg/kg	1	5/24/23 12:21
Sodium	**798**		**5.55**	**58.2**	**mg/kg**	**1**	**5/24/23 12:21**
Thallium	ND	U	0.0979	1.46	mg/kg	1	5/24/23 12:21
Vanadium	**23.5**		**0.0669**	**0.582**	**mg/kg**	**1**	**5/24/23 12:21**
Zinc	**95.5**		**0.0889**	**0.873**	**mg/kg**	**1**	**5/24/23 12:21**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	J, RC:3H,6L	**0.00332**		**0.000675**	**0.00148**	**mg/kg**	**1**	**5/23/23 19:05**
4,4'-DDE	UJ, RC:6L	ND	U	0.000807	0.00148	mg/kg	1	5/23/23 19:05
4,4'-DDT [2C]	J, RC:3H	**0.00266**		**0.00104**	**0.00148**	**mg/kg**	**1**	**5/23/23 19:05**
Aldrin		ND	U	0.000699	0.00148	mg/kg	1	5/23/23 19:05
alpha-BHC	UJ, RC:6L	ND	U	0.000439	0.00148	mg/kg	1	5/23/23 19:05
beta-BHC	UJ, RC:6L	ND	U	0.000705	0.00148	mg/kg	1	5/23/23 19:05
Chlordane		ND	U	0.000656	0.00148	mg/kg	1	5/23/23 19:05
delta-BHC		ND	U	0.000686	0.00148	mg/kg	1	5/23/23 19:05
Dieldrin		ND	U	0.000772	0.00148	mg/kg	1	5/23/23 19:05
Endosulfan I		ND	U	0.000697	0.00148	mg/kg	1	5/23/23 19:05
Endosulfan II	UJ, RC:6L	ND	U	0.000671	0.00148	mg/kg	1	5/23/23 19:05
Endosulfan sulfate		ND	U	0.000555	0.00148	mg/kg	1	5/23/23 19:05
Endosulfans, Total (alpha and beta)		ND	U	0.000671	0.00148	mg/kg	1	5/23/23 19:05
Endrin		ND	U	0.000510	0.00148	mg/kg	1	5/23/23 19:05
Endrin aldehyde		ND	U	0.000588	0.00148	mg/kg	1	5/23/23 19:05
Endrin ketone		ND	U	0.000520	0.00148	mg/kg	1	5/23/23 19:05
gamma-BHC (Lindane)		ND	U	0.000468	0.00148	mg/kg	1	5/23/23 19:05
Heptachlor		ND	U	0.000395	0.00148	mg/kg	1	5/23/23 19:05
Heptachlor Epoxide		ND	U	0.000745	0.00148	mg/kg	1	5/23/23 19:05
Methoxychlor		ND	U	0.000432	0.00148	mg/kg	1	5/23/23 19:05
Toxaphene		ND	U	0.0711	0.0749	mg/kg	1	5/23/23 19:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00427	0.0378	mg/kg	1	5/12/23 17:42
2,3,4,6-Tetrachlorophenol	ND	U	0.0233	0.151	mg/kg	1	5/12/23 17:42
2,4,5-Trichlorophenol	ND	U	0.0205	0.151	mg/kg	1	5/12/23 17:42
2,4,6-Trichlorophenol	ND	U	0.00945	0.151	mg/kg	1	5/12/23 17:42
2,4-Dichlorophenol	ND	U	0.0152	0.151	mg/kg	1	5/12/23 17:42
2,4-Dimethylphenol	ND	U	0.0149	0.151	mg/kg	1	5/12/23 17:42
2,4-Dinitrophenol	ND	U	0.0218	0.757	mg/kg	1	5/12/23 17:42
2,4-Dinitrotoluene	ND	U	0.0161	0.151	mg/kg	1	5/12/23 17:42
2,6-Dinitrotoluene	ND	U	0.0361	0.151	mg/kg	1	5/12/23 17:42
2-Chloronaphthalene	ND	U	0.0174	0.151	mg/kg	1	5/12/23 17:42
2-Chlorophenol	ND	U	0.0200	0.151	mg/kg	1	5/12/23 17:42
2-Methylnaphthalene	**0.181**	J	**0.0362**	**0.227**	**mg/kg**	**1**	**5/12/23 17:42**
2-Methylphenol	ND	U	0.0298	0.151	mg/kg	1	5/12/23 17:42
2-Nitroaniline	ND	U	0.0121	0.151	mg/kg	1	5/12/23 17:42
2-Nitrophenol	ND	U	0.0168	0.151	mg/kg	1	5/12/23 17:42
3,3'-Dichlorobenzidine	ND	U	0.0159	0.151	mg/kg	1	5/12/23 17:42
3+4-Methylphenol	ND	U	0.0277	0.151	mg/kg	1	5/12/23 17:42
3-Nitroaniline	ND	U	0.0280	0.151	mg/kg	1	5/12/23 17:42
4,6-Dinitro-2-methylphenol	ND	U	0.0285	0.378	mg/kg	1	5/12/23 17:42
4-Bromophenyl-phenyl ether	ND	U	0.0216	0.151	mg/kg	1	5/12/23 17:42
4-Chloro-3-methylphenol	ND	U	0.0238	0.151	mg/kg	1	5/12/23 17:42
4-Chloroaniline	ND	U	0.00529	0.151	mg/kg	1	5/12/23 17:42
4-Chlorophenyl phenyl ether	ND	U	0.00816	0.151	mg/kg	1	5/12/23 17:42
4-Nitroaniline	ND	U	0.0756	0.151	mg/kg	1	5/12/23 17:42
4-Nitrophenol	ND	U	0.00967	0.151	mg/kg	1	5/12/23 17:42
Acenaphthene	**0.653**		**0.00861**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Acenaphthylene	**0.231**		**0.00525**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Acetophenone	ND	U	0.0150	0.151	mg/kg	1	5/12/23 17:42
Anthracene	**1.33**		**0.0219**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Atrazine	ND	U	0.0142	0.151	mg/kg	1	5/12/23 17:42
Benzaldehyde UJ, RC:Q,SL	ND	U	0.0464	0.151	mg/kg	1	5/12/23 17:42
Benzo(a)anthracene	**2.37**		**0.0152**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Benzo(a)pyrene	**2.41**		**0.0263**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Benzo(b)fluoranthene	**2.69**		**0.0212**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Benzo(g,h,i)perylene	**1.59**		**0.0123**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Benzo(k)fluoranthene	**0.970**		**0.0174**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Biphenyl	**0.0762**	J	**0.0133**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
bis(2-chloroethoxy)methane	ND	U	0.0209	0.151	mg/kg	1	5/12/23 17:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0166	0.151	mg/kg	1	5/12/23 17:42
bis(2-chloroisopropyl)ether UJ, RC:SL	ND	U	0.0544	0.151	mg/kg	1	5/12/23 17:42
bis(2-ethylhexyl)phthalate	ND	U	0.0302	0.151	mg/kg	1	5/12/23 17:42
Butylbenzylphthalate	ND	U	0.0137	0.151	mg/kg	1	5/12/23 17:42
Caprolactam	ND	U	0.0195	0.151	mg/kg	1	5/12/23 17:42
Carbazole	**0.413**		**0.0291**	**0.378**	**mg/kg**	**1**	**5/12/23 17:42**
Chrysene	**2.34**		**0.0104**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Dibenzo(a,h)anthracene	**0.463**		**0.0150**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Dibenzofuran	**0.306**		**0.00900**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Diethylphthalate	ND	U	0.0293	0.151	mg/kg	1	5/12/23 17:42
Dimethylphthalate	ND	U	0.00937	0.151	mg/kg	1	5/12/23 17:42
Di-n-butylphthalate	ND	U	0.0617	0.151	mg/kg	1	5/12/23 17:42
Di-n-octylphthalate	ND	U	0.0310	0.151	mg/kg	1	5/12/23 17:42
Fluoranthene	**5.27**		**0.0142**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Fluorene	**0.636**		**0.0126**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Hexachlorobenzene	ND	U	0.0197	0.151	mg/kg	1	5/12/23 17:42
Hexachlorobutadiene	ND	U	0.0725	0.151	mg/kg	1	5/12/23 17:42
Hexachlorocyclopentadiene	ND	U	0.0630	0.378	mg/kg	1	5/12/23 17:42
Hexachloroethane	ND	U	0.0166	0.151	mg/kg	1	5/12/23 17:42
Indeno(1,2,3-cd)pyrene	**1.30**		**0.0162**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Isophorone	ND	U	0.00990	0.151	mg/kg	1	5/12/23 17:42
Naphthalene	**0.201**		**0.0112**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Nitrobenzene	ND	U	0.0257	0.151	mg/kg	1	5/12/23 17:42
n-Nitroso-di-n-propylamine	ND	U	0.00809	0.151	mg/kg	1	5/12/23 17:42
n-Nitrosodiphenylamine	ND	U	0.0322	0.151	mg/kg	1	5/12/23 17:42
Pentachlorophenol	ND	U	0.0208	0.378	mg/kg	1	5/12/23 17:42
Phenanthrene	**5.18**		**0.0199**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**
Phenol	ND	U	0.0123	0.151	mg/kg	1	5/12/23 17:42
Pyrene	**4.84**		**0.0111**	**0.151**	**mg/kg**	**1**	**5/12/23 17:42**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Methyl-9-chloro-acridine	0.634	13.69	J	mg/kg	1	5/12/23 17:42
unknown (01)	0.841	11.12	J	mg/kg	1	5/12/23 17:42
unknown (02)	0.962	11.15	J	mg/kg	1	5/12/23 17:42
unknown (03)	1.99	11.25	J	mg/kg	1	5/12/23 17:42
unknown (04)	0.546	11.41	J	mg/kg	1	5/12/23 17:42
unknown (05)	0.573	11.45	J	mg/kg	1	5/12/23 17:42

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (06)	0.669	11.68	J	mg/kg	1	5/12/23 17:42
unknown (07)	0.520	11.78	J	mg/kg	1	5/12/23 17:42
unknown (08)	0.873	12.36	J	mg/kg	1	5/12/23 17:42
unknown (09)	1.04	12.48	J	mg/kg	1	5/12/23 17:42
unknown (10)	0.494	12.72	J	mg/kg	1	5/12/23 17:42
unknown (11)	0.567	12.76	J	mg/kg	1	5/12/23 17:42
unknown (12)	0.927	13.23	J	mg/kg	1	5/12/23 17:42
unknown (13)	0.571	13.30	J	mg/kg	1	5/12/23 17:42
unknown (14)	2.55	15.60	J	mg/kg	1	5/12/23 17:42
TIC Total	**13.8**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000301	0.00206	mg/kg	1	5/12/23 16:09
1,1,2,2-Tetrachloroethane	ND	U	0.000285	0.00206	mg/kg	1	5/12/23 16:09
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000883	0.00206	mg/kg	1	5/12/23 16:09
1,1,2-Trichloroethane	ND	U	0.000348	0.00206	mg/kg	1	5/12/23 16:09
1,1-Dichloroethane	ND	U	0.000301	0.00206	mg/kg	1	5/12/23 16:09
1,1-Dichloroethene	ND	U	0.000382	0.00206	mg/kg	1	5/12/23 16:09
1,2,3-Trichlorobenzene	ND	U	0.000446	0.00206	mg/kg	1	5/12/23 16:09
1,2,4-Trichlorobenzene	ND	U	0.000550	0.00206	mg/kg	1	5/12/23 16:09
1,2,4-Trimethylbenzene	ND	U	0.000285	0.00206	mg/kg	1	5/12/23 16:09
1,2-Dibromo-3-chloropropane	ND	U	0.000504	0.00206	mg/kg	1	5/12/23 16:09
1,2-Dibromoethane	ND	U	0.000260	0.00206	mg/kg	1	5/12/23 16:09
1,2-Dichlorobenzene	ND	U	0.000364	0.00206	mg/kg	1	5/12/23 16:09
1,2-Dichloroethane	ND	U	0.000291	0.00206	mg/kg	1	5/12/23 16:09
1,2-Dichloropropane	ND	U	0.000338	0.00206	mg/kg	1	5/12/23 16:09
1,3-Dichlorobenzene	ND	U	0.000152	0.00206	mg/kg	1	5/12/23 16:09
1,4-Dichlorobenzene	ND	U	0.000297	0.00206	mg/kg	1	5/12/23 16:09
2-Butanone	ND	U	0.000336	0.00516	mg/kg	1	5/12/23 16:09
2-Hexanone	ND	U	0.000193	0.00206	mg/kg	1	5/12/23 16:09
4-Methyl-2-pentanone	ND	U	0.000258	0.00206	mg/kg	1	5/12/23 16:09
Acetone	ND	U	0.000625	0.00516	mg/kg	1	5/12/23 16:09
Benzene	ND	U	0.000188	0.00206	mg/kg	1	5/12/23 16:09
Bromochloromethane	ND	U	0.000381	0.00206	mg/kg	1	5/12/23 16:09
Bromodichloromethane	ND	U	0.000259	0.00206	mg/kg	1	5/12/23 16:09
Bromoform	ND	U	0.000362	0.00206	mg/kg	1	5/12/23 16:09

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromomethane	ND	U	0.000595	0.00206	mg/kg	1	5/12/23 16:09
Carbon disulfide	ND	U	0.000296	0.00206	mg/kg	1	5/12/23 16:09
Carbon Tetrachloride	ND	U	0.000311	0.00206	mg/kg	1	5/12/23 16:09
Chlorobenzene	ND	U	0.000299	0.00206	mg/kg	1	5/12/23 16:09
Chlorodibromomethane	ND	U	0.000254	0.00206	mg/kg	1	5/12/23 16:09
Chloroethane	ND	U	0.000352	0.00206	mg/kg	1	5/12/23 16:09
Chloroform	ND	U	0.000347	0.00206	mg/kg	1	5/12/23 16:09
Chloromethane	ND	U	0.000794	0.00206	mg/kg	1	5/12/23 16:09
cis-1,2-Dichloroethene	ND	U	0.0000998	0.00206	mg/kg	1	5/12/23 16:09
cis-1,3-Dichloropropene	ND	U	0.000261	0.00206	mg/kg	1	5/12/23 16:09
Cyclohexane	ND	U	0.000457	0.00206	mg/kg	1	5/12/23 16:09
Dichlorodifluoromethane	ND	U	0.000696	0.00206	mg/kg	1	5/12/23 16:09
EthylBenzene	ND	U	0.000280	0.00206	mg/kg	1	5/12/23 16:09
Isopropylbenzene	ND	U	0.000324	0.00206	mg/kg	1	5/12/23 16:09
m+p-Xylenes	ND	U	0.000521	0.00413	mg/kg	1	5/12/23 16:09
Methyl Acetate UJ, RC:Q	ND	U	0.000273	0.00206	mg/kg	1	5/12/23 16:09
Methyl tert-Butyl Ether	ND	U	0.000349	0.00206	mg/kg	1	5/12/23 16:09
Methylcyclohexane	ND	U	0.000332	0.00206	mg/kg	1	5/12/23 16:09
Methylene Chloride	ND	U	0.000620	0.00206	mg/kg	1	5/12/23 16:09
o-Xylene	ND	U	0.000265	0.00206	mg/kg	1	5/12/23 16:09
Styrene	ND	U	0.000295	0.00206	mg/kg	1	5/12/23 16:09
tert-Butyl alcohol UJ, RC:Q	ND	U	0.00433	0.0206	mg/kg	1	5/12/23 16:09
Tetrachloroethene	ND	U	0.000204	0.00206	mg/kg	1	5/12/23 16:09
Toluene	ND	U	0.000166	0.00206	mg/kg	1	5/12/23 16:09
Total Xylenes	ND	U	0.000265	0.00206	mg/kg	1	5/12/23 16:09
trans-1,2-Dichloroethene	ND	U	0.000280	0.00206	mg/kg	1	5/12/23 16:09
trans-1,3-Dichloropropene	ND	U	0.000394	0.00206	mg/kg	1	5/12/23 16:09
Trichloroethene	ND	U	0.000303	0.00206	mg/kg	1	5/12/23 16:09
Trichlorofluoromethane	ND	U	0.000237	0.00206	mg/kg	1	5/12/23 16:09
Vinyl chloride	ND	U	0.000392	0.00206	mg/kg	1	5/12/23 16:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-02 (Soil) Sample Name: **OH-SB-39_1.0-2.0_20230510** Collected: **5/10/2023 11:30:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.1**				**%**	**1**	**5/11/23 10:55**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.196**		**0.00749**	**0.0629**	**mg/kg**	**1**	**5/12/23 11:45**

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00504	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1221	ND	U	0.00990	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1232	ND	U	0.0126	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1242	ND	U	0.00738	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1248	ND	U	0.00772	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1254	ND	U	0.00606	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1260	ND	U	0.00470	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1262	ND	U	0.0101	0.0375	mg/kg	1	5/13/23 10:14
Aroclor-1268	ND	U	0.00454	0.0375	mg/kg	1	5/13/23 10:14
Total PCBs	ND	U	0.00351	0.0375	mg/kg	1	5/13/23 10:14

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0111	0.114	mg/kg	1	5/25/23 21:24
2,4-D	ND	U	0.0189	0.114	mg/kg	1	5/25/23 21:24

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.615**		**0.00569**	**0.0228**	**mg/kg**	**1**	**5/15/23 12:13**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7850**		**0.173**	**2.92**	**mg/kg**	**1**	**5/24/23 12:23**
Antimony	ND	U	0.159	1.46	mg/kg	1	5/24/23 12:23
Arsenic	**7.05**		**0.104**	**1.46**	**mg/kg**	**1**	**5/24/23 12:23**
Barium	**130**		**0.0441**	**0.583**	**mg/kg**	**1**	**5/24/23 12:23**
Beryllium	**0.614**		**0.00338**	**0.0292**	**mg/kg**	**1**	**5/24/23 12:23**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	**0.330**		**0.0569**	**0.292**	**mg/kg**	**1**	**5/24/23 12:23**
Calcium	**32900**	D	**32.8**	**292**	**mg/kg**	**10**	**5/24/23 14:00**
Chromium	**24.4**		**0.0329**	**0.292**	**mg/kg**	**1**	**5/24/23 12:23**
Cobalt	**15.5**		**0.0298**	**0.233**	**mg/kg**	**1**	**5/24/23 12:23**
Copper	**54.5**		**0.0816**	**0.292**	**mg/kg**	**1**	**5/24/23 12:23**
Iron	**16100**		**0.826**	**5.83**	**mg/kg**	**1**	**5/24/23 12:23**
Lead	**275**		**0.122**	**1.46**	**mg/kg**	**1**	**5/24/23 12:23**
Magnesium	**4020**		**10.3**	**58.3**	**mg/kg**	**1**	**5/24/23 12:23**
Manganese	**208**		**0.0363**	**0.292**	**mg/kg**	**1**	**5/24/23 12:23**
Nickel	**30.9**		**0.0256**	**0.146**	**mg/kg**	**1**	**5/24/23 12:23**
Potassium	**1790**		**34.7**	**117**	**mg/kg**	**1**	**5/24/23 12:23**
Selenium	ND	U	0.280	1.46	mg/kg	1	5/24/23 12:23
Silver	ND	U	0.0496	0.175	mg/kg	1	5/24/23 12:23
Sodium	**986**		**5.56**	**58.3**	**mg/kg**	**1**	**5/24/23 12:23**
Thallium	ND	U	0.0982	1.46	mg/kg	1	5/24/23 12:23
Vanadium	**23.7**		**0.0671**	**0.583**	**mg/kg**	**1**	**5/24/23 12:23**
Zinc	**123**		**0.0891**	**0.875**	**mg/kg**	**1**	**5/24/23 12:23**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	J, RC:3H,6L	**0.00705**		**0.000677**	**0.00148**	**mg/kg**	**1**	**5/23/23 19:27**
4,4'-DDE [2C]	J, RC:3H,6L	**0.00122**	J	**0.000809**	**0.00148**	**mg/kg**	**1**	**5/23/23 19:27**
4,4'-DDT [2C]	J, RC:3H	**0.00549**		**0.00104**	**0.00148**	**mg/kg**	**1**	**5/23/23 19:27**
Aldrin		ND	U	0.000701	0.00148	mg/kg	1	5/23/23 19:27
alpha-BHC	UJ, RC:6L	ND	U	0.000440	0.00148	mg/kg	1	5/23/23 19:27
beta-BHC	UJ, RC:6L	ND	U	0.000706	0.00148	mg/kg	1	5/23/23 19:27
Chlordane		ND	U	0.000658	0.00148	mg/kg	1	5/23/23 19:27
delta-BHC		ND	U	0.000687	0.00148	mg/kg	1	5/23/23 19:27
Dieldrin		ND	U	0.000774	0.00148	mg/kg	1	5/23/23 19:27
Endosulfan I		ND	U	0.000699	0.00148	mg/kg	1	5/23/23 19:27
Endosulfan II	UJ, RC:6L	ND	U	0.000672	0.00148	mg/kg	1	5/23/23 19:27
Endosulfan sulfate		ND	U	0.000556	0.00148	mg/kg	1	5/23/23 19:27
Endosulfans, Total (alpha and beta)		ND	U	0.000672	0.00148	mg/kg	1	5/23/23 19:27
Endrin		ND	U	0.000511	0.00148	mg/kg	1	5/23/23 19:27
Endrin aldehyde		ND	U	0.000589	0.00148	mg/kg	1	5/23/23 19:27
Endrin ketone		ND	U	0.000521	0.00148	mg/kg	1	5/23/23 19:27
gamma-BHC (Lindane)		ND	U	0.000469	0.00148	mg/kg	1	5/23/23 19:27

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000396	0.00148	mg/kg	1	5/23/23 19:27
Heptachlor Epoxide	ND	U	0.000746	0.00148	mg/kg	1	5/23/23 19:27
Methoxychlor	ND	U	0.000433	0.00148	mg/kg	1	5/23/23 19:27
Toxaphene	ND	U	0.0712	0.0751	mg/kg	1	5/23/23 19:27

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00428	0.0379	mg/kg	1	5/12/23 18:13
2,3,4,6-Tetrachlorophenol	ND	U	0.0233	0.151	mg/kg	1	5/12/23 18:13
2,4,5-Trichlorophenol	ND	U	0.0206	0.151	mg/kg	1	5/12/23 18:13
2,4,6-Trichlorophenol	ND	U	0.00948	0.151	mg/kg	1	5/12/23 18:13
2,4-Dichlorophenol	ND	U	0.0152	0.151	mg/kg	1	5/12/23 18:13
2,4-Dimethylphenol	ND	U	0.0149	0.151	mg/kg	1	5/12/23 18:13
2,4-Dinitrophenol	ND	U	0.0218	0.759	mg/kg	1	5/12/23 18:13
2,4-Dinitrotoluene	ND	U	0.0162	0.151	mg/kg	1	5/12/23 18:13
2,6-Dinitrotoluene	ND	U	0.0362	0.151	mg/kg	1	5/12/23 18:13
2-Chloronaphthalene	ND	U	0.0174	0.151	mg/kg	1	5/12/23 18:13
2-Chlorophenol	ND	U	0.0200	0.151	mg/kg	1	5/12/23 18:13
2-Methylnaphthalene	**0.344**		**0.0363**	**0.228**	**mg/kg**	**1**	**5/12/23 18:13**
2-Methylphenol	ND	U	0.0299	0.151	mg/kg	1	5/12/23 18:13
2-Nitroaniline	ND	U	0.0122	0.151	mg/kg	1	5/12/23 18:13
2-Nitrophenol	ND	U	0.0168	0.151	mg/kg	1	5/12/23 18:13
3,3'-Dichlorobenzidine	ND	U	0.0159	0.151	mg/kg	1	5/12/23 18:13
3+4-Methylphenol	ND	U	0.0278	0.151	mg/kg	1	5/12/23 18:13
3-Nitroaniline	ND	U	0.0281	0.151	mg/kg	1	5/12/23 18:13
4,6-Dinitro-2-methylphenol	ND	U	0.0286	0.379	mg/kg	1	5/12/23 18:13
4-Bromophenyl-phenyl ether	ND	U	0.0216	0.151	mg/kg	1	5/12/23 18:13
4-Chloro-3-methylphenol	ND	U	0.0239	0.151	mg/kg	1	5/12/23 18:13
4-Chloroaniline	ND	U	0.00530	0.151	mg/kg	1	5/12/23 18:13
4-Chlorophenyl phenyl ether	ND	U	0.00818	0.151	mg/kg	1	5/12/23 18:13
4-Nitroaniline	ND	U	0.0758	0.151	mg/kg	1	5/12/23 18:13
4-Nitrophenol	ND	U	0.00969	0.151	mg/kg	1	5/12/23 18:13
Acenaphthene	**0.325**		**0.00863**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Acenaphthylene	**0.268**		**0.00527**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Acetophenone	ND	U	0.0150	0.151	mg/kg	1	5/12/23 18:13
Anthracene	**0.931**		**0.0220**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Atrazine	ND	U	0.0142	0.151	mg/kg	1	5/12/23 18:13
Benzaldehyde UJ, RC:Q,SL	ND	U	0.0465	0.151	mg/kg	1	5/12/23 18:13

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	**1.85**		**0.0152**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Benzo(a)pyrene	**2.12**		**0.0264**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Benzo(b)fluoranthene	**2.40**		**0.0213**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Benzo(g,h,i)perylene	**1.45**		**0.0123**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Benzo(k)fluoranthene	**0.813**		**0.0174**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Biphenyl	**0.0690**	J	**0.0133**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
bis(2-chloroethoxy)methane	ND	U	0.0209	0.151	mg/kg	1	5/12/23 18:13
bis(2-chloroethyl)ether	ND	U	0.0166	0.151	mg/kg	1	5/12/23 18:13
bis(2-chloroisopropyl)ether UJ, RC:SL	ND	U	0.0545	0.151	mg/kg	1	5/12/23 18:13
bis(2-ethylhexyl)phthalate	ND	U	0.0303	0.151	mg/kg	1	5/12/23 18:13
Butylbenzylphthalate	ND	U	0.0138	0.151	mg/kg	1	5/12/23 18:13
Caprolactam	ND	U	0.0196	0.151	mg/kg	1	5/12/23 18:13
Carbazole	**0.256**	J	**0.0291**	**0.379**	**mg/kg**	**1**	**5/12/23 18:13**
Chrysene	**2.09**		**0.0104**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Dibenzo(a,h)anthracene	**0.388**		**0.0150**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Dibenzofuran	**0.204**		**0.00902**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Diethylphthalate	ND	U	0.0294	0.151	mg/kg	1	5/12/23 18:13
Dimethylphthalate	ND	U	0.00940	0.151	mg/kg	1	5/12/23 18:13
Di-n-butylphthalate	ND	U	0.0619	0.151	mg/kg	1	5/12/23 18:13
Di-n-octylphthalate	ND	U	0.0311	0.151	mg/kg	1	5/12/23 18:13
Fluoranthene	**4.22**		**0.0142**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Fluorene	**0.350**		**0.0126**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Hexachlorobenzene	ND	U	0.0198	0.151	mg/kg	1	5/12/23 18:13
Hexachlorobutadiene	ND	U	0.0727	0.151	mg/kg	1	5/12/23 18:13
Hexachlorocyclopentadiene	ND	U	0.0631	0.379	mg/kg	1	5/12/23 18:13
Hexachloroethane	ND	U	0.0166	0.151	mg/kg	1	5/12/23 18:13
Indeno(1,2,3-cd)pyrene	**1.25**		**0.0163**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Isophorone	ND	U	0.00992	0.151	mg/kg	1	5/12/23 18:13
Naphthalene	**0.380**		**0.0112**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Nitrobenzene	ND	U	0.0257	0.151	mg/kg	1	5/12/23 18:13
n-Nitroso-di-n-propylamine	ND	U	0.00811	0.151	mg/kg	1	5/12/23 18:13
n-Nitrosodiphenylamine	ND	U	0.0323	0.151	mg/kg	1	5/12/23 18:13
Pentachlorophenol	ND	U	0.0208	0.379	mg/kg	1	5/12/23 18:13
Phenanthrene	**3.48**		**0.0199**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**
Phenol	ND	U	0.0123	0.151	mg/kg	1	5/12/23 18:13
Pyrene	**3.56**		**0.0111**	**0.151**	**mg/kg**	**1**	**5/12/23 18:13**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,4-Methanonaphthalene, 1,4-dihydro-	0.304	8.15	J	mg/kg	1	5/12/23 18:13
9,10-Anthracenedione	0.424	11.44	J	mg/kg	1	5/12/23 18:13
9,10-Dimethylanthracene	0.647	11.68	J	mg/kg	1	5/12/23 18:13
unknown (01)	0.325	5.16	J	mg/kg	1	5/12/23 18:13
unknown (02)	0.840	11.12	J	mg/kg	1	5/12/23 18:13
unknown (03)	0.918	11.15	J	mg/kg	1	5/12/23 18:13
unknown (04)	0.389	11.20	J	mg/kg	1	5/12/23 18:13
unknown (05)	1.99	11.25	J	mg/kg	1	5/12/23 18:13
unknown (06)	0.481	11.41	J	mg/kg	1	5/12/23 18:13
unknown (07)	0.335	12.36	J	mg/kg	1	5/12/23 18:13
unknown (08)	0.480	12.48	J	mg/kg	1	5/12/23 18:13
unknown (09)	0.371	12.75	J	mg/kg	1	5/12/23 18:13
unknown (10)	0.647	13.23	J	mg/kg	1	5/12/23 18:13
unknown (11)	0.307	13.31	J	mg/kg	1	5/12/23 18:13
unknown (12)	1.79	15.60	J	mg/kg	1	5/12/23 18:13
TIC Total	**10.3**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000346	0.00237	mg/kg	1	5/12/23 16:40
1,1,2,2-Tetrachloroethane	ND	U	0.000327	0.00237	mg/kg	1	5/12/23 16:40
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00101	0.00237	mg/kg	1	5/12/23 16:40
1,1,2-Trichloroethane	ND	U	0.000399	0.00237	mg/kg	1	5/12/23 16:40
1,1-Dichloroethane	ND	U	0.000346	0.00237	mg/kg	1	5/12/23 16:40
1,1-Dichloroethene	ND	U	0.000438	0.00237	mg/kg	1	5/12/23 16:40
1,2,3-Trichlorobenzene	ND	U	0.000512	0.00237	mg/kg	1	5/12/23 16:40
1,2,4-Trichlorobenzene	ND	U	0.000632	0.00237	mg/kg	1	5/12/23 16:40
1,2,4-Trimethylbenzene	ND	U	0.000327	0.00237	mg/kg	1	5/12/23 16:40
1,2-Dibromo-3-chloropropane	ND	U	0.000578	0.00237	mg/kg	1	5/12/23 16:40
1,2-Dibromoethane	ND	U	0.000299	0.00237	mg/kg	1	5/12/23 16:40
1,2-Dichlorobenzene	ND	U	0.000418	0.00237	mg/kg	1	5/12/23 16:40
1,2-Dichloroethane	ND	U	0.000334	0.00237	mg/kg	1	5/12/23 16:40
1,2-Dichloropropane	ND	U	0.000389	0.00237	mg/kg	1	5/12/23 16:40
1,3-Dichlorobenzene	ND	U	0.000174	0.00237	mg/kg	1	5/12/23 16:40
1,4-Dichlorobenzene	ND	U	0.000341	0.00237	mg/kg	1	5/12/23 16:40
2-Butanone	ND	U	0.000386	0.00593	mg/kg	1	5/12/23 16:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Hexanone		ND	U	0.000222	0.00237	mg/kg	1	5/12/23 16:40
4-Methyl-2-pentanone		ND	U	0.000296	0.00237	mg/kg	1	5/12/23 16:40
Acetone		ND	U	0.000718	0.00593	mg/kg	1	5/12/23 16:40
Benzene		ND	U	0.000216	0.00237	mg/kg	1	5/12/23 16:40
Bromochloromethane		ND	U	0.000437	0.00237	mg/kg	1	5/12/23 16:40
Bromodichloromethane		ND	U	0.000297	0.00237	mg/kg	1	5/12/23 16:40
Bromoform		ND	U	0.000416	0.00237	mg/kg	1	5/12/23 16:40
Bromomethane		ND	U	0.000684	0.00237	mg/kg	1	5/12/23 16:40
Carbon disulfide		ND	U	0.000340	0.00237	mg/kg	1	5/12/23 16:40
Carbon Tetrachloride		ND	U	0.000357	0.00237	mg/kg	1	5/12/23 16:40
Chlorobenzene		ND	U	0.000344	0.00237	mg/kg	1	5/12/23 16:40
Chlorodibromomethane		ND	U	0.000292	0.00237	mg/kg	1	5/12/23 16:40
Chloroethane		ND	U	0.000404	0.00237	mg/kg	1	5/12/23 16:40
Chloroform		ND	U	0.000398	0.00237	mg/kg	1	5/12/23 16:40
Chloromethane		ND	U	0.000913	0.00237	mg/kg	1	5/12/23 16:40
cis-1,2-Dichloroethene		ND	U	0.000115	0.00237	mg/kg	1	5/12/23 16:40
cis-1,3-Dichloropropene		ND	U	0.000300	0.00237	mg/kg	1	5/12/23 16:40
Cyclohexane		ND	U	0.000525	0.00237	mg/kg	1	5/12/23 16:40
Dichlorodifluoromethane		ND	U	0.000800	0.00237	mg/kg	1	5/12/23 16:40
EthylBenzene		ND	U	0.000321	0.00237	mg/kg	1	5/12/23 16:40
Isopropylbenzene		ND	U	0.000372	0.00237	mg/kg	1	5/12/23 16:40
m+p-Xylenes		ND	U	0.000598	0.00474	mg/kg	1	5/12/23 16:40
Methyl Acetate	UJ, RC:Q	ND	U	0.000314	0.00237	mg/kg	1	5/12/23 16:40
Methyl tert-Butyl Ether		ND	U	0.000401	0.00237	mg/kg	1	5/12/23 16:40
Methylcyclohexane		ND	U	0.000382	0.00237	mg/kg	1	5/12/23 16:40
Methylene Chloride		ND	U	0.000712	0.00237	mg/kg	1	5/12/23 16:40
o-Xylene		ND	U	0.000305	0.00237	mg/kg	1	5/12/23 16:40
Styrene		ND	U	0.000339	0.00237	mg/kg	1	5/12/23 16:40
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00498	0.0237	mg/kg	1	5/12/23 16:40
Tetrachloroethene		ND	U	0.000235	0.00237	mg/kg	1	5/12/23 16:40
Toluene		ND	U	0.000191	0.00237	mg/kg	1	5/12/23 16:40
Total Xylenes		ND	U	0.000305	0.00237	mg/kg	1	5/12/23 16:40
trans-1,2-Dichloroethene		ND	U	0.000321	0.00237	mg/kg	1	5/12/23 16:40
trans-1,3-Dichloropropene		ND	U	0.000453	0.00237	mg/kg	1	5/12/23 16:40
Trichloroethene		ND	U	0.000348	0.00237	mg/kg	1	5/12/23 16:40
Trichlorofluoromethane		ND	U	0.000273	0.00237	mg/kg	1	5/12/23 16:40
Vinyl chloride		ND	U	0.000450	0.00237	mg/kg	1	5/12/23 16:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0505
Date to Lab: 5/10/2023 2:40:00PM

23E0505-03 (Soil) Sample Name: **OH-SB-39_2.0-3.0_20230510** Collected: **5/10/2023 12:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopropane, ethyl-	0.00599	5.42	J	mg/kg	1	5/12/23 16:40
TIC Total	**0.006**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.9**				**%**	**1**	**5/11/23 10:55**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.362**		**0.00797**	**0.0669**	**mg/kg**	**1**	**5/12/23 11:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2326380

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Project Name: 23E0505
Project Number: 23E0505

Lab Number: L2326380
Report Date: 06/08/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326380-01	23E0505-02	SOIL	Not Specified	05/08/23 11:30	05/11/23
L2326380-02	23E0505-03	SOIL	Not Specified	05/08/23 12:00	05/11/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

June 08, 2023: This final report includes the results of all requested analyses.

May 25, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey Report Date: 06/08/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD	
	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2326380

Account Name : Aqua Pro-Tech Laboratories
Project Number : 23E0505
Project Name : 23E0505

Received : 11-MAY-2023
Reviewer : Julie Convery

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	2.6	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326380
Project Name	: 23E0505	Project Number	: 23E0505
Lab ID	: L2326380-01	Date Collected	: 05/08/23 11:30
Client ID	: 23E0505-02	Date Received	: 05/11/23
Sample Location	:	Date Analyzed	: 05/22/23 22:42
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F205222310	Analyst	: CNC
Sample Amount	: 15.71 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	184	9.87	2.84	J, RC:SL
91-20-3C1	C1-Naphthalenes	164	9.87	2.84	
91-20-3C2	C2-Naphthalenes	204	9.87	2.84	
91-20-3C3	C3-Naphthalenes	195	9.87	2.84	
91-20-3C4	C4-Naphthalenes	136	9.87	2.84	
208-96-8	Acenaphthylene	222	9.87	1.88	
83-32-9	Acenaphthene	126	9.87	1.74	
86-73-7	Fluorene	103	9.87	2.63	
86-73-7C1	C1-Fluorenes	106	9.87	2.63	
86-73-7C2	C2-Fluorenes	254	9.87	2.63	
86-73-7C3	C3-Fluorenes	419	9.87	2.63	
85-01-8	Phenanthrene	1670	9.87	3.27	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1050	9.87	3.27	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	910	9.87	3.27	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	410	9.87	3.27	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	175	9.87	3.27	
120-12-7	Anthracene	316	9.87	2.03	
206-44-0	Fluoranthene	2340	9.87	3.14	
129-00-0	Pyrene	2470	9.87	2.60	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1350	9.87	2.60	
56-55-3	Benz(a)anthracene	1300	9.87	2.01	
218-01-9	Chrysene	1450	9.87	1.99	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: L2326380-01	**Date Collected**	: 05/08/23 11:30
Client ID	: 23E0505-02	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/22/23 22:42
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222310	**Analyst**	: CNC
Sample Amount	: 15.71 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	885	9.87	1.99	
218-01-9C2	C2-Chrysenes BS	538	9.87	1.99	
218-01-9C3	C3-Chrysenes	411	9.87	1.99	
218-01-9C4	C4-Chrysenes	296	9.87	1.99	
205-99-2	Benzo(b)fluoranthene	1440	9.87	2.57	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1170	9.87	1.96	
192-97-2	Benzo(e)pyrene	1240	9.87	2.04	
50-32-8	Benzo(a)pyrene	1490	9.87	2.82	
198-55-0	Perylene	392	9.87	1.90	
193-39-5	Indeno(1,2,3-cd)pyrene	1140	9.87	2.68	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	267	9.87	2.66	
191-24-2	Benzo(g,h,i)perylene	1270	9.87	2.62	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: L2326380-02D	**Date Collected**	: 05/08/23 12:00
Client ID	: 23E0505-03	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 17:31
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 2
Lab File ID	: F205222319	**Analyst**	: CNC
Sample Amount	: 15.44 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	242	5.79	1.66	
91-20-3C1	C1-Naphthalenes	232	5.79	1.66	
91-20-3C2	C2-Naphthalenes	320	5.79	1.66	
91-20-3C3	C3-Naphthalenes	310	5.79	1.66	
91-20-3C4	C4-Naphthalenes	184	5.79	1.66	
208-96-8	Acenaphthylene	232	5.79	1.10	
83-32-9	Acenaphthene	355	5.79	1.02	
86-73-7	Fluorene	332	5.79	1.54	
86-73-7C1	C1-Fluorenes	189	5.79	1.54	
86-73-7C2	C2-Fluorenes	318	5.79	1.54	
86-73-7C3	C3-Fluorenes	466	5.79	1.54	
85-01-8	Phenanthrene	3660	5.79	1.92	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1800	5.79	1.92	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1190	5.79	1.92	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	479	5.79	1.92	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	159	5.79	1.92	
120-12-7	Anthracene	834	5.79	1.19	
206-44-0	Fluoranthene	4130	5.79	1.84	
129-00-0	Pyrene	4060	5.79	1.52	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1940	5.79	1.52	
56-55-3	Benz(a)anthracene	2150	5.79	1.18	
218-01-9	Chrysene	2220	5.79	1.17	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: L2326380-02D	**Date Collected**	: 05/08/23 12:00
Client ID	: 23E0505-03	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/23/23 17:31
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 2
Lab File ID	: F205222319	**Analyst**	: CNC
Sample Amount	: 15.44 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1160	5.79	1.17	
218-01-9C2	C2-Chrysenes BS	607	5.79	1.17	
218-01-9C3	C3-Chrysenes	366	5.79	1.17	
218-01-9C4	C4-Chrysenes	218	5.79	1.17	
205-99-2	Benzo(b)fluoranthene	1900	5.79	1.50	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1710	5.79	1.15	
192-97-2	Benzo(e)pyrene	1480	5.79	1.19	
50-32-8	Benzo(a)pyrene	2190	5.79	1.65	
198-55-0	Perylene	560	5.79	1.12	
193-39-5	Indeno(1,2,3-cd)pyrene	1480	5.79	1.57	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	375	5.79	1.56	
191-24-2	Benzo(g,h,i)perylene	1510	5.79	1.54	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: WG1779922-1	**Date Collected**	: NA
Client ID	: WG1779922-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/22/23 16:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	0.337	1.00	0.287	J
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	ND	1.00	0.263	U
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: WG1779922-1	**Date Collected**	: NA
Client ID	: WG1779922-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/22/23 16:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F205222306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: L2326380-01	**Date Collected**	: 05/08/23 11:30
Client ID	: 23E0505-02	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: L2326380-02	**Date Collected**	: 05/08/23 12:00
Client ID	: 23E0505-03	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: WG1781048-1	**Date Collected**	: NA
Client ID	: WG1781048-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326380
Project Name	: 23E0505	**Project Number**	: 23E0505
Lab ID	: WG1781048-3	**Date Collected**	: 05/01/23 11:15
Client ID	: WG1781048-3 DUP	**Date Received**	: 05/02/23
Sample Location	:	**Date Analyzed**	: 05/13/23 10:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1781048_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2326643 and L2326793
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 9, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SV-07_20230512	L2326643-01	5/12/2023	Air
OH-SV-06_20230513	L2326793-01	5/13/2023	Air

Data validation was performed on the analytical data for two (2) samples collected May 12-13 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Volatile Organic Compounds (VOCs)	USEPA TO-15

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-31)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries

- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial and continuing calibrations.

Chain of Custody:

- No issues were noted with the chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by EPA TO-15	Air	30 days from collection to analysis	Ambient temperature

- All samples were received properly preserved, at acceptable cannister pressures, and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 30% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
TO-15	OH-SV-07_20230512	1,2,4-Trimethylbenzene	%RSD > 30%	UJ (NDs) J (Detects)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 30% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
TO-15	OH-SV-07_20230512	1,1-Dichloroethene tert-Butyl alcohol	CCV %D > 30% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated VOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Signed:  Dated: May 9, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2326643

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Project Name:	GOWANUS OH-007	**Lab Number:**	L2326643
Project Number:	156854	**Report Date:**	05/24/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326643-01	OH-SV-07_20230512	SOIL_VAPOR	BROOKLYN, NY	05/12/23 14:00	05/12/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on May 12, 2023. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J Anderson Report Date: 05/24/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

ND - Not detected at the reporting limit (RL) for the sample.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD	
	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2326643

Account Name : Aqua Pro-Tech Laboratories
Project Number : 156854
Project Name : GOWANUS OH-007

Received : 12-MAY-2023
Reviewer : Jennifer Jerome

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
NA	Absent/			

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**YES**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
May 24 2023, 04:04 pm

Login Number: L2326643
Account: AQUAPROTECH Aqua Pro-Tech LaboratoriesProject: 156854
Received: 12MAY23 Due Date: 26MAY23

Sample #	Client ID	Mat	PR	Collected
L2326643-01	OH-SV-07_20230512	11	S0	12MAY23 14:00

| ASP-B Package Due Date: 05/26/23

ASP-B,CAN-RENT,E&I-FEE,FLOW-RENT,TO15-LL

Logged By: Jennifer Jerome

AIR ANALYSIS

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/13/23

ALPHA Job #: L2326093

Client Information

Client: Yu and Associates
Address: 611 River Drive, 3rd Floor
Elmwood Park NJ 07407
Phone: 201-773-9621
Fax:
Email: Swang@Yu-associates.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: [illegible] Gowanus OH-007
Project Location: Brooklyn, NY
Project #: 156854
Project Manager: Sixuan Wang
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☑ Additional Deliverables: NY State category B
Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
26093-01	OH-SV-007-20230512	5/12/23	1200	1400	-29.9	-4.79	SV	HBS	2.7	209	0973	X						PID = 10.6ppm Actual Gauge readings -30.64

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
Tyler McKenzie ALPHA	5/12/23 1415	Tyler McKenzie	5/12 1415
	5/12 1815 ALPHA		5.12.23 2100
	5/13/23 000		5.13.23 0100
	5/13/23 0430		5/13/23 0430

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Form No: 101-02 Rev: (25-Sep-15)

Supporting Documentation

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2326643-01	OH-SV-07_20230512	0973	Flow 3	05/12/23	423933		-	-	-	Pass	18.0	16.7	7
L2326643-01	OH-SV-07_20230512	209	2.7L Can	05/12/23	423933	L2325305-01	Pass	-29.9	-5.3	-	-	-	-

Air Canister Certification Results

Lab ID: L2325305-01
Client ID: CAN 423 SHELF 14
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/08/23 18:29
Analyst: TJS

Date Collected: 05/05/23 18:00
Date Received: 05/08/23
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	89		60-140

Air Canister Certification Results

Lab ID: L2325305-01
Client ID: CAN 423 SHELF 14
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/08/23 18:29
Analyst: TJS

Date Collected: 05/05/23 18:00
Date Received: 05/08/23
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Organics

Volatile Organics in Air
TO-15 Low Level

Volatiles QC Summary

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client : Aqua Pro-Tech Laboratories **Lab Number** : L2326643
Project Name : GOWANUS OH-007 **Project Number** : 156854
Matrix (Level) : SOIL_VAPOR (LOW)
LCS Sample ID : WG1782501-3 **Analysis Date** : 05/23/23 12:57 **File ID** : r428232
LCSD Sample ID : **Analysis Date** : **File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Chlorodifluoromethane	10	7.97	80				-	70-130	-
Propylene	10	8.79	88				-	70-130	-
Propane	10	9.04	90				-	70-130	-
Dichlorodifluoromethane	10	8.48	85				-	70-130	-
Chloromethane	10	11.0	110				-	70-130	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	10	9.86	99				-	70-130	-
Methanol	50	53.0	106				-	70-130	-
Vinyl chloride	10	10.2	102				-	70-130	-
1,3-Butadiene	10	10.4	104				-	70-130	-
Butane	10	8.55	86				-	70-130	-
Bromomethane	10	9.45	94				-	70-130	-
Chloroethane	10	9.52	95				-	70-130	-
Ethyl Alcohol	50	47.3	95				-	40-160	-
Dichlorofluoromethane	10	8.07	81				-	70-130	-
Vinyl bromide	10	10.0	100				-	70-130	-
Acrolein	10	8.47	85				-	60-113	-
Acetone	50	41.0	82				-	40-160	-
Acetonitrile	10	8.07	81				-	70-130	-
Trichlorofluoromethane	10	8.11	81				-	70-130	-
iso-Propyl Alcohol	25	20.6	82				-	40-160	-
Acrylonitrile	10	8.87	89				-	70-130	-
Pentane	10	8.32	83				-	70-130	-
Ethyl ether	10	9.03	90				-	70-130	-
1,1-Dichloroethene	10	6.96	70				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client : Aqua Pro-Tech Laboratories **Lab Number** : L2326643
Project Name : GOWANUS OH-007 **Project Number** : 156854
Matrix (Level) : SOIL_VAPOR (LOW)
LCS Sample ID : WG1782501-3 **Analysis Date** : 05/23/23 12:57 **File ID** : r428232
LCSD Sample ID : **Analysis Date** : **File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
tert-Butyl Alcohol	10	6.96	70				-	70-130	-
Methylene chloride	10	8.97	90				-	70-130	-
3-Chloropropene	10	8.72	87				-	70-130	-
Carbon disulfide	10	8.10	81				-	70-130	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	9.04	90				-	70-130	-
trans-1,2-Dichloroethene	10	8.47	85				-	70-130	-
1,1-Dichloroethane	10	8.80	88				-	70-130	-
Methyl tert butyl ether	10	8.12	81				-	70-130	-
Vinyl acetate	10	8.11	81				-	70-130	-
2-Butanone	10	8.42	84				-	70-130	-
cis-1,2-Dichloroethene	10	9.10	91				-	70-130	-
Ethyl Acetate	10	9.35	94				-	70-130	-
Chloroform	10	9.22	92				-	70-130	-
Tetrahydrofuran	10	8.05	80				-	70-130	-
2,2-Dichloropropane	10	7.50	75				-	70-130	-
1,2-Dichloroethane	10	7.82	78				-	70-130	-
n-Hexane	10	9.86	99				-	70-130	-
Isopropyl Ether	10	9.31	93				-	70-130	-
Ethyl-Tert-Butyl-Ether	10	8.72	87				-	70-130	-
1,2-Dichloroethene (total)	20	17.6	88				-	-	-
1,2-Dichloroethene (total)	20	17.6	88				-	-	-
1,1,1-Trichloroethane	10	9.02	90				-	70-130	-
1,1-Dichloropropene	10	8.46	85				-	70-130	-
Benzene	10	9.00	90				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client : Aqua Pro-Tech Laboratories **Lab Number** : L2326643
Project Name : GOWANUS OH-007 **Project Number** : 156854
Matrix (Level) : SOIL_VAPOR (LOW)
LCS Sample ID : WG1782501-3 **Analysis Date** : 05/23/23 12:57 **File ID** : r428232
LCSD Sample ID : **Analysis Date** : **File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Carbon tetrachloride	10	9.64	96				-	70-130	-
Cyclohexane	10	9.79	98				-	70-130	-
Tertiary-Amyl Methyl Ether	10	7.99	80				-	70-130	-
Dibromomethane	10	9.03	90				-	70-130	-
1,2-Dichloropropane	10	9.53	95				-	70-130	-
Bromodichloromethane	10	9.64	96				-	70-130	-
1,4-Dioxane	10	9.97	100				-	70-130	-
Trichloroethene	10	10.0	100				-	70-130	-
2,2,4-Trimethylpentane	10	9.89	99				-	70-130	-
Methyl Methacrylate	10	9.10	91				-	40-160	-
Heptane	10	8.88	89				-	70-130	-
cis-1,3-Dichloropropene	10	9.42	94				-	70-130	-
4-Methyl-2-pentanone	10	9.21	92				-	70-130	-
trans-1,3-Dichloropropene	10	8.01	80				-	70-130	-
1,1,2-Trichloroethane	10	9.54	95				-	70-130	-
Toluene	10	8.94	89				-	70-130	-
1,3-Dichloropropane	10	7.54	75				-	70-130	-
2-Hexanone	10	8.15	82				-	70-130	-
Dibromochloromethane	10	9.68	97				-	70-130	-
1,2-Dibromoethane	10	8.38	84				-	70-130	-
Butyl Acetate	10	7.70	77				-	70-130	-
Octane	10	8.30	83				-	70-130	-
Tetrachloroethene	10	9.00	90				-	70-130	-
1,1,1,2-Tetrachloroethane	10	8.53	85				-	70-130	-
Chlorobenzene	10	8.41	84				-	70-130	-
Ethylbenzene	10	8.95	90				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Matrix (Level)	: SOIL_VAPOR (LOW)		
LCS Sample ID	: WG1782501-3 **Analysis Date** : 05/23/23 12:57	**File ID**	: r428232
LCSD Sample ID	: **Analysis Date** :	**File ID**	:

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
p/m-Xylene	20	17.8	89				-	70-130	-
Bromoform	10	9.90	99				-	70-130	-
Styrene	10	8.27	83				-	70-130	-
1,1,2,2-Tetrachloroethane	10	9.51	95				-	70-130	-
o-Xylene	10	9.01	90				-	70-130	-
1,2,3-Trichloropropane	10	7.57	76				-	70-130	-
Nonane (C9)	10	7.64	76				-	70-130	-
Isopropylbenzene	10	7.92	79				-	70-130	-
Bromobenzene	10	7.79	78				-	70-130	-
o-Chlorotoluene	10	8.45	84				-	70-130	-
n-Propylbenzene	10	8.67	87				-	70-130	-
p-Chlorotoluene	10	8.10	81				-	70-130	-
4-Ethyltoluene	10	8.04	80				-	70-130	-
1,3,5-Trimethylbenzene	10	8.08	81				-	70-130	-
tert-Butylbenzene	10	9.37	94				-	70-130	-
1,2,4-Trimethylbenzene	10	9.48	95				-	70-130	-
Decane (C10)	10	8.66	87				-	70-130	-
Benzyl chloride	10	9.37	94				-	70-130	-
1,3-Dichlorobenzene	10	8.94	89				-	70-130	-
1,4-Dichlorobenzene	10	9.23	92				-	70-130	-
sec-Butylbenzene	10	7.51	75				-	70-130	-
p-Isopropyltoluene	10	8.04	80				-	70-130	-
1,2-Dichlorobenzene	10	9.03	90				-	70-130	-
n-Butylbenzene	10	8.20	82				-	70-130	-
1,2-Dibromo-3-chloropropane	10	7.81	78				-	70-130	-
Undecane	10	8.83	88				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Matrix (Level)	: SOIL_VAPOR (LOW)		
LCS Sample ID	: WG1782501-3 **Analysis Date** : 05/23/23 12:57	**File ID**	: r428232
LCSD Sample ID	: **Analysis Date** :	**File ID**	:

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Dodecane (C12)	10	8.98	90				-	70-130	-
1,2,4-Trichlorobenzene	10	9.08	91				-	70-130	-
Naphthalene	10	8.49	85				-	70-130	-
1,2,3-Trichlorobenzene	10	8.15	82				-	70-130	-
Hexachlorobutadiene	10	8.64	86				-	70-130	-

Method Blank Summary
Form 4
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab Sample ID	: WG1782501-4	**Lab File ID**	: r428235
Instrument ID	: AIRPIANO4		
Matrix	: SOIL_VAPOR	**Analysis Date**	: 05/23/23 15:43

Client Sample No.	Lab Sample ID	Analysis Date
WG1782501-3LCS	WG1782501-3	05/23/23 12:57
OH-SV-07_20230512	L2326643-01	05/23/23 19:07
SSV-3DUP	WG1782501-5	05/24/23 00:18

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRPIANO4	**Analysis Date**	: 04/15/23 16:04
Tune Standard	: WG1768377-1	**Tune File ID**	: r427357_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	14.8
75	30.0 - 66.0% of mass 95	40.3
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.6 (.9)1
174	50.0 - 120.0% of mass 95	67.4
175	4.0 - 9.0% of mass 174	4.9 (7.2)1
176	93.0 - 101% of mass 174	66 (97.9)1
177	5.0 - 9.0% of mass 176	4.4 (6.7)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
STD0.2	R1685512-1	R427361	04/15/23 18:35
STD0.5	R1685512-2	R427362	04/15/23 19:14
STD1.0	R1685512-3	R427363	04/15/23 19:56
STD5.0	R1685512-4	R427364	04/15/23 20:36
STD010	R1685512-5	R427365	04/15/23 21:18
STD020	R1685512-6	R427366	04/15/23 21:56
STD050	R1685512-7	R427367	04/15/23 22:36
STD100	R1685512-8	R427368	04/15/23 23:18

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRPIANO4	**Analysis Date**	: 04/16/23 20:40
Tune Standard	: WG1768377-2	**Tune File ID**	: r427370_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	13.2
75	30.0 - 66.0% of mass 95	36.3
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.5 (.7)1
174	50.0 - 120.0% of mass 95	69.7
175	4.0 - 9.0% of mass 174	5 (7.2)1
176	93.0 - 101% of mass 174	67.7 (97.1)1
177	5.0 - 9.0% of mass 176	4.5 (6.6)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
ICV QUANT	R1685512-9	R427371	04/16/23 21:22

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRPIANO4	**Analysis Date**	: 05/23/23 10:53
Tune Standard	: WG1782501-1	**Tune File ID**	: r428229_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	15.4
75	30.0 - 66.0% of mass 95	38.3
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.4 (.6)1
174	50.0 - 120.0% of mass 95	69.2
175	4.0 - 9.0% of mass 174	4.8 (6.9)1
176	93.0 - 101% of mass 174	65.7 (95)1
177	5.0 - 9.0% of mass 176	4.3 (6.6)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
WG1782501-2CCAL	WG1782501-2	R428232	05/23/23 12:57
WG1782501-3LCS	WG1782501-3	R428232	05/23/23 12:57
WG1782501-4BLANK	WG1782501-4	R428235	05/23/23 15:43
OH-SV-07_20230512	L2326643-01	R428238	05/23/23 19:07
WG1782501-5DUP	WG1782501-5	R428246	05/24/23 00:18

Internal Standard Area and RT Summary
Form 8a
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRPIANO4	**Analysis Date**	: 05/23/23 12:57:00
Sample No	: WG1782501-2	**Lab File ID**	: R428232

	Bromochloromethane		1,4-Difluorobenzene		Chlorobenzene-d5	
	Area	RT	Area	RT	Area	RT
WG1782501-2	324184	9.09	933983	11.29	140872	15.98
Upper Limit	453858	9.42	1307576	11.62	197221	16.31
Lower Limit	194510	8.76	560390	10.96	84523	15.65
Sample ID						
WG1782501-3 LCS	324184	9.09	933983	11.29	140872	15.98
WG1782501-4 BLANK	300792	9.10	873808	11.29	130130	15.99
OH-SV-07_20230512	326509	9.10	944930	11.30	147424	15.99
SSV-3 DUP	346907	9.10	1004839	11.30	161579	15.99

Area Upper Limit = +40% of internal standard area
Area Lower Limit = - 40% of internal standard area

RT Upper Limit = +0.33 minutes of internal standard RT
RT Lower Limit = -0.33 minutes of internal standard RT

* Values outside of QC limits

Date Created: 01/06/23
Created By: Jason Hebert
File: PM13669-1
Page: 1

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,1,1-Trichloroethane	71-55-6	0.2	0.0614	ppbV	70-130			25	25			
1,1,2,2-Tetrachloroethane	79-34-5	0.2	0.052	ppbV	70-130			25	25			
1,1,2-Trichloroethane	79-00-5	0.2	0.0582	ppbV	70-130			25	25			
1,1-Dichloroethane	75-34-3	0.2	0.0568	ppbV	70-130			25	25			
1,1-Dichloroethene	75-35-4	0.2	0.0568	ppbV	70-130			25	25			
1,2,3-Trimethylbenzene	526-73-8	0.2	0.0576	ppbV	70-130			25	25			
1,2,4-Trichlorobenzene	120-82-1	0.2	0.1	ppbV	70-130			25	25			
1,2,4-Trimethylbenzene	95-63-6	0.2	0.0577	ppbV	70-130			25	25			
1,2,4,5-Tetramethylbenzene	95-93-2	0.2	0.135	ppbV	70-130			25	25			
1,2-Dibromoethane	106-93-4	0.2	0.0544	ppbV	70-130			25	25			
1,2-Dichlorobenzene	95-50-1	0.2	0.0619	ppbV	70-130			25	25			
1,2-Dichloroethane	107-06-2	0.2	0.0787	ppbV	70-130			25	25			
1,2-Dichloropropane	78-87-5	0.2	0.0631	ppbV	70-130			25	25			
1,3,5-Trimethylbenzene	108-67-8	0.2	0.06	ppbV	70-130			25	25			
1,3-Butadiene	106-99-0	0.2	0.0619	ppbV	70-130			25	25			
1,3-Dichlorobenzene	541-73-1	0.2	0.0777	ppbV	70-130			25	25			
1,4-Dichlorobenzene	106-46-7	0.2	0.0826	ppbV	70-130			25	25			
1,4-Dioxane	123-91-1	0.2	0.0538	ppbV	70-130			25	25			
2,2,4-Trimethylpentane	540-84-1	0.2	0.0692	ppbV	70-130			25	25			
2-Butanone	78-93-3	0.5	0.099	ppbV	70-130			25	25			
2-Hexanone	591-78-6	0.2	0.0912	ppbV	70-130			25	25			
2-Methylthiophene	554-14-3	0.2	0.0622	ppbV	70-130			25	25			
3-Methylthiophene	616-44-4	0.2	0.0634	ppbV	70-130			25	25			
3-Chloropropene	107-05-1	0.2	0.086	ppbV	70-130			25	25			
2-Ethylthiophene	872-55-9	0.2	0.0612	ppbV	70-130			25	25			
4-Ethyltoluene	622-96-8	0.2	0.0554	ppbV	70-130			25	25			
Acetone	67-64-1	1	0.515	ppbV	40-160			25	25			
Benzene	71-43-2	0.2	0.0643	ppbV	70-130			25	25			
Benzyl chloride	100-44-7	0.2	0.0939	ppbV	70-130			25	25			
Benzothiophene	95-15-8	0.5	0.273	ppbV	70-130			25	25			
Bromodichloromethane	75-27-4	0.2	0.0689	ppbV	70-130			25	25			
Bromoform	75-25-2	0.2	0.0596	ppbV	70-130			25	25			
Bromomethane	74-83-9	0.2	0.0547	ppbV	70-130			25	25			
Carbon disulfide	75-15-0	0.2	0.0465	ppbV	70-130			25	25			
Carbon tetrachloride	56-23-5	0.2	0.0686	ppbV	70-130			25	25			
Chlorobenzene	108-90-7	0.2	0.0516	ppbV	70-130			25	25			
Chloroethane	75-00-3	0.2	0.0649	ppbV	70-130			25	25			
Chloroform	67-66-3	0.2	0.0552	ppbV	70-130			25	25			
Chloromethane	74-87-3	0.2	0.0576	ppbV	70-130			25	25			
cis-1,2-Dichloroethene	156-59-2	0.2	0.0595	ppbV	70-130			25	25			
cis-1,3-Dichloropropene	10061-01-5	0.2	0.0674	ppbV	70-130			25	25			
Cyclohexane	110-82-7	0.2	0.0728	ppbV	70-130			25	25			

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. ***(Soil/Solids only)***
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
Dibromochloromethane	124-48-1	0.2	0.0566	ppbV	70-130			25	25			
Dichlorodifluoromethane	75-71-8	0.2	0.0757	ppbV	70-130			25	25			
Ethyl Alcohol	GCDAI06	5	1.74	ppbV	40-160			25	25			
Ethyl Acetate	141-78-6	0.5	0.297	ppbV	70-130			25	25			
Ethylbenzene	100-41-4	0.2	0.0575	ppbV	70-130			25	25			
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	0.2	0.0506	ppbV	70-130			25	25			
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	0.2	0.0504	ppbV	70-130			25	25			
Hexachlorobutadiene	87-68-3	0.2	0.0607	ppbV	70-130			25	25			
iso-Propyl Alcohol	67-63-0	0.5	0.272	ppbV	40-160			25	25			
Methylene chloride	75-09-2	0.5	0.125	ppbV	70-130			25	25			
4-Methyl-2-pentanone	108-10-1	0.5	0.19	ppbV	70-130			25	25			
Methyl tert butyl ether	1634-04-4	0.2	0.045	ppbV	70-130			25	25			
Methyl Methacrylate	80-62-6	0.5	0.226	ppbV	40-160			25	25			
p/m-Xylene	179601-23-1	0.4	0.125	ppbV	70-130			25	25			
o-Xylene	95-47-6	0.2	0.0621	ppbV	70-130			25	25			
Xylene (Total)	1330-20-7	0.2	0.0621	ppbV				25	25			
Heptane	142-82-5	0.2	0.0828	ppbV	70-130			25	25			
n-Heptane	142-82-5	0.2	0.0828	ppbV	70-130			25	25			
n-Hexane	110-54-3	0.2	0.0743	ppbV	70-130			25	25			
Propylene	115-07-1	0.5	0.135	ppbV	70-130			25	25			
Styrene	100-42-5	0.2	0.0596	ppbV	70-130			25	25			
Tetrachloroethene	127-18-4	0.2	0.0627	ppbV	70-130			25	25			
Thiophene	110-02-1	0.2	0.052	ppbV	70-130			25	25			
Tetrahydrofuran	109-99-9	0.5	0.117	ppbV	70-130			25	25			
Toluene	108-88-3	0.2	0.0867	ppbV	70-130			25	25			
trans-1,2-Dichloroethene	156-60-5	0.2	0.0755	ppbV	70-130			25	25			
1,2-Dichloroethene (total)	540-59-0	0.2	0.0595	ppbV				25	25			
trans-1,3-Dichloropropene	10061-02-6	0.2	0.0783	ppbV	70-130			25	25			
1,3-Dichloropropene, Total	542-75-6	0.2	0.0674	ppbV				25	25			
Trichloroethene	79-01-6	0.2	0.0548	ppbV	70-130			25	25			
Trichlorofluoromethane	75-69-4	0.2	0.0787	ppbV	70-130			25	25			
Vinyl acetate	108-05-4	1	0.323	ppbV	70-130			25	25			
Vinyl bromide	593-60-2	0.2	0.0722	ppbV	70-130			25	25			
Vinyl chloride	75-01-4	0.2	0.0582	ppbV	70-130			25	25			
Naphthalene	91-20-3	0.2	0.078	ppbV	70-130			25	25			
Total HC As Hexane	NONE	10	0.0743	ppbV	70-130			25	25			
Total VOCs As Toluene	NONE	10	0.0867	ppbV	70-130			25	25			
Propane	74-98-6	0.5	0.152	ppbV	70-130			25	25			
Acrylonitrile	107-13-1	0.5	0.0894	ppbV	70-130			25	25			
Acrolein	107-02-8	0.5	0.149	ppbV	60-113			25	25			
1,1,1,2-Tetrachloroethane	630-20-6	0.2	0.0508	ppbV	70-130			25	25			
Isopropylbenzene	98-82-8	0.2	0.0621	ppbV	70-130			25	25			

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,2,3-Trichloropropane	96-18-4	0.2	0.0575	ppbV	70-130			25	25			
Acetonitrile	75-05-8	0.2	0.101	ppbV	70-130			25	25			
Bromobenzene	108-86-1	0.2	0.0579	ppbV	70-130			25	25			
Chlorodifluoromethane	75-45-6	0.2	0.0463	ppbV	70-130			25	25			
Dichlorofluoromethane	75-43-4	0.2	0.112	ppbV	70-130			25	25			
Dibromomethane	74-95-3	0.2	0.0598	ppbV	70-130			25	25			
Pentane	109-66-0	0.2	0.113	ppbV	70-130			25	25			
Octane	111-65-9	0.2	0.0676	ppbV	70-130			25	25			
Tertiary-Amyl Methyl Ether	994-05-8	0.2	0.0672	ppbV	70-130			25	25			
o-Chlorotoluene	95-49-8	0.2	0.0761	ppbV	70-130			25	25			
p-Chlorotoluene	106-43-4	0.2	0.0765	ppbV	70-130			25	25			
2,2-Dichloropropane	594-20-7	0.2	0.0429	ppbV	70-130			25	25			
1,1-Dichloropropene	563-58-6	0.2	0.0593	ppbV	70-130			25	25			
Isopropyl Ether	108-20-3	0.2	0.0631	ppbV	70-130			25	25			
Ethyl-Tert-Butyl-Ether	637-92-3	0.2	0.0731	ppbV	70-130			25	25			
1,2,3-Trichlorobenzene	87-61-6	0.2	0.0738	ppbV	70-130			25	25			
Ethyl ether	60-29-7	0.2	0.0853	ppbV	70-130			25	25			
n-Butylbenzene	104-51-8	0.2	0.0536	ppbV	70-130			25	25			
sec-Butylbenzene	135-98-8	0.2	0.0547	ppbV	70-130			25	25			
tert-Butylbenzene	98-06-6	0.2	0.0551	ppbV	70-130			25	25			
1,2-Dibromo-3-chloropropane	96-12-8	0.2	0.0624	ppbV	70-130			25	25			
p-Isopropyltoluene	99-87-6	0.2	0.0567	ppbV	70-130			25	25			
n-Propylbenzene	103-65-1	0.2	0.0633	ppbV	70-130			25	25			
1,3-Dichloropropane	142-28-9	0.2	0.0536	ppbV	70-130			25	25			
Methanol	67-56-1	5	3.029	ppbV	70-130			25	25			
Acetaldehyde	75-07-0	2.5	1.73	ppbV	70-130			25	25			
Butane	106-97-8	0.2	0.08	ppbV	70-130			25	25			
Nonane (C9)	111-84-2	0.2	0.0737	ppbV	70-130			25	25			
Decane (C10)	124-18-5	0.2	0.0697	ppbV	70-130			25	25			
Undecane	1120-21-4	0.2	0.0709	ppbV	70-130			25	25			
Indane	496-11-7	0.2	0.0591	ppbV	70-130			25	25			
Indene	95-13-6	0.2	0.0711	ppbV	70-130			25	25			
1-Methylnaphthalene	90-12-0	1	0.264	ppbV	70-130			25	25			
Dodecane (C12)	112-40-3	0.2	0.0891	ppbV	70-130			25	25			
Butyl Acetate	123-86-4	0.5	0.208	ppbV	70-130			25	25			
tert-Butyl Alcohol	75-65-0	0.5	0.132	ppbV	70-130			25	25			
2-Methylnaphthalene	91-57-6	1	0.259	ppbV	70-130			25	25			
1,2-Dichloroethane-d4	*17060-07-0*									*70-130*		
Toluene-d8	*2037-26-5*									*70-130*		
Bromofluorobenzene	*460-00-4*									*70-130*		

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatiles Sample Data

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326643
Project Name	: GOWANUS OH-007	Project Number	: 156854
Lab ID	: L2326643-01	Date Collected	: 05/12/23 14:00
Client ID	: OH-SV-07_20230512	Date Received	: 05/12/23
Sample Location	: BROOKLYN, NY	Date Analyzed	: 05/23/23 19:07
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: RAY
Lab File ID	: R428238	Instrument ID	: AIRPIANO4
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--	U
74-87-3	Chloromethane	1.36	0.200	--	2.81	0.413	--	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethan	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	0.576	0.200	--	1.27	0.442	--	
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethyl Alcohol	246	5.00	--	464	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	75.0	1.00	--	178	2.38	--	
75-69-4	Trichlorofluoromethane	ND	0.200	--	ND	1.12	--	U
67-63-0	iso-Propyl Alcohol	69.3	0.500	--	170	1.23	--	
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U UJ, RC:SL
75-65-0	tert-Butyl Alcohol	3.15	0.500	--	9.55	1.52	--	J, RC:SL
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	27.5	0.200	--	85.6	0.623	--	
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	6.91	0.500	--	20.4	1.47	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	45.7	0.500	--	165	1.80	--	
67-66-3	Chloroform	0.344	0.200	--	1.68	0.977	--	
109-99-9	Tetrahydrofuran	1.22	0.500	--	3.60	1.47	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: L2326643-01	**Date Collected**	: 05/12/23 14:00
Client ID	: OH-SV-07_20230512	**Date Received**	: 05/12/23
Sample Location	: BROOKLYN, NY	**Date Analyzed**	: 05/23/23 19:07
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R428238	**Instrument ID**	: AIRPIANO4
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	16.6	0.200	--	58.5	0.705	--	
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	17.1	0.200	--	54.6	0.639	--	
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	17.3	0.200	--	59.5	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
1330-20-7	Xylene (Total)	12.6	0.200	--	54.7	0.869	--	
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	3.64	0.200	--	17.0	0.934	--	
142-82-5	Heptane	6.76	0.200	--	27.7	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	0.625	0.500	--	2.56	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	15.0	0.200	--	56.5	0.754	--	
540-59-0	1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--	U
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
542-75-6	1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	0.277	0.200	--	1.88	1.36	--	
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	2.93	0.200	--	12.7	0.869	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326643
Project Name	: GOWANUS OH-007	Project Number	: 156854
Lab ID	: L2326643-01	Date Collected	: 05/12/23 14:00
Client ID	: OH-SV-07_20230512	Date Received	: 05/12/23
Sample Location	: BROOKLYN, NY	Date Analyzed	: 05/23/23 19:07
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: RAY
Lab File ID	: R428238	Instrument ID	: AIRPIANO4
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
179601-23-1	p/m-Xylene	8.78	0.400	--	38.1	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	3.87	0.200	--	16.8	0.869	--	
622-96-8	4-Ethyltoluene	0.719	0.200	--	3.53	0.983	--	
108-67-8	1,3,5-Trimethylbenzene	0.967	0.200	--	4.75	0.983	--	
95-63-6	1,2,4-Trimethylbenzene	3.35	0.200	--	16.5	0.983	--	J, RC:Q
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	0.547	0.200	--	3.29	1.20	--	
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1782501-4	**Date Collected**	: NA
Client ID	: WG1782501-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/23/23 15:43
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R428235	**Instrument ID**	: AIRPIANO4
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-45-6	Chlorodifluoromethane	ND	0.200	--	ND	0.707	--	U
115-07-1	Propylene	ND	0.500	--	ND	0.861	--	U
74-98-6	Propane	ND	0.500	--	ND	0.902	--	U
75-71-8	Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--	U
74-87-3	Chloromethane	ND	0.200	--	ND	0.413	--	U
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethan	ND	0.200	--	ND	1.40	--	U
67-56-1	Methanol	ND	5.00	--	ND	6.55	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
106-97-8	Butane	ND	0.200	--	ND	0.475	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethyl Alcohol	ND	5.00	--	ND	9.42	--	U
75-43-4	Dichlorofluoromethane	ND	0.200	--	ND	0.842	--	U
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
107-02-8	Acrolein	ND	0.500	--	ND	1.15	--	U
67-64-1	Acetone	ND	1.00	--	ND	2.38	--	U
75-05-8	Acetonitrile	ND	0.200	--	ND	0.336	--	U
75-69-4	Trichlorofluoromethane	ND	0.200	--	ND	1.12	--	U
67-63-0	iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--	U
107-13-1	Acrylonitrile	ND	0.500	--	ND	1.09	--	U
109-66-0	Pentane	ND	0.200	--	ND	0.590	--	U
60-29-7	Ethyl ether	ND	0.200	--	ND	0.606	--	U
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1782501-4	**Date Collected**	: NA
Client ID	: WG1782501-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/23/23 15:43
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R428235	**Instrument ID**	: AIRPIANO4
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
108-05-4	Vinyl acetate	ND	1.00	--	ND	3.52	--	U
1330-20-7	Xylene (Total)	ND	0.200	--	ND	0.869	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U
594-20-7	2,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
108-20-3	Isopropyl Ether	ND	0.200	--	ND	0.836	--	U
637-92-3	Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--	U
540-59-0	1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
563-58-6	1,1-Dichloropropene	ND	0.200	--	ND	0.908	--	U
542-75-6	1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--	U
71-43-2	Benzene	ND	0.200	--	ND	0.639	--	U
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
994-05-8	Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326643
Project Name	: GOWANUS OH-007	Project Number	: 156854
Lab ID	: WG1782501-4	Date Collected	: NA
Client ID	: WG1782501-4BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 05/23/23 15:43
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: RAY
Lab File ID	: R428235	Instrument ID	: AIRPIANO4
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
74-95-3	Dibromomethane	ND	0.200	--	ND	1.42	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
80-62-6	Methyl Methacrylate	ND	0.500	--	ND	2.05	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	ND	0.200	--	ND	0.754	--	U
142-28-9	1,3-Dichloropropane	ND	0.200	--	ND	0.924	--	U
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
123-86-4	Butyl Acetate	ND	0.500	--	ND	2.38	--	U
111-65-9	Octane	ND	0.200	--	ND	0.934	--	U
127-18-4	Tetrachloroethene	ND	0.200	--	ND	1.36	--	U
630-20-6	1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1782501-4	**Date Collected**	: NA
Client ID	: WG1782501-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/23/23 15:43
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R428235	**Instrument ID**	: AIRPIANO4
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
96-18-4	1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--	U
111-84-2	Nonane (C9)	ND	0.200	--	ND	1.05	--	U
98-82-8	Isopropylbenzene	ND	0.200	--	ND	0.983	--	U
108-86-1	Bromobenzene	ND	0.200	--	ND	0.793	--	U
95-49-8	o-Chlorotoluene	ND	0.200	--	ND	1.04	--	U
103-65-1	n-Propylbenzene	ND	0.200	--	ND	0.983	--	U
106-43-4	p-Chlorotoluene	ND	0.200	--	ND	1.04	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
98-06-6	tert-Butylbenzene	ND	0.200	--	ND	1.10	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
124-18-5	Decane (C10)	ND	0.200	--	ND	1.16	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
135-98-8	sec-Butylbenzene	ND	0.200	--	ND	1.10	--	U
99-87-6	p-Isopropyltoluene	ND	0.200	--	ND	1.10	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
104-51-8	n-Butylbenzene	ND	0.200	--	ND	1.10	--	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--	U
1120-21-4	Undecane	ND	0.200	--	ND	1.28	--	U
112-40-3	Dodecane (C12)	ND	0.200	--	ND	1.39	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
91-20-3	Naphthalene	ND	0.200	--	ND	1.05	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326643
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1782501-4	**Date Collected**	: NA
Client ID	: WG1782501-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/23/23 15:43
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R428235	**Instrument ID**	: AIRPIANO4
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
87-61-6	1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

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Laboratory Code: 11148

SDG Number: L2326793

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Project Name:	GOWANUS OH-007	**Lab Number:**	L2326793
Project Number:	156854	**Report Date:**	05/26/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326793-01	OH-SV-06_20230513	SOIL_VAPOR	BROOKLYN, NY	05/13/23 12:50	05/15/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on May 12, 2023. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J Anderson Report Date: 05/26/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

ND - Not detected at the reporting limit (RL) for the sample.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD	
	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2326793

Account Name : Aqua Pro-Tech Laboratories
Project Number : 156854
Project Name : GOWANUS OH-007

Received : 15-MAY-2023
Reviewer : Jennifer Jerome

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
NA	Absent/			

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**YES**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
May 26 2023, 04:21 pm

Login Number: L2326793
Account: AQUAPROTECH Aqua Pro-Tech LaboratoriesProject: 156854
Received: 15MAY23 Due Date: 30MAY23

Sample #	Client ID	Mat	PR	Collected
L2326793-01	OH-SV-06_20230513		11 S0	13MAY23 12:50

| ASP-B Package Due Date: 05/30/23

ASP-B,CAN-RENT,E&I-FEE,FLOW-RENT,TO15-LL

Logged By: Jennifer Jerome

AIR ANALYSIS

CHAIN OF CUSTODY

PAGE _____ OF _____

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/16/23

ALPHA Job #: L2326793

Client Information

Client: Yu & Associates
Address: 611 River Drive
3rd Floor, Elmwood Park NJ 07407
Phone: 201-773-9621
Fax: Swang@Yu-associates
Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Gowanus OU-007
Project Location: Brooklyn, NY
Project #: 156854
Project Manager: Sixuan Wang
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker: _____
(Default based on Regulatory Criteria Indicated)
Other Formats: _____
☐ EMAIL (standard pdf report)
☑ Additional Deliverables: NY STATE Category B
Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subset Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
26793-01	OU-SV-06-20230513	05/13	1040	1250	-29.27	-4.10 / -3.53	SV	MAS SH	2.7	4720	00x	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
Mike Magnozzi	05/15/23 1350	Alfonso Rivera	5/15/23 1350
Alfonso Rivera (AM)	5/15-23 1840	Paul Mazzella	5/15/23 2015
Paul Mazzella	5/15/23 0010		

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Form No: 101-02 Rev: (25-Sep-15)

Supporting Documentation

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2326793-01	OH-SV-06_20230513	0076	Flow 3	05/12/23	423933		-	-	-	Pass	18.0	17.0	6
L2326793-01	OH-SV-06_20230513	470	2.7L Can	05/12/23	423933	L2325305-01	Pass	-29.9	-3.9	-	-	-	-

Air Canister Certification Results

Lab ID: L2325305-01
Client ID: CAN 423 SHELF 14
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/08/23 18:29
Analyst: TJS

Date Collected: 05/05/23 18:00
Date Received: 05/08/23
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air								
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					
No Tentatively Identified Compounds					

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	89		60-140

Air Canister Certification Results

Lab ID: L2325305-01
Client ID: CAN 423 SHELF 14
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/08/23 18:29
Analyst: TJS

Date Collected: 05/05/23 18:00
Date Received: 05/08/23
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Air Canister Certification Results

Lab ID: L2325305-01 Date Collected: 05/05/23 18:00
Client ID: CAN 423 SHELF 14 Date Received: 05/08/23
Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Organics

Volatile Organics in Air
TO-15 Low Level

Volatiles QC Summary

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client : Aqua Pro-Tech Laboratories **Lab Number** : L2326793
Project Name : GOWANUS OH-007 **Project Number** : 156854
Matrix (Level) : AIR (LOW)
LCS Sample ID : WG1783562-3 **Analysis Date** : 05/25/23 13:32 **File ID** : r1922566
LCSD Sample ID : **Analysis Date** : **File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
Dichlorodifluoromethane	10	9.64	96				-	70-130	-
Chloromethane	10	9.11	91				-	70-130	-
Freon-114	10	9.96	100				-	70-130	-
Vinyl chloride	10	9.36	94				-	70-130	-
1,3-Butadiene	10	9.35	94				-	70-130	-
Bromomethane	10	10.2	102				-	70-130	-
Chloroethane	10	9.36	94				-	70-130	-
Ethanol	50	33.0	66				-	40-160	-
Vinyl bromide	10	8.26	83				-	70-130	-
Acetone	50	45.3	91				-	40-160	-
Trichlorofluoromethane	10	8.98	90				-	70-130	-
Isopropanol	25	20.8	83				-	40-160	-
1,1-Dichloroethene	10	9.20	92				-	70-130	-
Tertiary butyl Alcohol	10	8.46	85				-	70-130	-
Methylene chloride	10	9.32	93				-	70-130	-
3-Chloropropene	10	9.07	91				-	70-130	-
Carbon disulfide	10	8.50	85				-	70-130	-
Freon-113	10	9.28	93				-	70-130	-
trans-1,2-Dichloroethene	10	8.66	87				-	70-130	-
1,1-Dichloroethane	10	8.85	88				-	70-130	-
Methyl tert butyl ether	10	9.28	93				-	70-130	-
2-Butanone	10	8.72	87				-	70-130	-
cis-1,2-Dichloroethene	10	9.17	92				-	70-130	-
Ethyl Acetate	10	9.07	91				-	70-130	-
Chloroform	10	10.0	100				-	70-130	-
Tetrahydrofuran	10	8.92	89				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Matrix (Level)	: AIR (LOW)		
LCS Sample ID	: WG1783562-3	**Analysis Date** : 05/25/23 13:32	**File ID** : r1922566
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
1,2-Dichloroethane	10	9.29	93				-	70-130	-
n-Hexane	10	8.87	89				-	70-130	-
1,1,1-Trichloroethane	10	9.19	92				-	70-130	-
Benzene	10	9.27	93				-	70-130	-
Carbon tetrachloride	10	9.84	98				-	70-130	-
Cyclohexane	10	8.80	88				-	70-130	-
1,2-Dichloropropane	10	9.16	92				-	70-130	-
Bromodichloromethane	10	9.92	99				-	70-130	-
1,4-Dioxane	10	9.48	95				-	70-130	-
Trichloroethene	10	9.23	92				-	70-130	-
2,2,4-Trimethylpentane	10	9.11	91				-	70-130	-
Heptane	10	9.38	94				-	70-130	-
cis-1,3-Dichloropropene	10	10.1	101				-	70-130	-
4-Methyl-2-pentanone	10	10.7	107				-	70-130	-
trans-1,3-Dichloropropene	10	8.98	90				-	70-130	-
1,1,2-Trichloroethane	10	9.32	93				-	70-130	-
Toluene	10	8.38	84				-	70-130	-
2-Hexanone	10	8.63	86				-	70-130	-
Dibromochloromethane	10	9.34	93				-	70-130	-
1,2-Dibromoethane	10	9.28	93				-	70-130	-
Tetrachloroethene	10	9.13	91				-	70-130	-
Chlorobenzene	10	9.04	90				-	70-130	-
Ethylbenzene	10	8.76	88				-	70-130	-
p/m-Xylene	20	17.6	88				-	70-130	-
Bromoform	10	9.37	94				-	70-130	-
Styrene	10	8.75	88				-	70-130	-

Laboratory Control Sample Summary
Form 3
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Matrix (Level)	: AIR (LOW)		
LCS Sample ID	: WG1783562-3	**Analysis Date** : 05/25/23 13:32	**File ID** : r1922566
LCSD Sample ID	:	**Analysis Date** :	**File ID** :

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ppbV)	Found (ppbV)	%R	True (ppbV)	Found (ppbV)	%R	RPD	Recovery Limits	RPD Limit
1,1,2,2-Tetrachloroethane	10	9.49	95				-	70-130	-
o-Xylene	10	9.00	90				-	70-130	-
4-Ethyltoluene	10	8.54	85				-	70-130	-
1,3,5-Trimethylbenzene	10	8.58	86				-	70-130	-
1,2,4-Trimethylbenzene	10	9.17	92				-	70-130	-
Benzyl chloride	10	8.93	89				-	70-130	-
1,3-Dichlorobenzene	10	9.13	91				-	70-130	-
1,4-Dichlorobenzene	10	9.12	91				-	70-130	-
1,2-Dichlorobenzene	10	9.72	97				-	70-130	-
1,2,4-Trichlorobenzene	10	10.0	100				-	70-130	-
Hexachlorobutadiene	10	10.2	102				-	70-130	-

Method Blank Summary
Form 4
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab Sample ID	: WG1783562-4	**Lab File ID**	: r1922570
Instrument ID	: AIRLAB19		
Matrix	: SOIL_VAPOR	**Analysis Date**	: 05/25/23 18:21

Client Sample No.	Lab Sample ID	Analysis Date
WG1783562-3LCS	WG1783562-3	05/25/23 13:32
DUMMY 131DUP	WG1783562-5	05/25/23 23:40
OH-SV-06_20230513	L2326793-01	05/26/23 00:19

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRLAB19	**Analysis Date**	: 05/01/23 07:03
Tune Standard	: WG1773804-1	**Tune File ID**	: r1921991_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	20.4
75	30.0 - 66.0% of mass 95	44.9
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.4 (.9)1
174	50.0 - 120.0% of mass 95	50.2
175	4.0 - 9.0% of mass 174	3.6 (7.3)1
176	93.0 - 101% of mass 174	48.3 (96.3)1
177	5.0 - 9.0% of mass 176	3.1 (6.4)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
STD0.2	R1690500-2	R1921995	05/01/23 09:32
STD0.5	R1690500-1	R1921996	05/01/23 10:11
STD1.0	R1690500-3	R1921997	05/01/23 10:52
STD5.0	R1690500-4	R1921998	05/01/23 11:31
STD010	R1690500-5	R1921999	05/01/23 12:12
STD020	R1690500-6	R1922000	05/01/23 12:50
STD050	R1690500-7	R1922001	05/01/23 13:28
STD100	R1690500-8	R1922002	05/01/23 14:09
ICV QUANT	R1690500-9	R1922005	05/01/23 19:15

Instrument Performance Check (Tune) Summary
Form 5
Air Volatiles
Bromofluorobenzene (BFB)

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRLAB19	**Analysis Date**	: 05/25/23 12:09
Tune Standard	: WG1783562-1	**Tune File ID**	: r1922564_tune

m/e	Ion Abundance Criteria	%Relative Abundance
50	8.0 - 40.0% of mass 95	22.3
75	30.0 - 66.0% of mass 95	49.7
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.4 (.7)1
174	50.0 - 120.0% of mass 95	52.7
175	4.0 - 9.0% of mass 174	3.8 (7.3)1
176	93.0 - 101% of mass 174	50.9 (96.6)1
177	5.0 - 9.0% of mass 176	3.4 (6.6)2

1-Value is % of mass 174 2-Value is % of mass 176

This Check Applies to the following Samples, MS, MSD, Blanks, and Standards:

Client Sample ID	Lab Sample ID	File ID	Analysis Date/Time
WG1783562-2CCAL	WG1783562-2	R1922565	05/25/23 12:50
WG1783562-3LCS	WG1783562-3	R1922566	05/25/23 13:32
WG1783562-4BLANK	WG1783562-4	R1922570	05/25/23 18:21
WG1783562-5DUP	WG1783562-5	R1922577	05/25/23 23:40
OH-SV-06_20230513	L2326793-01	R1922578	05/26/23 00:19

Internal Standard Area and RT Summary
Form 8a
Air Volatiles

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Instrument ID	: AIRLAB19	**Analysis Date**	: 05/25/23 12:50:00
Sample No	: WG1783562-2	**Lab File ID**	: R1922565

	Bromochloromethane		1,4-Difluorobenzene		Chlorobenzene-d5	
	Area	RT	Area	RT	Area	RT
WG1783562-2	380163	8.38	866624	10.58	191214	15.37
Upper Limit	532228	8.71	1213274	10.91	267700	15.70
Lower Limit	228098	8.05	519974	10.25	114728	15.04
Sample ID						
WG1783562-3 LCS	388758	8.38	895322	10.58	193421	15.36
WG1783562-4 BLANK	382018	8.36	882236	10.56	190462	15.36
DUMMY 131 DUP	354536	8.38	794780	10.57	169749	15.36
OH-SV-06_20230513	359984	8.37	838080	10.57	183531	15.36

Area Upper Limit = +40% of internal standard area
Area Lower Limit = - 40% of internal standard area

RT Upper Limit = +0.33 minutes of internal standard RT
RT Lower Limit = -0.33 minutes of internal standard RT

* Values outside of QC limits

Date Created: 01/06/23
Created By: Jason Hebert
File: PM13669-1
Page: 1

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,1,1-Trichloroethane	71-55-6	0.2	0.0614	ppbV	70-130			25	25			
1,1,2,2-Tetrachloroethane	79-34-5	0.2	0.052	ppbV	70-130			25	25			
1,1,2-Trichloroethane	79-00-5	0.2	0.0582	ppbV	70-130			25	25			
1,1-Dichloroethane	75-34-3	0.2	0.0568	ppbV	70-130			25	25			
1,1-Dichloroethene	75-35-4	0.2	0.0568	ppbV	70-130			25	25			
1,2,3-Trimethylbenzene	526-73-8	0.2	0.0576	ppbV	70-130			25	25			
1,2,4-Trichlorobenzene	120-82-1	0.2	0.1	ppbV	70-130			25	25			
1,2,4-Trimethylbenzene	95-63-6	0.2	0.0577	ppbV	70-130			25	25			
1,2,4,5-Tetramethylbenzene	95-93-2	0.2	0.135	ppbV	70-130			25	25			
1,2-Dibromoethane	106-93-4	0.2	0.0544	ppbV	70-130			25	25			
1,2-Dichlorobenzene	95-50-1	0.2	0.0619	ppbV	70-130			25	25			
1,2-Dichloroethane	107-06-2	0.2	0.0787	ppbV	70-130			25	25			
1,2-Dichloropropane	78-87-5	0.2	0.0631	ppbV	70-130			25	25			
1,3,5-Trimethylbenzene	108-67-8	0.2	0.06	ppbV	70-130			25	25			
1,3-Butadiene	106-99-0	0.2	0.0619	ppbV	70-130			25	25			
1,3-Dichlorobenzene	541-73-1	0.2	0.0777	ppbV	70-130			25	25			
1,4-Dichlorobenzene	106-46-7	0.2	0.0826	ppbV	70-130			25	25			
1,4-Dioxane	123-91-1	0.2	0.0538	ppbV	70-130			25	25			
2,2,4-Trimethylpentane	540-84-1	0.2	0.0692	ppbV	70-130			25	25			
2-Butanone	78-93-3	0.5	0.099	ppbV	70-130			25	25			
2-Hexanone	591-78-6	0.2	0.0912	ppbV	70-130			25	25			
2-Methylthiophene	554-14-3	0.2	0.0622	ppbV	70-130			25	25			
3-Methylthiophene	616-44-4	0.2	0.0634	ppbV	70-130			25	25			
3-Chloropropene	107-05-1	0.2	0.086	ppbV	70-130			25	25			
2-Ethylthiophene	872-55-9	0.2	0.0612	ppbV	70-130			25	25			
4-Ethyltoluene	622-96-8	0.2	0.0554	ppbV	70-130			25	25			
Acetone	67-64-1	1	0.515	ppbV	40-160			25	25			
Benzene	71-43-2	0.2	0.0643	ppbV	70-130			25	25			
Benzyl chloride	100-44-7	0.2	0.0939	ppbV	70-130			25	25			
Benzothiophene	95-15-8	0.5	0.273	ppbV	70-130			25	25			
Bromodichloromethane	75-27-4	0.2	0.0689	ppbV	70-130			25	25			
Bromoform	75-25-2	0.2	0.0596	ppbV	70-130			25	25			
Bromomethane	74-83-9	0.2	0.0547	ppbV	70-130			25	25			
Carbon disulfide	75-15-0	0.2	0.0465	ppbV	70-130			25	25			
Carbon tetrachloride	56-23-5	0.2	0.0686	ppbV	70-130			25	25			
Chlorobenzene	108-90-7	0.2	0.0516	ppbV	70-130			25	25			
Chloroethane	75-00-3	0.2	0.0649	ppbV	70-130			25	25			
Chloroform	67-66-3	0.2	0.0552	ppbV	70-130			25	25			
Chloromethane	74-87-3	0.2	0.0576	ppbV	70-130			25	25			
cis-1,2-Dichloroethene	156-59-2	0.2	0.0595	ppbV	70-130			25	25			
cis-1,3-Dichloropropene	10061-01-5	0.2	0.0674	ppbV	70-130			25	25			
Cyclohexane	110-82-7	0.2	0.0728	ppbV	70-130			25	25			

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. ***(Soil/Solids only)***
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
Dibromochloromethane	124-48-1	0.2	0.0566	ppbV	70-130			25	25			
Dichlorodifluoromethane	75-71-8	0.2	0.0757	ppbV	70-130			25	25			
Ethyl Alcohol	GCDAI06	5	1.74	ppbV	40-160			25	25			
Ethyl Acetate	141-78-6	0.5	0.297	ppbV	70-130			25	25			
Ethylbenzene	100-41-4	0.2	0.0575	ppbV	70-130			25	25			
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	0.2	0.0506	ppbV	70-130			25	25			
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	0.2	0.0504	ppbV	70-130			25	25			
Hexachlorobutadiene	87-68-3	0.2	0.0607	ppbV	70-130			25	25			
iso-Propyl Alcohol	67-63-0	0.5	0.272	ppbV	40-160			25	25			
Methylene chloride	75-09-2	0.5	0.125	ppbV	70-130			25	25			
4-Methyl-2-pentanone	108-10-1	0.5	0.19	ppbV	70-130			25	25			
Methyl tert butyl ether	1634-04-4	0.2	0.045	ppbV	70-130			25	25			
Methyl Methacrylate	80-62-6	0.5	0.226	ppbV	40-160			25	25			
p/m-Xylene	179601-23-1	0.4	0.125	ppbV	70-130			25	25			
o-Xylene	95-47-6	0.2	0.0621	ppbV	70-130			25	25			
Xylene (Total)	1330-20-7	0.2	0.0621	ppbV				25	25			
Heptane	142-82-5	0.2	0.0828	ppbV	70-130			25	25			
n-Heptane	142-82-5	0.2	0.0828	ppbV	70-130			25	25			
n-Hexane	110-54-3	0.2	0.0743	ppbV	70-130			25	25			
Propylene	115-07-1	0.5	0.135	ppbV	70-130			25	25			
Styrene	100-42-5	0.2	0.0596	ppbV	70-130			25	25			
Tetrachloroethene	127-18-4	0.2	0.0627	ppbV	70-130			25	25			
Thiophene	110-02-1	0.2	0.052	ppbV	70-130			25	25			
Tetrahydrofuran	109-99-9	0.5	0.117	ppbV	70-130			25	25			
Toluene	108-88-3	0.2	0.0867	ppbV	70-130			25	25			
trans-1,2-Dichloroethene	156-60-5	0.2	0.0755	ppbV	70-130			25	25			
1,2-Dichloroethene (total)	540-59-0	0.2	0.0595	ppbV				25	25			
trans-1,3-Dichloropropene	10061-02-6	0.2	0.0783	ppbV	70-130			25	25			
1,3-Dichloropropene, Total	542-75-6	0.2	0.0674	ppbV				25	25			
Trichloroethene	79-01-6	0.2	0.0548	ppbV	70-130			25	25			
Trichlorofluoromethane	75-69-4	0.2	0.0787	ppbV	70-130			25	25			
Vinyl acetate	108-05-4	1	0.323	ppbV	70-130			25	25			
Vinyl bromide	593-60-2	0.2	0.0722	ppbV	70-130			25	25			
Vinyl chloride	75-01-4	0.2	0.0582	ppbV	70-130			25	25			
Naphthalene	91-20-3	0.2	0.078	ppbV	70-130			25	25			
Total HC As Hexane	NONE	10	0.0743	ppbV	70-130			25	25			
Total VOCs As Toluene	NONE	10	0.0867	ppbV	70-130			25	25			
Propane	74-98-6	0.5	0.152	ppbV	70-130			25	25			
Acrylonitrile	107-13-1	0.5	0.0894	ppbV	70-130			25	25			
Acrolein	107-02-8	0.5	0.149	ppbV	60-113			25	25			
1,1,1,2-Tetrachloroethane	630-20-6	0.2	0.0508	ppbV	70-130			25	25			
Isopropylbenzene	98-82-8	0.2	0.0621	ppbV	70-130			25	25			

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Volatile Organics in Air: TO-15 (AIR)

Holding Time: 30 days
Container/Sample Preservation: 1 - Canister - 2.7 Liter

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,2,3-Trichloropropane	96-18-4	0.2	0.0575	ppbV	70-130			25	25			
Acetonitrile	75-05-8	0.2	0.101	ppbV	70-130			25	25			
Bromobenzene	108-86-1	0.2	0.0579	ppbV	70-130			25	25			
Chlorodifluoromethane	75-45-6	0.2	0.0463	ppbV	70-130			25	25			
Dichlorofluoromethane	75-43-4	0.2	0.112	ppbV	70-130			25	25			
Dibromomethane	74-95-3	0.2	0.0598	ppbV	70-130			25	25			
Pentane	109-66-0	0.2	0.113	ppbV	70-130			25	25			
Octane	111-65-9	0.2	0.0676	ppbV	70-130			25	25			
Tertiary-Amyl Methyl Ether	994-05-8	0.2	0.0672	ppbV	70-130			25	25			
o-Chlorotoluene	95-49-8	0.2	0.0761	ppbV	70-130			25	25			
p-Chlorotoluene	106-43-4	0.2	0.0765	ppbV	70-130			25	25			
2,2-Dichloropropane	594-20-7	0.2	0.0429	ppbV	70-130			25	25			
1,1-Dichloropropene	563-58-6	0.2	0.0593	ppbV	70-130			25	25			
Isopropyl Ether	108-20-3	0.2	0.0631	ppbV	70-130			25	25			
Ethyl-Tert-Butyl-Ether	637-92-3	0.2	0.0731	ppbV	70-130			25	25			
1,2,3-Trichlorobenzene	87-61-6	0.2	0.0738	ppbV	70-130			25	25			
Ethyl ether	60-29-7	0.2	0.0853	ppbV	70-130			25	25			
n-Butylbenzene	104-51-8	0.2	0.0536	ppbV	70-130			25	25			
sec-Butylbenzene	135-98-8	0.2	0.0547	ppbV	70-130			25	25			
tert-Butylbenzene	98-06-6	0.2	0.0551	ppbV	70-130			25	25			
1,2-Dibromo-3-chloropropane	96-12-8	0.2	0.0624	ppbV	70-130			25	25			
p-Isopropyltoluene	99-87-6	0.2	0.0567	ppbV	70-130			25	25			
n-Propylbenzene	103-65-1	0.2	0.0633	ppbV	70-130			25	25			
1,3-Dichloropropane	142-28-9	0.2	0.0536	ppbV	70-130			25	25			
Methanol	67-56-1	5	3.029	ppbV	70-130			25	25			
Acetaldehyde	75-07-0	2.5	1.73	ppbV	70-130			25	25			
Butane	106-97-8	0.2	0.08	ppbV	70-130			25	25			
Nonane (C9)	111-84-2	0.2	0.0737	ppbV	70-130			25	25			
Decane (C10)	124-18-5	0.2	0.0697	ppbV	70-130			25	25			
Undecane	1120-21-4	0.2	0.0709	ppbV	70-130			25	25			
Indane	496-11-7	0.2	0.0591	ppbV	70-130			25	25			
Indene	95-13-6	0.2	0.0711	ppbV	70-130			25	25			
1-Methylnaphthalene	90-12-0	1	0.264	ppbV	70-130			25	25			
Dodecane (C12)	112-40-3	0.2	0.0891	ppbV	70-130			25	25			
Butyl Acetate	123-86-4	0.5	0.208	ppbV	70-130			25	25			
tert-Butyl Alcohol	75-65-0	0.5	0.132	ppbV	70-130			25	25			
2-Methylnaphthalene	91-57-6	1	0.259	ppbV	70-130			25	25			
1,2-Dichloroethane-d4	*17060-07-0*									*70-130*		
Toluene-d8	*2037-26-5*									*70-130*		
Bromofluorobenzene	*460-00-4*									*70-130*		

Please Note that the RL information provided in this table is calculated using a 100% Solids factor. (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc.

Volatiles Sample Data

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326793
Project Name	: GOWANUS OH-007	Project Number	: 156854
Lab ID	: L2326793-01	Date Collected	: 05/13/23 12:50
Client ID	: OH-SV-06_20230513	Date Received	: 05/15/23
Sample Location	: BROOKLYN, NY	Date Analyzed	: 05/26/23 00:19
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15	Analyst	: RAY
Lab File ID	: R1922578	Instrument ID	: AIRLAB19
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-71-8	Dichlorodifluoromethane	0.586	0.200	--	2.90	0.989	--	
74-87-3	Chloromethane	0.489	0.200	--	1.01	0.413	--	
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	0.401	0.200	--	1.06	0.528	--	
64-17-5	Ethanol	46.9	5.00	--	88.4	9.42	--	
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	22.4	1.00	--	53.2	2.38	--	
75-69-4	Trichlorofluoromethane	0.235	0.200	--	1.32	1.12	--	
67-63-0	Isopropanol	5.40	0.500	--	13.3	1.23	--	
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	5.44	0.200	--	16.9	0.623	--	
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	1.33	0.500	--	3.92	1.47	--	
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	6.40	0.500	--	23.1	1.80	--	
67-66-3	Chloroform	8.34	0.200	--	40.7	0.977	--	
109-99-9	Tetrahydrofuran	0.508	0.500	--	1.50	1.47	--	

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: L2326793-01	**Date Collected**	: 05/13/23 12:50
Client ID	: OH-SV-06_20230513	**Date Received**	: 05/15/23
Sample Location	: BROOKLYN, NY	**Date Analyzed**	: 05/26/23 00:19
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R1922578	**Instrument ID**	: AIRLAB19
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	0.788	0.200	--	2.78	0.705	--	
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	0.342	0.200	--	1.09	0.639	--	
56-23-5	Carbon tetrachloride	6.09	0.200	--	38.3	1.26	--	
110-82-7	Cyclohexane	10.4	0.200	--	35.8	0.688	--	
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	7.05	0.200	--	37.9	1.07	--	
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	0.708	0.200	--	2.90	0.820	--	
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	3.75	0.500	--	15.4	2.05	--	
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	2.07	0.200	--	7.80	0.754	--	
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	1.33	0.200	--	9.02	1.36	--	
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	0.577	0.200	--	2.51	0.869	--	
179601-23-1	p/m-Xylene	1.56	0.400	--	6.78	1.74	--	
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: L2326793-01	**Date Collected**	: 05/13/23 12:50
Client ID	: OH-SV-06_20230513	**Date Received**	: 05/15/23
Sample Location	: BROOKLYN, NY	**Date Analyzed**	: 05/26/23 00:19
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R1922578	**Instrument ID**	: AIRLAB19
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	0.500	0.200	--	2.17	0.869	--	
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1783562-4	**Date Collected**	: NA
Client ID	: WG1783562-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/25/23 18:21
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R1922570	**Instrument ID**	: AIRLAB19
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
75-71-8	Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--	U
74-87-3	Chloromethane	ND	0.200	--	ND	0.413	--	U
76-14-2	Freon-114	ND	0.200	--	ND	1.40	--	U
75-01-4	Vinyl chloride	ND	0.200	--	ND	0.511	--	U
106-99-0	1,3-Butadiene	ND	0.200	--	ND	0.442	--	U
74-83-9	Bromomethane	ND	0.200	--	ND	0.777	--	U
75-00-3	Chloroethane	ND	0.200	--	ND	0.528	--	U
64-17-5	Ethanol	ND	5.00	--	ND	9.42	--	U
593-60-2	Vinyl bromide	ND	0.200	--	ND	0.874	--	U
67-64-1	Acetone	ND	1.00	--	ND	2.38	--	U
75-69-4	Trichlorofluoromethane	ND	0.200	--	ND	1.12	--	U
67-63-0	Isopropanol	ND	0.500	--	ND	1.23	--	U
75-35-4	1,1-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-65-0	Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
107-05-1	3-Chloropropene	ND	0.200	--	ND	0.626	--	U
75-15-0	Carbon disulfide	ND	0.200	--	ND	0.623	--	U
76-13-1	Freon-113	ND	0.200	--	ND	1.53	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
75-34-3	1,1-Dichloroethane	ND	0.200	--	ND	0.809	--	U
1634-04-4	Methyl tert butyl ether	ND	0.200	--	ND	0.721	--	U
78-93-3	2-Butanone	ND	0.500	--	ND	1.47	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--	U
141-78-6	Ethyl Acetate	ND	0.500	--	ND	1.80	--	U
67-66-3	Chloroform	ND	0.200	--	ND	0.977	--	U
109-99-9	Tetrahydrofuran	ND	0.500	--	ND	1.47	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1783562-4	**Date Collected**	: NA
Client ID	: WG1783562-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/25/23 18:21
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R1922570	**Instrument ID**	: AIRLAB19
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
107-06-2	1,2-Dichloroethane	ND	0.200	--	ND	0.809	--	U
110-54-3	n-Hexane	ND	0.200	--	ND	0.705	--	U
71-55-6	1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--	U
71-43-2	Benzene	ND	0.200	--	ND	0.639	--	U
56-23-5	Carbon tetrachloride	ND	0.200	--	ND	1.26	--	U
110-82-7	Cyclohexane	ND	0.200	--	ND	0.688	--	U
78-87-5	1,2-Dichloropropane	ND	0.200	--	ND	0.924	--	U
75-27-4	Bromodichloromethane	ND	0.200	--	ND	1.34	--	U
123-91-1	1,4-Dioxane	ND	0.200	--	ND	0.721	--	U
79-01-6	Trichloroethene	ND	0.200	--	ND	1.07	--	U
540-84-1	2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--	U
142-82-5	Heptane	ND	0.200	--	ND	0.820	--	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
108-10-1	4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--	U
79-00-5	1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--	U
108-88-3	Toluene	ND	0.200	--	ND	0.754	--	U
591-78-6	2-Hexanone	ND	0.200	--	ND	0.820	--	U
124-48-1	Dibromochloromethane	ND	0.200	--	ND	1.70	--	U
106-93-4	1,2-Dibromoethane	ND	0.200	--	ND	1.54	--	U
127-18-4	Tetrachloroethene	ND	0.200	--	ND	1.36	--	U
108-90-7	Chlorobenzene	ND	0.200	--	ND	0.921	--	U
100-41-4	Ethylbenzene	ND	0.200	--	ND	0.869	--	U
179601-23-1	p/m-Xylene	ND	0.400	--	ND	1.74	--	U
75-25-2	Bromoform	ND	0.200	--	ND	2.07	--	U
100-42-5	Styrene	ND	0.200	--	ND	0.852	--	U

Results Summary
Form 1
Volatile Organics in Air

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326793
Project Name	: GOWANUS OH-007	**Project Number**	: 156854
Lab ID	: WG1783562-4	**Date Collected**	: NA
Client ID	: WG1783562-4BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/25/23 18:21
Sample Matrix	: SOIL_VAPOR	**Dilution Factor**	: 1
Analytical Method	: 48,TO-15	**Analyst**	: RAY
Lab File ID	: R1922570	**Instrument ID**	: AIRLAB19
Sample Amount	: 250 ml	**GC Column**	: RTX-1

		ppbV			ug/m3			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--	U
95-47-6	o-Xylene	ND	0.200	--	ND	0.869	--	U
622-96-8	4-Ethyltoluene	ND	0.200	--	ND	0.983	--	U
108-67-8	1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
95-63-6	1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--	U
100-44-7	Benzyl chloride	ND	0.200	--	ND	1.04	--	U
541-73-1	1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
106-46-7	1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
95-50-1	1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--	U
120-82-1	1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--	U
87-68-3	Hexachlorobutadiene	ND	0.200	--	ND	2.13	--	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2326888 and 23E0684
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: July 16, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
FB-20230512	23E0684-01	5/12/2023	Water
OH-SB-46_1.0-2.0_20230512	23E0684-02 L2326888-01	5/12/2023	Soil
OH-SB-46_3.0-4.0_20230512	23E0684-03 L2326888-02	5/12/2023	Soil
TB-20230512	23E0684-04	5/12/2023	Water

Data validation was performed on the analytical data for four (4) samples collected on May 12, 2023 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270E-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW-846 6010D/200.7
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW-846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, and laboratory control samples.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	LCS Lab Number	Analyte(s)	Exceedance	Qualification	Reason Code	Affected Samples
8260D	BAE0730-BSD1	Bromomethane	%R < CL%	UJ (NDs) J (Detects)	6L	FB-20230512 TB-20230512

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on subject samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	All Samples	Tert-Butyl Alcohol	RRF < 0.05	UJ (NDs) J (Detects)	Q
	FB-20230512 TB-20230512	Methyl Acetate	RSD > 20% & missing backup to confirm correlation coefficient	UJ (NDs) J (Detects)	Q

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	All Soil Samples	Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	FB-20230512 TB-20230512	Bromomethane Chloromethane Dichlorodifluoromethane Trans-1,3-Dichloropropene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, J, reason code A.

System Performance and Overall Assessment (Sequence/Tune)

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270D/E and 8270E-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

All QA/QC blanks were free of contamination with the following exception:

- The field blank associated with soil samples had TIC detections of Cyclohexasiloxane, dodecamethyl- (19.5 ug/L), Cyclopentasiloxane, decamethyl- (8.83 ug/L), and unknowns (13.26 ug/L). Associated sample non-detections are not qualified. TICs are not qualified from a field blank, therefore; no qualification is required.
- The method blank associated with soil samples had TIC detections (via method 8270E) of Hexadecanoic acid, butyl ester (0.382 mg/kg wet), Octadecanoic acid, 2-methylpropyl ester (0.437 mg/kg wet), and unknowns (0.417 mg/kg wet). Samples were non-detect for these TICs, except for unknowns, and therefore are not qualified. Sample detections of unknowns were not qualified based on professional judgment.
- The method blank associated with soil samples had detections (via method 8270E-SIM) of Pyrene, C1-Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-Chrysenes, Benzo(e)pyrene, Benzo(a)pyrene, and Benzo(g,h,i)perylene (0.449, 0.583, 0.240, 0.231, 0.380, 0.237, 0.298, 0.310 ug/kg, respectively). Sample detections greater than five times the method blank detections are not qualified.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	LCS Lab Number	Analyte(s)	Exceedance	Qualification	Reason Code	Affected Samples
8270E	BAE0539-BS1	4-Bromophenyl-phenyl ether	%R > CL%	No action (NDs) J (Detects)	6H	All Soil Samples

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230512	Benzaldehyde	RSD > 20% and correlation coefficient <0.99	J (Detects) UJ (ND)	Q
	All soil samples	Benzaldehyde	RSD > 20% and missing back to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E (APL)	All Soil Samples	Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline 4-Bromophenyl-phenyl ether 4-Nitroaniline 4-Nitrophenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Di-n-butylphthalate Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	FB-20230512	4-Nitrophenol Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8270E-SIM (Alpha)	All Soil Samples	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	FB_20230512	Decachlorobiphenyl (Column 1 and 2)	%R < CL	J (detects) UJ (NDs)	3L
8151A	FB_20230512	2,4-DCAA (Column 1)	%R > CL	J (detects) No action (NDs)	3H
	OH-SB-46_1.0-2.0_20230512 [23E0684-02]	2,4-DCAA (Column 1)	%R < CL	J (detects) UJ (NDs)	3L
8081B	OH-SB-46_3.0-4.0_20230512 [23E0684-03]	Decachlorobiphenyl (Column 2)	%R > CL	J (detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis and LCS/LCSD RPDs exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230512	Endosulfan sulfate	%R < CL	J (Detects) UJ (NDs)	6L
		Endrin aldehyde Endrin ketone Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

- An LCS and/or LCSD analysis was not reported for method 8151A for water sample FB_20230512.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- An MS/MSD analysis were not included for the SDGs evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.
- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by EPA 200.7	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
Metals by SW 846 6010D	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Cyanide by SM 846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
200.7	FB_20230512	Aluminum	%R > CL	J (Detects) No Action (NDs)	6H
	All Soil Samples	Silver	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was performed on sample OH-SB-46_3.0-4.0_20230512 [23E0684-3]. Results were within control limits. No qualification required.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was performed on sample OH-SB-46_1.0-2.0_20230512 [23E0684-2]. Results were within control limits. No qualification required.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Benjamin Long
Validator
Brown and Caldwell

Dated: April 1, 2024

Peer Review: JLD

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0684

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 03, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E0684

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB-20230512	23E0684-01	Ground Water	05/12/2023 09:00	05/12/2023 17:40
OH-SB_46_1.0-2.0_20230512	23E0684-02	Soil	05/12/2023 10:30	05/12/2023 17:40
OH-SB_46_3.0-4.0_20230512	23E0684-03	Soil	05/12/2023 11:15	05/12/2023 17:40
TB-20230512	23E0684-04	Ground Water	05/12/2023 14:00	05/12/2023 17:40

PN: 23E0684

APL 23E0684

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: "
ADDRESS: 611 River Drive 3rd Floor	ADDRESS: " "
Elmwood Park NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: SWang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: HAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

- NY State Category B

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0684-01	FD-20230512	5/12/23	900	~		DI	10		VOC, SVOC, PCB, Pest, Herb, Tal Metals, CN
-02	OH-SB-46-1.0-2.0-20230512	5/12/23	1030	X		S	5		VOC, SVOC, PCB, Pest, Herb, Tal metals, TCN, FCN, Analyte Listed PAHs by 8270 SIM
-03	OH-SB-46-3.0-4.0-20230512	5/12/23	1115	X		S	5		"
-04	TB-20230512	5/12/23	1406	~		~	2		VOCs

RELINQUISHED BY (Print) Harrison Simstars	DATE 5/12/23	RECEIVED BY (Print) Tyler McKenzie	5/12 1415
Signature	Time 1415	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
COMMENTS/SPECIAL INSTRUCTIONS		Cooler Temp. upon receipt at lab 3.2°C	

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 200.8 / 7473 / 245.1 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.8
The percent recovery for Silver was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 7473 / 245.1 / 200.7 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23E0684-01 (FB) has one surrogate (2,4-DCAA) outside of the QC limits (high).

ANALYSIS: PCBs [8082A]
All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]
Sample 23E0684-03 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 3,3'-Dichlorobenzidine and Hexachlorocyclopentadiene were outside of the QC limits for the matrix spike duplicate (low). The blank spike met all QC criteria.

Reviewed By: _____ (SK) 8/3/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0684-01 (Ground Water) Sample Name: **FB-20230512**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexasiloxane, dodecamethyl-	19.5	J			ug/L	1	5/22/23 18:58
TIC_Cyclopentasiloxane, decamethyl-	8.83	J			ug/L	1	5/22/23 18:58
TIC_unknown (01)	8.21	J			ug/L	1	5/22/23 18:58
TIC_unknown (02)	5.05	J			ug/L	1	5/22/23 18:58

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	2.18		0.00632	0.0253	mg/kg dry	1	5/15/23 12:17

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6510		0.179	3.01	mg/kg dry	1	5/25/23 13:48
Antimony	3.93		0.164	1.51	mg/kg dry	1	5/25/23 13:48
Arsenic	17.0		0.107	1.51	mg/kg dry	1	5/25/23 13:48
Barium	663	D	0.455	6.02	mg/kg dry	10	5/25/23 14:37
Beryllium	1.07		0.00349	0.0301	mg/kg dry	1	5/25/23 13:48
Cadmium	2.30		0.0587	0.301	mg/kg dry	1	5/25/23 13:48
Calcium	19700		3.39	30.1	mg/kg dry	1	5/25/23 13:48
Chromium	75.3		0.0340	0.301	mg/kg dry	1	5/25/23 13:48
Cobalt	19.6		0.0308	0.241	mg/kg dry	1	5/25/23 13:48
Copper	219		0.0842	0.301	mg/kg dry	1	5/25/23 13:48
Iron	58700	D	8.53	60.2	mg/kg dry	10	5/25/23 14:37
Lead	701		0.126	1.51	mg/kg dry	1	5/25/23 13:48
Magnesium	20000		10.6	60.2	mg/kg dry	1	5/25/23 13:48
Manganese	456		0.0374	0.301	mg/kg dry	1	5/25/23 13:48
Nickel	102		0.0264	0.151	mg/kg dry	1	5/25/23 13:48
Potassium	2880		35.8	120	mg/kg dry	1	5/25/23 13:48
Silver	0.437		0.0512	0.181	mg/kg dry	1	5/25/23 13:48
Sodium	1680		5.74	60.2	mg/kg dry	1	5/25/23 13:48
Vanadium	22.2		0.0692	0.602	mg/kg dry	1	5/25/23 13:48
Zinc	1270	D	0.920	9.03	mg/kg dry	10	5/25/23 14:37

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1.98		0.0403	0.253	mg/kg dry	1	5/17/23 20:58
Acenaphthene	1.59		0.00960	0.168	mg/kg dry	1	5/17/23 20:58
Acenaphthylene	1.08		0.00585	0.168	mg/kg dry	1	5/17/23 20:58

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	3.05		0.0244	0.168	mg/kg dry	1	5/17/23 20:58
Benzo(a)anthracene	4.37		0.0169	0.168	mg/kg dry	1	5/17/23 20:58
Benzo(a)pyrene	4.23		0.0293	0.168	mg/kg dry	1	5/17/23 20:58
Benzo(b)fluoranthene	4.51		0.0236	0.168	mg/kg dry	1	5/17/23 20:58
Benzo(g,h,i)perylene	3.44		0.0137	0.168	mg/kg dry	1	5/17/23 20:58
Benzo(k)fluoranthene	1.89		0.0193	0.168	mg/kg dry	1	5/17/23 20:58
Biphenyl	0.324		0.0148	0.168	mg/kg dry	1	5/17/23 20:58
Carbazole	0.442		0.0324	0.421	mg/kg dry	1	5/17/23 20:58
Chrysene	5.36		0.0115	0.168	mg/kg dry	1	5/17/23 20:58
Dibenzo(a,h)anthracene	0.965		0.0167	0.168	mg/kg dry	1	5/17/23 20:58
Dibenzofuran	0.637		0.0100	0.168	mg/kg dry	1	5/17/23 20:58
Fluoranthene	8.30		0.0158	0.168	mg/kg dry	1	5/17/23 20:58
Fluorene	2.06		0.0140	0.168	mg/kg dry	1	5/17/23 20:58
Indeno(1,2,3-cd)pyrene	2.72		0.0181	0.168	mg/kg dry	1	5/17/23 20:58
Naphthalene	2.10		0.0125	0.168	mg/kg dry	1	5/17/23 20:58
Phenanthrene	13.1	D	0.221	1.68	mg/kg dry	10	5/23/23 19:43
Pyrene	9.59		0.0124	0.168	mg/kg dry	1	5/17/23 20:58
TIC_1,5,6,7-Tetramethyl-3-phenylbicyclo[3.2.	3.90	J			mg/kg dry	1	5/17/23 20:58
TIC_1-Hexadecene	1.56	J			mg/kg dry	1	5/17/23 20:58
TIC_3,3-Dimethyl-4,4-bis(4-methylphenyl)-but	1.68	J			mg/kg dry	1	5/17/23 20:58
TIC_3H-Benz[e]indene, 2-methyl-	2.37	J			mg/kg dry	1	5/17/23 20:58
TIC_Naphthalene, 1,5-dimethyl-	1.61	J			mg/kg dry	1	5/17/23 20:58
TIC_Naphthalene, 1-methyl-	2.03	J			mg/kg dry	1	5/17/23 20:58
TIC_Naphthalene, 2-phenyl-	2.72	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (01)	1.81	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (02)	5.28	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (03)	5.38	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (04)	3.22	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (05)	11.3	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (06)	1.49	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (07)	2.57	J			mg/kg dry	1	5/17/23 20:58
TIC_unknown (08)	1.66	J			mg/kg dry	1	5/17/23 20:58

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00161	J	0.000447	0.00324	mg/kg dry	1	5/16/23 15:32
TIC_1-Pentanol, 2-ethyl-4-methyl-	0.0126	J			mg/kg dry	1	5/16/23 15:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopropane, ethyl-	0.0114	J			mg/kg dry	1	5/16/23 15:32

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.32		0.00610	0.0244	mg/kg dry	1	5/15/23 12:17

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6700		0.182	3.06	mg/kg dry	1	5/25/23 13:50
Antimony	1.69		0.167	1.53	mg/kg dry	1	5/25/23 13:50
Arsenic	8.38		0.109	1.53	mg/kg dry	1	5/25/23 13:50
Barium	205		0.0463	0.613	mg/kg dry	1	5/25/23 13:50
Beryllium	1.19		0.00355	0.0306	mg/kg dry	1	5/25/23 13:50
Cadmium	0.696		0.0597	0.306	mg/kg dry	1	5/25/23 13:50
Calcium	23800		3.45	30.6	mg/kg dry	1	5/25/23 13:50
Chromium	30.6		0.0346	0.306	mg/kg dry	1	5/25/23 13:50
Cobalt	8.79		0.0313	0.245	mg/kg dry	1	5/25/23 13:50
Copper	88.2		0.0857	0.306	mg/kg dry	1	5/25/23 13:50
Iron	23100		0.868	6.13	mg/kg dry	1	5/25/23 13:50
Lead	419		0.128	1.53	mg/kg dry	1	5/25/23 13:50
Magnesium	6750		10.8	61.3	mg/kg dry	1	5/25/23 13:50
Manganese	279		0.0381	0.306	mg/kg dry	1	5/25/23 13:50
Nickel	40.1		0.0269	0.153	mg/kg dry	1	5/25/23 13:50
Potassium	1950		36.4	123	mg/kg dry	1	5/25/23 13:50
Sodium	816		5.84	61.3	mg/kg dry	1	5/25/23 13:50
Vanadium	19.9		0.0705	0.613	mg/kg dry	1	5/25/23 13:50
Zinc	274		0.0936	0.919	mg/kg dry	1	5/25/23 13:50

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1.59		0.0389	0.244	mg/kg dry	1	5/17/23 19:23
Acenaphthene	3.22		0.00926	0.162	mg/kg dry	1	5/17/23 19:23
Acenaphthylene	4.31		0.00565	0.162	mg/kg dry	1	5/17/23 19:23
Anthracene	4.99		0.0235	0.162	mg/kg dry	1	5/17/23 19:23
Benzo(a)anthracene	6.58		0.0163	0.162	mg/kg dry	1	5/17/23 19:23
Benzo(a)pyrene	9.36		0.0283	0.162	mg/kg dry	1	5/17/23 19:23
Benzo(b)fluoranthene	7.49		0.0228	0.162	mg/kg dry	1	5/17/23 19:23
Benzo(g,h,i)perylene	12.9	D	0.132	1.62	mg/kg dry	10	5/23/23 19:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(k)fluoranthene	2.44		0.0187	0.162	mg/kg dry	1	5/17/23 19:23
Chrysene	7.24		0.0111	0.162	mg/kg dry	1	5/17/23 19:23
Dibenzo(a,h)anthracene	1.88		0.0161	0.162	mg/kg dry	1	5/17/23 19:23
Fluoranthene	14.7	D	0.152	1.62	mg/kg dry	10	5/23/23 19:12
Fluorene	2.95		0.0135	0.162	mg/kg dry	1	5/17/23 19:23
Indeno(1,2,3-cd)pyrene	6.22		0.0174	0.162	mg/kg dry	1	5/17/23 19:23
Naphthalene	2.07		0.0120	0.162	mg/kg dry	1	5/17/23 19:23
Phenanthrene	12.0	D	0.213	1.62	mg/kg dry	10	5/23/23 19:12
Pyrene	27.5	D	0.119	1.62	mg/kg dry	10	5/23/23 19:12
TIC_Benzene, 1-ethenyl-2-methyl-	4.57	J			mg/kg dry	1	5/17/23 19:23
TIC_Indane	3.66	J			mg/kg dry	1	5/17/23 19:23
TIC_Naphthalene, 1,2-dimethyl-	2.53	J			mg/kg dry	1	5/17/23 19:23
TIC_Naphthalene, 1-methyl-	3.54	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (01)	3.12	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (02)	3.07	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (03)	2.50	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (04)	2.23	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (05)	4.32	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (06)	2.73	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (07)	15.0	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (08)	4.27	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (09)	3.76	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (10)	9.27	J			mg/kg dry	1	5/17/23 19:23
TIC_unknown (11)	2.51	J			mg/kg dry	1	5/17/23 19:23

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.0411		0.000421	0.00305	mg/kg dry	1	5/16/23 16:01
Benzene	0.00305		0.000277	0.00305	mg/kg dry	1	5/16/23 16:01
EthylBenzene	0.00267	J	0.000413	0.00305	mg/kg dry	1	5/16/23 16:01
Isopropylbenzene	0.0326		0.000479	0.00305	mg/kg dry	1	5/16/23 16:01
m+p-Xylenes	0.00942		0.000770	0.00610	mg/kg dry	1	5/16/23 16:01
Methylcyclohexane	0.00426		0.000491	0.00305	mg/kg dry	1	5/16/23 16:01
o-Xylene	0.00875		0.000392	0.00305	mg/kg dry	1	5/16/23 16:01
Toluene	0.00142	J	0.000245	0.00305	mg/kg dry	1	5/16/23 16:01
Total Xylenes	0.0182		0.000392	0.00305	mg/kg dry	1	5/16/23 16:01
TIC_1H-Indene, 1-methyl-	0.0590	J			mg/kg dry	1	5/16/23 16:01
TIC_1H-Indene, 2,3-dihydro-1,2-dimethyl-	0.0433	J			mg/kg dry	1	5/16/23 16:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1H-Indene, 2,3-dihydro-4-methyl-	0.0407	J			mg/kg dry	1	5/16/23 16:01
TIC_Benzene, (1-methylethyl)-	0.0570	J			mg/kg dry	1	5/16/23 16:01
TIC_Benzene, 1,3,5-trimethyl-	0.0397	J			mg/kg dry	1	5/16/23 16:01
TIC_Benzene, 1-methyl-2-(1-methylethyl)- (01)	0.0892	J			mg/kg dry	1	5/16/23 16:01
TIC_Benzene, 1-methyl-2-(1-methylethyl)- (02)	0.0851	J			mg/kg dry	1	5/16/23 16:01
TIC_Benzene, 1-methyl-4-propyl-	0.0432	J			mg/kg dry	1	5/16/23 16:01
TIC_Benzoic acid, 2,5-dimethyl-, (2,4-dimeth	0.0414	J			mg/kg dry	1	5/16/23 16:01
TIC_Cyclopentane	0.0670	J			mg/kg dry	1	5/16/23 16:01
TIC_Indan, 1-methyl- (01)	0.154	J			mg/kg dry	1	5/16/23 16:01
TIC_Indan, 1-methyl- (02)	0.122	J			mg/kg dry	1	5/16/23 16:01
TIC_Indane	0.266	J			mg/kg dry	1	5/16/23 16:01
TIC_n-Amylcyclohexane	0.0592	J			mg/kg dry	1	5/16/23 16:01
TIC_s-Butylcyclohexane	0.0536	J			mg/kg dry	1	5/16/23 16:01

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-01 (Ground Water) Sample Name: **FB-20230512** Collected: **5/12/2023 9:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	UJ, RC:3L ND	U	0.0497	0.500	ug/L	1	5/18/23 15:50
Aroclor-1221	UJ, RC:3L ND	U	0.352	0.500	ug/L	1	5/18/23 15:50
Aroclor-1232	UJ, RC:3L ND	U	0.109	0.500	ug/L	1	5/18/23 15:50
Aroclor-1242	UJ, RC:3L ND	U	0.185	0.500	ug/L	1	5/18/23 15:50
Aroclor-1248	UJ, RC:3L ND	U	0.0933	0.500	ug/L	1	5/18/23 15:50
Aroclor-1254	UJ, RC:3L ND	U	0.103	0.500	ug/L	1	5/18/23 15:50
Aroclor-1260	UJ, RC:3L ND	U	0.0784	0.500	ug/L	1	5/18/23 15:50
Aroclor-1262	UJ, RC:3L ND	U	0.169	0.500	ug/L	1	5/18/23 15:50
Aroclor-1268	UJ, RC:3L ND	U	0.159	0.500	ug/L	1	5/18/23 15:50
Total PCBs	UJ, RC:3L ND	U	0.0497	0.500	ug/L	1	5/18/23 15:50

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/6/23 0:22
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/6/23 0:22
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/6/23 0:22

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/17/23 15:54

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/25/23 9:57
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/25/23 9:57
Calcium	ND	U	0.256	1.00	mg/L	1	5/25/23 9:57
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/25/23 9:57
Iron	ND	U	0.0580	0.200	mg/L	1	5/25/23 9:57
Magnesium	ND	U	0.681	2.00	mg/L	1	5/25/23 9:57
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/25/23 9:57
Potassium	ND	U	2.41	4.00	mg/L	1	5/25/23 9:57
Sodium	ND	U	0.205	2.00	mg/L	1	5/25/23 9:57
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/25/23 9:57

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-01 (Ground Water) Sample Name: **FB-20230512** Collected: **5/12/2023 9:00:00AM**

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.000293	0.00600	mg/L	1	5/23/23 12:14
Arsenic	ND	U	0.000272	0.00200	mg/L	1	5/23/23 12:14
Barium	ND	U	0.000267	0.00200	mg/L	1	5/23/23 12:14
Cadmium	ND	U	0.000301	0.00200	mg/L	1	5/23/23 12:14
Cobalt	ND	U	0.000196	0.00200	mg/L	1	5/23/23 12:14
Copper	ND	U	0.000217	0.00200	mg/L	1	5/23/23 12:14
Lead	ND	U	0.000338	0.00200	mg/L	1	5/23/23 12:14
Nickel	ND	U	0.000299	0.00200	mg/L	1	5/23/23 12:14
Selenium	ND	U	0.000601	0.00600	mg/L	1	5/23/23 12:14
Silver	ND	U	0.000266	0.00200	mg/L	1	5/23/23 12:14
Thallium	ND	U	0.000339	0.00200	mg/L	1	5/23/23 12:14
Zinc	ND	U	0.000549	0.0300	mg/L	1	5/23/23 12:14

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/16/23 20:04
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/16/23 20:04
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/16/23 20:04
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/16/23 20:04
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/16/23 20:04
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/16/23 20:04
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/16/23 20:04
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/16/23 20:04
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/16/23 20:04
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/16/23 20:04
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/16/23 20:04
Endosulfan sulfate UJ, RC:6L	ND	U	0.000138	0.0200	ug/L	1	5/16/23 20:04
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/16/23 20:04
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/16/23 20:04
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/16/23 20:04
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/16/23 20:04
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/16/23 20:04
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/16/23 20:04
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/16/23 20:04
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/16/23 20:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-01 (Ground Water) Sample Name: **FB-20230512** Collected: **5/12/2023 9:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/22/23 18:58
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/22/23 18:58
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/22/23 18:58
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/22/23 18:58
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/22/23 18:58
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/22/23 18:58
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/22/23 18:58
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/22/23 18:58
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/22/23 18:58
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/22/23 18:58
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/22/23 18:58
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/22/23 18:58
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/22/23 18:58
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/22/23 18:58
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/22/23 18:58
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/22/23 18:58
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/22/23 18:58
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/22/23 18:58
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/22/23 18:58
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/22/23 18:58
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/22/23 18:58
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/22/23 18:58
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/22/23 18:58
4-Nitrophenol UJ, RC:SL	ND	U	0.168	2.00	ug/L	1	5/22/23 18:58
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/22/23 18:58
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/22/23 18:58
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/22/23 18:58
Anthracene	ND	U	0.121	2.00	ug/L	1	5/22/23 18:58
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/22/23 18:58
Benzaldehyde UJ, RC:Q,SL	ND	U	0.134	2.00	ug/L	1	5/22/23 18:58
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/22/23 18:58
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/22/23 18:58
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/22/23 18:58
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/22/23 18:58
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/22/23 18:58
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/22/23 18:58
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/22/23 18:58
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/22/23 18:58
Carbazole	ND	U	0.188	2.00	ug/L	1	5/22/23 18:58

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-01 (Ground Water) Sample Name: **FB-20230512** Collected: **5/12/2023 9:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chrysene	ND	U	0.129	2.00	ug/L	1	5/22/23 18:58
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/22/23 18:58
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/22/23 18:58
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/22/23 18:58
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/22/23 18:58
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/22/23 18:58
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/22/23 18:58
Fluorene	ND	U	0.109	2.00	ug/L	1	5/22/23 18:58
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/22/23 18:58
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/22/23 18:58
Isophorone	ND	U	0.111	2.00	ug/L	1	5/22/23 18:58
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/22/23 18:58
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/22/23 18:58
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/22/23 18:58
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/22/23 18:58
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/22/23 18:58
Phenol	ND	U	0.0973	2.00	ug/L	1	5/22/23 18:58
Pyrene	ND	U	0.115	2.00	ug/L	1	5/22/23 18:58

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexasiloxane, dodecamethyl-	19.5	7.78	J	ug/L	1	5/22/23 18:58
Cyclopentasiloxane, decamethyl-	8.83	6.73	J	ug/L	1	5/22/23 18:58
unknown (01)	8.21	8.70	J	ug/L	1	5/22/23 18:58
unknown (02)	5.05	9.51	J	ug/L	1	5/22/23 18:58
TIC Total	**41.6**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 14:51
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 14:51
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 14:51
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 14:51
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 14:51
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 14:51
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 14:51
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 14:51
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 14:51

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-01 (Ground Water) Sample Name: **FB-20230512** Collected: **5/12/2023 9:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromo-3-chloropropane		ND	U	1.09	2.00	ug/L	1	5/17/23 14:51
1,2-Dibromoethane		ND	U	0.320	1.00	ug/L	1	5/17/23 14:51
1,2-Dichlorobenzene		ND	U	0.210	1.00	ug/L	1	5/17/23 14:51
1,2-Dichloroethane		ND	U	0.306	1.00	ug/L	1	5/17/23 14:51
1,2-Dichloropropane		ND	U	0.267	1.00	ug/L	1	5/17/23 14:51
1,3-Dichlorobenzene		ND	U	0.287	1.00	ug/L	1	5/17/23 14:51
1,4-Dichlorobenzene		ND	U	0.238	1.00	ug/L	1	5/17/23 14:51
2-Butanone		ND	U	10.0	10.0	ug/L	1	5/17/23 14:51
2-Hexanone		ND	U	0.635	2.00	ug/L	1	5/17/23 14:51
4-Methyl-2-pentanone		ND	U	0.638	2.00	ug/L	1	5/17/23 14:51
Acetone		ND	U	10.0	10.0	ug/L	1	5/17/23 14:51
Benzene		ND	U	0.129	1.00	ug/L	1	5/17/23 14:51
Bromochloromethane		ND	U	0.307	1.00	ug/L	1	5/17/23 14:51
Bromodichloromethane		ND	U	0.258	1.00	ug/L	1	5/17/23 14:51
Bromoform		ND	U	0.421	1.00	ug/L	1	5/17/23 14:51
Bromomethane	UJ, RC:6L,SL	ND	U	0.702	10.0	ug/L	1	5/17/23 14:51
Carbon disulfide		ND	U	0.477	1.00	ug/L	1	5/17/23 14:51
Carbon Tetrachloride		ND	U	0.372	1.00	ug/L	1	5/17/23 14:51
Chlorobenzene		ND	U	0.300	1.00	ug/L	1	5/17/23 14:51
Chlorodibromomethane		ND	U	0.504	1.00	ug/L	1	5/17/23 14:51
Chloroethane		ND	U	0.299	2.00	ug/L	1	5/17/23 14:51
Chloroform		ND	U	0.365	1.00	ug/L	1	5/17/23 14:51
Chloromethane	UJ, RC:SL	ND	U	0.758	1.00	ug/L	1	5/17/23 14:51
cis-1,2-Dichloroethene		ND	U	0.352	1.00	ug/L	1	5/17/23 14:51
cis-1,3-Dichloropropene		ND	U	0.294	1.00	ug/L	1	5/17/23 14:51
Cyclohexane		ND	U	0.298	2.00	ug/L	1	5/17/23 14:51
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.328	2.00	ug/L	1	5/17/23 14:51
EthylBenzene		ND	U	0.244	1.00	ug/L	1	5/17/23 14:51
Isopropylbenzene		ND	U	0.275	1.00	ug/L	1	5/17/23 14:51
m+p-Xylenes		ND	U	0.461	2.00	ug/L	1	5/17/23 14:51
Methyl Acetate	UJ, RC:Q	ND	U	0.373	1.00	ug/L	1	5/17/23 14:51
Methyl tert-Butyl Ether		ND	U	0.596	1.00	ug/L	1	5/17/23 14:51
Methylcyclohexane		ND	U	0.222	1.00	ug/L	1	5/17/23 14:51
Methylene Chloride		ND	U	3.00	3.00	ug/L	1	5/17/23 14:51
o-Xylene		ND	U	0.244	1.00	ug/L	1	5/17/23 14:51
Styrene		ND	U	0.176	1.00	ug/L	1	5/17/23 14:51
tert-Butyl alcohol	UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	5/17/23 14:51
Tetrachloroethene		ND	U	0.466	1.00	ug/L	1	5/17/23 14:51
Toluene		ND	U	0.205	1.00	ug/L	1	5/17/23 14:51

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0684
Project: Owls Head Phase 2 **Date to Lab:** 5/12/2023 5:40:00PM

23E0684-01 (Ground Water) Sample Name: FB-20230512 Collected: 5/12/2023 9:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/17/23 14:51
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/17/23 14:51
trans-1,3-Dichloropropene UJ, RC:SL	ND	U	0.279	1.00	ug/L	1	5/17/23 14:51
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/17/23 14:51
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/17/23 14:51
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/17/23 14:51

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/15/23 15:23

23E0684-02 (Soil) Sample Name: OH-SB_46_1.0-2.0_20230512 Collected: 5/12/2023 10:30:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00560	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1221	ND	U	0.0110	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1232	ND	U	0.0140	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1242	ND	U	0.00820	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1248	ND	U	0.00858	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1254	ND	U	0.00673	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1260	ND	U	0.00522	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1262	ND	U	0.0112	0.0417	mg/kg	1	5/18/23 13:34
Aroclor-1268	ND	U	0.00505	0.0417	mg/kg	1	5/18/23 13:34
Total PCBs	ND	U	0.00390	0.0417	mg/kg	1	5/18/23 13:34

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex) UJ, RC:3L	ND	U	0.0124	0.126	mg/kg	1	5/25/23 22:35
2,4-D UJ, RC:3L	ND	U	0.0210	0.126	mg/kg	1	5/25/23 22:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512** Collected: **5/12/2023 10:30:00AM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**2.18**		**0.00632**	**0.0253**	**mg/kg**	**1**	**5/15/23 12:17**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6510**		**0.179**	**3.01**	**mg/kg**	**1**	**5/25/23 13:48**
Antimony	**3.93**		**0.164**	**1.51**	**mg/kg**	**1**	**5/25/23 13:48**
Arsenic	**17.0**		**0.107**	**1.51**	**mg/kg**	**1**	**5/25/23 13:48**
Barium	**663**	D	**0.455**	**6.02**	**mg/kg**	**10**	**5/25/23 14:37**
Beryllium	**1.07**		**0.00349**	**0.0301**	**mg/kg**	**1**	**5/25/23 13:48**
Cadmium	**2.30**		**0.0587**	**0.301**	**mg/kg**	**1**	**5/25/23 13:48**
Calcium	**19700**		**3.39**	**30.1**	**mg/kg**	**1**	**5/25/23 13:48**
Chromium	**75.3**		**0.0340**	**0.301**	**mg/kg**	**1**	**5/25/23 13:48**
Cobalt	**19.6**		**0.0308**	**0.241**	**mg/kg**	**1**	**5/25/23 13:48**
Copper	**219**		**0.0842**	**0.301**	**mg/kg**	**1**	**5/25/23 13:48**
Iron	**58700**	D	**8.53**	**60.2**	**mg/kg**	**10**	**5/25/23 14:37**
Lead	**701**		**0.126**	**1.51**	**mg/kg**	**1**	**5/25/23 13:48**
Magnesium	**20000**		**10.6**	**60.2**	**mg/kg**	**1**	**5/25/23 13:48**
Manganese	**456**		**0.0374**	**0.301**	**mg/kg**	**1**	**5/25/23 13:48**
Nickel	**102**		**0.0264**	**0.151**	**mg/kg**	**1**	**5/25/23 13:48**
Potassium	**2880**		**35.8**	**120**	**mg/kg**	**1**	**5/25/23 13:48**
Selenium	ND	U	0.289	1.51	mg/kg	1	5/25/23 13:48
Silver J, RC:6L	**0.437**		**0.0512**	**0.181**	**mg/kg**	**1**	**5/25/23 13:48**
Sodium	**1680**		**5.74**	**60.2**	**mg/kg**	**1**	**5/25/23 13:48**
Thallium	ND	U	0.101	1.51	mg/kg	1	5/25/23 13:48
Vanadium	**22.2**		**0.0692**	**0.602**	**mg/kg**	**1**	**5/25/23 13:48**
Zinc	**1270**	D	**0.920**	**9.03**	**mg/kg**	**10**	**5/25/23 14:37**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000752	0.00164	mg/kg	1	5/16/23 16:22
4,4'-DDE	ND	U	0.000899	0.00164	mg/kg	1	5/16/23 16:22
4,4'-DDT	ND	U	0.00116	0.00164	mg/kg	1	5/16/23 16:22
Aldrin	ND	U	0.000779	0.00164	mg/kg	1	5/16/23 16:22
alpha-BHC	ND	U	0.000489	0.00164	mg/kg	1	5/16/23 16:22
beta-BHC	ND	U	0.000785	0.00164	mg/kg	1	5/16/23 16:22
Chlordane	ND	U	0.000731	0.00164	mg/kg	1	5/16/23 16:22
delta-BHC	ND	U	0.000764	0.00164	mg/kg	1	5/16/23 16:22
Dieldrin	ND	U	0.000860	0.00164	mg/kg	1	5/16/23 16:22

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512** Collected: **5/12/2023 10:30:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan I	ND	U	0.000776	0.00164	mg/kg	1	5/16/23 16:22
Endosulfan II	ND	U	0.000747	0.00164	mg/kg	1	5/16/23 16:22
Endosulfan sulfate	ND	U	0.000618	0.00164	mg/kg	1	5/16/23 16:22
Endosulfans, Total (alpha and beta)	ND	U	0.000747	0.00164	mg/kg	1	5/16/23 16:22
Endrin	ND	U	0.000568	0.00164	mg/kg	1	5/16/23 16:22
Endrin aldehyde	ND	U	0.000655	0.00164	mg/kg	1	5/16/23 16:22
Endrin ketone	ND	U	0.000579	0.00164	mg/kg	1	5/16/23 16:22
gamma-BHC (Lindane)	ND	U	0.000521	0.00164	mg/kg	1	5/16/23 16:22
Heptachlor	ND	U	0.000440	0.00164	mg/kg	1	5/16/23 16:22
Heptachlor Epoxide	ND	U	0.000829	0.00164	mg/kg	1	5/16/23 16:22
Methoxychlor	ND	U	0.000482	0.00164	mg/kg	1	5/16/23 16:22
Toxaphene	ND	U	0.0792	0.0834	mg/kg	1	5/16/23 16:22

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00475	0.0421	mg/kg	1	5/17/23 20:58
2,3,4,6-Tetrachlorophenol	ND	U	0.0259	0.168	mg/kg	1	5/17/23 20:58
2,4,5-Trichlorophenol	ND	U	0.0229	0.168	mg/kg	1	5/17/23 20:58
2,4,6-Trichlorophenol	ND	U	0.0105	0.168	mg/kg	1	5/17/23 20:58
2,4-Dichlorophenol	ND	U	0.0169	0.168	mg/kg	1	5/17/23 20:58
2,4-Dimethylphenol	ND	U	0.0166	0.168	mg/kg	1	5/17/23 20:58
2,4-Dinitrophenol	ND	U	0.0243	0.843	mg/kg	1	5/17/23 20:58
2,4-Dinitrotoluene	ND	U	0.0180	0.168	mg/kg	1	5/17/23 20:58
2,6-Dinitrotoluene	ND	U	0.0402	0.168	mg/kg	1	5/17/23 20:58
2-Chloronaphthalene	ND	U	0.0193	0.168	mg/kg	1	5/17/23 20:58
2-Chlorophenol	ND	U	0.0223	0.168	mg/kg	1	5/17/23 20:58
2-Methylnaphthalene	**1.98**		**0.0403**	**0.253**	**mg/kg**	**1**	**5/17/23 20:58**
2-Methylphenol	ND	U	0.0333	0.168	mg/kg	1	5/17/23 20:58
2-Nitroaniline	ND	U	0.0135	0.168	mg/kg	1	5/17/23 20:58
2-Nitrophenol	ND	U	0.0187	0.168	mg/kg	1	5/17/23 20:58
3,3'-Dichlorobenzidine	ND	U	0.0177	0.168	mg/kg	1	5/17/23 20:58
3+4-Methylphenol	ND	U	0.0309	0.168	mg/kg	1	5/17/23 20:58
3-Nitroaniline	ND	U	0.0312	0.168	mg/kg	1	5/17/23 20:58
4,6-Dinitro-2-methylphenol	ND	U	0.0317	0.421	mg/kg	1	5/17/23 20:58
4-Bromophenyl-phenyl ether	ND	U	0.0240	0.168	mg/kg	1	5/17/23 20:58
4-Chloro-3-methylphenol	ND	U	0.0266	0.168	mg/kg	1	5/17/23 20:58
4-Chloroaniline	ND	U	0.00589	0.168	mg/kg	1	5/17/23 20:58

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512** Collected: **5/12/2023 10:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4-Chlorophenyl phenyl ether		ND	U	0.00909	0.168	mg/kg	1	5/17/23 20:58
4-Nitroaniline		ND	U	0.0842	0.168	mg/kg	1	5/17/23 20:58
4-Nitrophenol		ND	U	0.0108	0.168	mg/kg	1	5/17/23 20:58
Acenaphthene		**1.59**		**0.00960**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Acenaphthylene		**1.08**		**0.00585**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Acetophenone		ND	U	0.0167	0.168	mg/kg	1	5/17/23 20:58
Anthracene		**3.05**		**0.0244**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Atrazine		ND	U	0.0158	0.168	mg/kg	1	5/17/23 20:58
Benzaldehyde	UJ, RC:Q,SL	ND	U	0.0517	0.168	mg/kg	1	5/17/23 20:58
Benzo(a)anthracene		**4.37**		**0.0169**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Benzo(a)pyrene		**4.23**		**0.0293**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Benzo(b)fluoranthene		**4.51**		**0.0236**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Benzo(g,h,i)perylene	J, RC:SH	**3.44**		**0.0137**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Benzo(k)fluoranthene		**1.89**		**0.0193**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Biphenyl		**0.324**		**0.0148**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
bis(2-chloroethoxy)methane		ND	U	0.0233	0.168	mg/kg	1	5/17/23 20:58
bis(2-chloroethyl)ether		ND	U	0.0185	0.168	mg/kg	1	5/17/23 20:58
bis(2-chloroisopropyl)ether		ND	U	0.0606	0.168	mg/kg	1	5/17/23 20:58
bis(2-ethylhexyl)phthalate		ND	U	0.0336	0.168	mg/kg	1	5/17/23 20:58
Butylbenzylphthalate		ND	U	0.0153	0.168	mg/kg	1	5/17/23 20:58
Caprolactam		ND	U	0.0217	0.168	mg/kg	1	5/17/23 20:58
Carbazole		**0.442**		**0.0324**	**0.421**	**mg/kg**	**1**	**5/17/23 20:58**
Chrysene		**5.36**		**0.0115**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Dibenzo(a,h)anthracene	J, RC:SH	**0.965**		**0.0167**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Dibenzofuran		**0.637**		**0.0100**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Diethylphthalate		ND	U	0.0326	0.168	mg/kg	1	5/17/23 20:58
Dimethylphthalate		ND	U	0.0104	0.168	mg/kg	1	5/17/23 20:58
Di-n-butylphthalate		ND	U	0.0688	0.168	mg/kg	1	5/17/23 20:58
Di-n-octylphthalate		ND	U	0.0345	0.168	mg/kg	1	5/17/23 20:58
Fluoranthene		**8.30**		**0.0158**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Fluorene		**2.06**		**0.0140**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Hexachlorobenzene		ND	U	0.0220	0.168	mg/kg	1	5/17/23 20:58
Hexachlorobutadiene		ND	U	0.0808	0.168	mg/kg	1	5/17/23 20:58
Hexachlorocyclopentadiene		ND	U	0.0702	0.421	mg/kg	1	5/17/23 20:58
Hexachloroethane		ND	U	0.0185	0.168	mg/kg	1	5/17/23 20:58
Indeno(1,2,3-cd)pyrene		**2.72**		**0.0181**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**
Isophorone		ND	U	0.0110	0.168	mg/kg	1	5/17/23 20:58
Naphthalene		**2.10**		**0.0125**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512** Collected: **5/12/2023 10:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nitrobenzene	ND	U	0.0286	0.168	mg/kg	1	5/17/23 20:58
n-Nitroso-di-n-propylamine	ND	U	0.00901	0.168	mg/kg	1	5/17/23 20:58
n-Nitrosodiphenylamine	ND	U	0.0359	0.168	mg/kg	1	5/17/23 20:58
Pentachlorophenol	ND	U	0.0231	0.421	mg/kg	1	5/17/23 20:58
Phenanthrene	**13.1**	D	**0.221**	**1.68**	**mg/kg**	**10**	**5/23/23 19:43**
Phenol	ND	U	0.0137	0.168	mg/kg	1	5/17/23 20:58
Pyrene	**9.59**		**0.0124**	**0.168**	**mg/kg**	**1**	**5/17/23 20:58**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,5,6,7-Tetramethyl-3-phenylbicyclo [3.2.	3.90	10.43	J	mg/kg	1	5/17/23 20:58
1-Hexadecene	1.56	13.22	J	mg/kg	1	5/17/23 20:58
3,3-Dimethyl-4,4-bis(4-methylphenyl)-but	1.68	13.04	J	mg/kg	1	5/17/23 20:58
3H-Benz[e]indene, 2-methyl-	2.37	10.21	J	mg/kg	1	5/17/23 20:58
Naphthalene, 1,5-dimethyl-	1.61	8.75	J	mg/kg	1	5/17/23 20:58
Naphthalene, 1-methyl-	2.03	8.15	J	mg/kg	1	5/17/23 20:58
Naphthalene, 2-phenyl-	2.72	11.41	J	mg/kg	1	5/17/23 20:58
unknown (01)	1.81	11.09	J	mg/kg	1	5/17/23 20:58
unknown (02)	5.28	11.12	J	mg/kg	1	5/17/23 20:58
unknown (03)	5.38	11.15	J	mg/kg	1	5/17/23 20:58
unknown (04)	3.22	11.20	J	mg/kg	1	5/17/23 20:58
unknown (05)	11.3	11.25	J	mg/kg	1	5/17/23 20:58
unknown (06)	1.49	11.62	J	mg/kg	1	5/17/23 20:58
unknown (07)	2.57	11.68	J	mg/kg	1	5/17/23 20:58
unknown (08)	1.66	13.67	J	mg/kg	1	5/17/23 20:58
TIC Total	**48.5**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000473	0.00324	mg/kg	1	5/16/23 15:32
1,1,2,2-Tetrachloroethane	ND	U	0.000447	0.00324	mg/kg	1	5/16/23 15:32
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00139	0.00324	mg/kg	1	5/16/23 15:32
1,1,2-Trichloroethane	ND	U	0.000546	0.00324	mg/kg	1	5/16/23 15:32
1,1-Dichloroethane	ND	U	0.000473	0.00324	mg/kg	1	5/16/23 15:32
1,1-Dichloroethene	ND	U	0.000600	0.00324	mg/kg	1	5/16/23 15:32

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-02 (Soil) Sample Name: **OH-SB_46_1.0-2.0_20230512** Collected: **5/12/2023 10:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,3-Trichlorobenzene		ND	U	0.000700	0.00324	mg/kg	1	5/16/23 15:32
1,2,4-Trichlorobenzene		ND	U	0.000864	0.00324	mg/kg	1	5/16/23 15:32
1,2,4-Trimethylbenzene		**0.00161**	J	**0.000447**	**0.00324**	**mg/kg**	**1**	**5/16/23 15:32**
1,2-Dibromo-3-chloropropane		ND	U	0.000791	0.00810	mg/kg	1	5/16/23 15:32
1,2-Dibromoethane		ND	U	0.000408	0.00324	mg/kg	1	5/16/23 15:32
1,2-Dichlorobenzene		ND	U	0.000572	0.00324	mg/kg	1	5/16/23 15:32
1,2-Dichloroethane		ND	U	0.000457	0.00324	mg/kg	1	5/16/23 15:32
1,2-Dichloropropane		ND	U	0.000532	0.00324	mg/kg	1	5/16/23 15:32
1,3-Dichlorobenzene		ND	U	0.000238	0.00324	mg/kg	1	5/16/23 15:32
1,4-Dichlorobenzene		ND	U	0.000467	0.00324	mg/kg	1	5/16/23 15:32
2-Butanone		ND	U	0.000528	0.0162	mg/kg	1	5/16/23 15:32
2-Hexanone		ND	U	0.000303	0.00324	mg/kg	1	5/16/23 15:32
4-Methyl-2-pentanone		ND	U	0.000405	0.00324	mg/kg	1	5/16/23 15:32
Acetone		ND	U	0.000982	0.0810	mg/kg	1	5/16/23 15:32
Benzene		ND	U	0.000295	0.00324	mg/kg	1	5/16/23 15:32
Bromochloromethane		ND	U	0.000598	0.00324	mg/kg	1	5/16/23 15:32
Bromodichloromethane		ND	U	0.000407	0.00324	mg/kg	1	5/16/23 15:32
Bromoform		ND	U	0.000569	0.00324	mg/kg	1	5/16/23 15:32
Bromomethane	UJ, RC:SL	ND	U	0.000935	0.00324	mg/kg	1	5/16/23 15:32
Carbon disulfide		ND	U	0.000465	0.00324	mg/kg	1	5/16/23 15:32
Carbon Tetrachloride		ND	U	0.000488	0.00324	mg/kg	1	5/16/23 15:32
Chlorobenzene		ND	U	0.000470	0.00324	mg/kg	1	5/16/23 15:32
Chlorodibromomethane		ND	U	0.000399	0.00324	mg/kg	1	5/16/23 15:32
Chloroethane		ND	U	0.000553	0.00324	mg/kg	1	5/16/23 15:32
Chloroform		ND	U	0.000545	0.00324	mg/kg	1	5/16/23 15:32
Chloromethane		ND	U	0.00125	0.00324	mg/kg	1	5/16/23 15:32
cis-1,2-Dichloroethene		ND	U	0.000157	0.00324	mg/kg	1	5/16/23 15:32
cis-1,3-Dichloropropene		ND	U	0.000410	0.00324	mg/kg	1	5/16/23 15:32
Cyclohexane		ND	U	0.000718	0.00324	mg/kg	1	5/16/23 15:32
Dichlorodifluoromethane		ND	U	0.00109	0.00324	mg/kg	1	5/16/23 15:32
EthylBenzene		ND	U	0.000439	0.00324	mg/kg	1	5/16/23 15:32
Isopropylbenzene		ND	U	0.000509	0.00324	mg/kg	1	5/16/23 15:32
m+p-Xylenes		ND	U	0.000819	0.00648	mg/kg	1	5/16/23 15:32
Methyl Acetate		ND	U	0.000430	0.00324	mg/kg	1	5/16/23 15:32
Methyl tert-Butyl Ether		ND	U	0.000548	0.00324	mg/kg	1	5/16/23 15:32
Methylcyclohexane		ND	U	0.000522	0.00324	mg/kg	1	5/16/23 15:32
Methylene Chloride		ND	U	0.000974	0.00810	mg/kg	1	5/16/23 15:32
o-Xylene		ND	U	0.000417	0.00324	mg/kg	1	5/16/23 15:32

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-02 (Soil)

Sample Name: **OH-SB_46_1.0-2.0_20230512**
Collected: **5/12/2023 10:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Styrene	ND	U	0.000464	0.00324	mg/kg	1	5/16/23 15:32
tert-Butyl alcohol UJ, RC:Q	ND	U	0.00681	0.0324	mg/kg	1	5/16/23 15:32
Tetrachloroethene	ND	U	0.000321	0.00324	mg/kg	1	5/16/23 15:32
Toluene	ND	U	0.000261	0.00324	mg/kg	1	5/16/23 15:32
Total Xylenes	ND	U	0.000417	0.00324	mg/kg	1	5/16/23 15:32
trans-1,2-Dichloroethene	ND	U	0.000439	0.00324	mg/kg	1	5/16/23 15:32
trans-1,3-Dichloropropene	ND	U	0.000619	0.00324	mg/kg	1	5/16/23 15:32
Trichloroethene	ND	U	0.000477	0.00324	mg/kg	1	5/16/23 15:32
Trichlorofluoromethane	ND	U	0.000373	0.00324	mg/kg	1	5/16/23 15:32
Vinyl chloride	ND	U	0.000616	0.00324	mg/kg	1	5/16/23 15:32

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Pentanol, 2-ethyl-4-methyl-	0.0126	16.74	J	mg/kg	1	5/16/23 15:32
Cyclopropane, ethyl-	0.0114	4.04	J	mg/kg	1	5/16/23 15:32
TIC Total	**0.024**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.1**				**%**	**1**	**5/15/23 11:37**

23E0684-03 (Soil)

Sample Name: **OH-SB_46_3.0-4.0_20230512**
Collected: **5/12/2023 11:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00540	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1221	ND	U	0.0106	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1232	ND	U	0.0135	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1242	ND	U	0.00791	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1248	ND	U	0.00827	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1254	ND	U	0.00649	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1260	ND	U	0.00504	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1262	ND	U	0.0108	0.0402	mg/kg	1	5/18/23 13:56
Aroclor-1268	ND	U	0.00487	0.0402	mg/kg	1	5/18/23 13:56
Total PCBs	ND	U	0.00376	0.0402	mg/kg	1	5/18/23 13:56

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512** Collected: **5/12/2023 11:15:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0120	0.122	mg/kg	1	5/25/23 22:59
2,4-D	ND	U	0.0202	0.122	mg/kg	1	5/25/23 22:59

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.32**		**0.00610**	**0.0244**	**mg/kg**	**1**	**5/15/23 12:17**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6700**		**0.182**	**3.06**	**mg/kg**	**1**	**5/25/23 13:50**
Antimony	**1.69**		**0.167**	**1.53**	**mg/kg**	**1**	**5/25/23 13:50**
Arsenic	**8.38**		**0.109**	**1.53**	**mg/kg**	**1**	**5/25/23 13:50**
Barium	**205**		**0.0463**	**0.613**	**mg/kg**	**1**	**5/25/23 13:50**
Beryllium	**1.19**		**0.00355**	**0.0306**	**mg/kg**	**1**	**5/25/23 13:50**
Cadmium	**0.696**		**0.0597**	**0.306**	**mg/kg**	**1**	**5/25/23 13:50**
Calcium	**23800**		**3.45**	**30.6**	**mg/kg**	**1**	**5/25/23 13:50**
Chromium	**30.6**		**0.0346**	**0.306**	**mg/kg**	**1**	**5/25/23 13:50**
Cobalt	**8.79**		**0.0313**	**0.245**	**mg/kg**	**1**	**5/25/23 13:50**
Copper	**88.2**		**0.0857**	**0.306**	**mg/kg**	**1**	**5/25/23 13:50**
Iron	**23100**		**0.868**	**6.13**	**mg/kg**	**1**	**5/25/23 13:50**
Lead	**419**		**0.128**	**1.53**	**mg/kg**	**1**	**5/25/23 13:50**
Magnesium	**6750**		**10.8**	**61.3**	**mg/kg**	**1**	**5/25/23 13:50**
Manganese	**279**		**0.0381**	**0.306**	**mg/kg**	**1**	**5/25/23 13:50**
Nickel	**40.1**		**0.0269**	**0.153**	**mg/kg**	**1**	**5/25/23 13:50**
Potassium	**1950**		**36.4**	**123**	**mg/kg**	**1**	**5/25/23 13:50**
Selenium	ND	U	0.294	1.53	mg/kg	1	5/25/23 13:50
Silver UJ, RC:6L	ND	U	0.0521	0.184	mg/kg	1	5/25/23 13:50
Sodium	**816**		**5.84**	**61.3**	**mg/kg**	**1**	**5/25/23 13:50**
Thallium	ND	U	0.103	1.53	mg/kg	1	5/25/23 13:50
Vanadium	**19.9**		**0.0705**	**0.613**	**mg/kg**	**1**	**5/25/23 13:50**
Zinc	**274**		**0.0936**	**0.919**	**mg/kg**	**1**	**5/25/23 13:50**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000726	0.00159	mg/kg	1	5/16/23 16:44
4,4'-DDE	ND	U	0.000867	0.00159	mg/kg	1	5/16/23 16:44
4,4'-DDT	ND	U	0.00112	0.00159	mg/kg	1	5/16/23 16:44
Aldrin	ND	U	0.000751	0.00159	mg/kg	1	5/16/23 16:44

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512** Collected: **5/12/2023 11:15:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
alpha-BHC	ND	U	0.000472	0.00159	mg/kg	1	5/16/23 16:44
beta-BHC	ND	U	0.000757	0.00159	mg/kg	1	5/16/23 16:44
Chlordane	ND	U	0.000705	0.00159	mg/kg	1	5/16/23 16:44
delta-BHC	ND	U	0.000737	0.00159	mg/kg	1	5/16/23 16:44
Dieldrin	ND	U	0.000829	0.00159	mg/kg	1	5/16/23 16:44
Endosulfan I	ND	U	0.000749	0.00159	mg/kg	1	5/16/23 16:44
Endosulfan II	ND	U	0.000721	0.00159	mg/kg	1	5/16/23 16:44
Endosulfan sulfate	ND	U	0.000596	0.00159	mg/kg	1	5/16/23 16:44
Endosulfans, Total (alpha and beta)	ND	U	0.000721	0.00159	mg/kg	1	5/16/23 16:44
Endrin	ND	U	0.000548	0.00159	mg/kg	1	5/16/23 16:44
Endrin aldehyde	ND	U	0.000632	0.00159	mg/kg	1	5/16/23 16:44
Endrin ketone	ND	U	0.000559	0.00159	mg/kg	1	5/16/23 16:44
gamma-BHC (Lindane)	ND	U	0.000502	0.00159	mg/kg	1	5/16/23 16:44
Heptachlor	ND	U	0.000424	0.00159	mg/kg	1	5/16/23 16:44
Heptachlor Epoxide	ND	U	0.000800	0.00159	mg/kg	1	5/16/23 16:44
Methoxychlor	ND	U	0.000465	0.00159	mg/kg	1	5/16/23 16:44
Toxaphene	ND	U	0.0764	0.0805	mg/kg	1	5/16/23 16:44

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00459	0.0406	mg/kg	1	5/17/23 19:23
2,3,4,6-Tetrachlorophenol	ND	U	0.0250	0.162	mg/kg	1	5/17/23 19:23
2,4,5-Trichlorophenol	ND	U	0.0221	0.162	mg/kg	1	5/17/23 19:23
2,4,6-Trichlorophenol	ND	U	0.0102	0.162	mg/kg	1	5/17/23 19:23
2,4-Dichlorophenol	ND	U	0.0163	0.162	mg/kg	1	5/17/23 19:23
2,4-Dimethylphenol	ND	U	0.0160	0.162	mg/kg	1	5/17/23 19:23
2,4-Dinitrophenol	ND	U	0.0234	0.813	mg/kg	1	5/17/23 19:23
2,4-Dinitrotoluene	ND	U	0.0173	0.162	mg/kg	1	5/17/23 19:23
2,6-Dinitrotoluene	ND	U	0.0388	0.162	mg/kg	1	5/17/23 19:23
2-Chloronaphthalene	ND	U	0.0187	0.162	mg/kg	1	5/17/23 19:23
2-Chlorophenol	ND	U	0.0215	0.162	mg/kg	1	5/17/23 19:23
2-Methylnaphthalene	**1.59**		**0.0389**	**0.244**	**mg/kg**	**1**	**5/17/23 19:23**
2-Methylphenol	ND	U	0.0321	0.162	mg/kg	1	5/17/23 19:23
2-Nitroaniline	ND	U	0.0130	0.162	mg/kg	1	5/17/23 19:23
2-Nitrophenol	ND	U	0.0180	0.162	mg/kg	1	5/17/23 19:23
3,3'-Dichlorobenzidine	ND	U	0.0171	0.162	mg/kg	1	5/17/23 19:23
3+4-Methylphenol	ND	U	0.0298	0.162	mg/kg	1	5/17/23 19:23

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512** Collected: **5/12/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
3-Nitroaniline		ND	U	0.0301	0.162	mg/kg	1	5/17/23 19:23
4,6-Dinitro-2-methylphenol		ND	U	0.0306	0.406	mg/kg	1	5/17/23 19:23
4-Bromophenyl-phenyl ether		ND	U	0.0232	0.162	mg/kg	1	5/17/23 19:23
4-Chloro-3-methylphenol		ND	U	0.0256	0.162	mg/kg	1	5/17/23 19:23
4-Chloroaniline		ND	U	0.00568	0.162	mg/kg	1	5/17/23 19:23
4-Chlorophenyl phenyl ether		ND	U	0.00877	0.162	mg/kg	1	5/17/23 19:23
4-Nitroaniline		ND	U	0.0812	0.162	mg/kg	1	5/17/23 19:23
4-Nitrophenol		ND	U	0.0104	0.162	mg/kg	1	5/17/23 19:23
Acenaphthene		**3.22**		**0.00926**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Acenaphthylene		**4.31**		**0.00565**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Acetophenone		ND	U	0.0161	0.162	mg/kg	1	5/17/23 19:23
Anthracene		**4.99**		**0.0235**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Atrazine		ND	U	0.0152	0.162	mg/kg	1	5/17/23 19:23
Benzaldehyde	UJ, RC:Q,SL	ND	U	0.0499	0.162	mg/kg	1	5/17/23 19:23
Benzo(a)anthracene		**6.58**		**0.0163**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Benzo(a)pyrene		**9.36**		**0.0283**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Benzo(b)fluoranthene		**7.49**		**0.0228**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Benzo(g,h,i)perylene	J, RC:SH	**12.9**	D	**0.132**	**1.62**	**mg/kg**	**10**	**5/23/23 19:12**
Benzo(k)fluoranthene		**2.44**		**0.0187**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Biphenyl		ND	U	0.0143	0.162	mg/kg	1	5/17/23 19:23
bis(2-chloroethoxy)methane		ND	U	0.0224	0.162	mg/kg	1	5/17/23 19:23
bis(2-chloroethyl)ether		ND	U	0.0178	0.162	mg/kg	1	5/17/23 19:23
bis(2-chloroisopropyl)ether		ND	U	0.0584	0.162	mg/kg	1	5/17/23 19:23
bis(2-ethylhexyl)phthalate		ND	U	0.0324	0.162	mg/kg	1	5/17/23 19:23
Butylbenzylphthalate		ND	U	0.0148	0.162	mg/kg	1	5/17/23 19:23
Caprolactam		ND	U	0.0210	0.162	mg/kg	1	5/17/23 19:23
Carbazole		ND	U	0.0312	0.406	mg/kg	1	5/17/23 19:23
Chrysene		**7.24**		**0.0111**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Dibenzo(a,h)anthracene	J, RC:SH	**1.88**		**0.0161**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Dibenzofuran		ND	U	0.00967	0.162	mg/kg	1	5/17/23 19:23
Diethylphthalate		ND	U	0.0315	0.162	mg/kg	1	5/17/23 19:23
Dimethylphthalate		ND	U	0.0101	0.162	mg/kg	1	5/17/23 19:23
Di-n-butylphthalate		ND	U	0.0663	0.162	mg/kg	1	5/17/23 19:23
Di-n-octylphthalate		ND	U	0.0333	0.162	mg/kg	1	5/17/23 19:23
Fluoranthene		**14.7**	D	**0.152**	**1.62**	**mg/kg**	**10**	**5/23/23 19:12**
Fluorene		**2.95**		**0.0135**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Hexachlorobenzene		ND	U	0.0212	0.162	mg/kg	1	5/17/23 19:23
Hexachlorobutadiene		ND	U	0.0779	0.162	mg/kg	1	5/17/23 19:23

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512** Collected: **5/12/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorocyclopentadiene	ND	U	0.0677	0.406	mg/kg	1	5/17/23 19:23
Hexachloroethane	ND	U	0.0178	0.162	mg/kg	1	5/17/23 19:23
Indeno(1,2,3-cd)pyrene	**6.22**		**0.0174**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Isophorone	ND	U	0.0106	0.162	mg/kg	1	5/17/23 19:23
Naphthalene	**2.07**		**0.0120**	**0.162**	**mg/kg**	**1**	**5/17/23 19:23**
Nitrobenzene	ND	U	0.0276	0.162	mg/kg	1	5/17/23 19:23
n-Nitroso-di-n-propylamine	ND	U	0.00869	0.162	mg/kg	1	5/17/23 19:23
n-Nitrosodiphenylamine	ND	U	0.0346	0.162	mg/kg	1	5/17/23 19:23
Pentachlorophenol	ND	U	0.0223	0.406	mg/kg	1	5/17/23 19:23
Phenanthrene	**12.0**	D	**0.213**	**1.62**	**mg/kg**	**10**	**5/23/23 19:12**
Phenol	ND	U	0.0132	0.162	mg/kg	1	5/17/23 19:23
Pyrene	**27.5**	D	**0.119**	**1.62**	**mg/kg**	**10**	**5/23/23 19:12**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethenyl-2-methyl-	4.57	5.89	J	mg/kg	1	5/17/23 19:23
Indane	3.66	6.24	J	mg/kg	1	5/17/23 19:23
Naphthalene, 1,2-dimethyl-	2.53	8.75	J	mg/kg	1	5/17/23 19:23
Naphthalene, 1-methyl-	3.54	8.15	J	mg/kg	1	5/17/23 19:23
unknown (01)	3.12	7.07	J	mg/kg	1	5/17/23 19:23
unknown (02)	3.07	7.59	J	mg/kg	1	5/17/23 19:23
unknown (03)	2.50	8.81	J	mg/kg	1	5/17/23 19:23
unknown (04)	2.23	11.12	J	mg/kg	1	5/17/23 19:23
unknown (05)	4.32	11.15	J	mg/kg	1	5/17/23 19:23
unknown (06)	2.73	11.20	J	mg/kg	1	5/17/23 19:23
unknown (07)	15.0	11.25	J	mg/kg	1	5/17/23 19:23
unknown (08)	4.27	11.55	J	mg/kg	1	5/17/23 19:23
unknown (09)	3.76	11.69	J	mg/kg	1	5/17/23 19:23
unknown (10)	9.27	15.61	J	mg/kg	1	5/17/23 19:23
unknown (11)	2.51	16.74	J	mg/kg	1	5/17/23 19:23
TIC Total	**67.1**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000445	0.00305	mg/kg	1	5/16/23 16:01
1,1,2,2-Tetrachloroethane	ND	U	0.000421	0.00305	mg/kg	1	5/16/23 16:01
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00130	0.00305	mg/kg	1	5/16/23 16:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512** Collected: **5/12/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,2-Trichloroethane		ND	U	0.000514	0.00305	mg/kg	1	5/16/23 16:01
1,1-Dichloroethane		ND	U	0.000445	0.00305	mg/kg	1	5/16/23 16:01
1,1-Dichloroethene		ND	U	0.000564	0.00305	mg/kg	1	5/16/23 16:01
1,2,3-Trichlorobenzene		ND	U	0.000659	0.00305	mg/kg	1	5/16/23 16:01
1,2,4-Trichlorobenzene		ND	U	0.000812	0.00305	mg/kg	1	5/16/23 16:01
1,2,4-Trimethylbenzene		**0.0411**		**0.000421**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
1,2-Dibromo-3-chloropropane		ND	U	0.000744	0.00762	mg/kg	1	5/16/23 16:01
1,2-Dibromoethane		ND	U	0.000384	0.00305	mg/kg	1	5/16/23 16:01
1,2-Dichlorobenzene		ND	U	0.000538	0.00305	mg/kg	1	5/16/23 16:01
1,2-Dichloroethane		ND	U	0.000430	0.00305	mg/kg	1	5/16/23 16:01
1,2-Dichloropropane		ND	U	0.000500	0.00305	mg/kg	1	5/16/23 16:01
1,3-Dichlorobenzene		ND	U	0.000224	0.00305	mg/kg	1	5/16/23 16:01
1,4-Dichlorobenzene		ND	U	0.000439	0.00305	mg/kg	1	5/16/23 16:01
2-Butanone		ND	U	0.000497	0.0152	mg/kg	1	5/16/23 16:01
2-Hexanone		ND	U	0.000285	0.00305	mg/kg	1	5/16/23 16:01
4-Methyl-2-pentanone		ND	U	0.000381	0.00305	mg/kg	1	5/16/23 16:01
Acetone		ND	U	0.000924	0.0762	mg/kg	1	5/16/23 16:01
Benzene		**0.00305**		**0.000277**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
Bromochloromethane		ND	U	0.000562	0.00305	mg/kg	1	5/16/23 16:01
Bromodichloromethane		ND	U	0.000383	0.00305	mg/kg	1	5/16/23 16:01
Bromoform		ND	U	0.000535	0.00305	mg/kg	1	5/16/23 16:01
Bromomethane	UJ, RC:SL	ND	U	0.000880	0.00305	mg/kg	1	5/16/23 16:01
Carbon disulfide		ND	U	0.000437	0.00305	mg/kg	1	5/16/23 16:01
Carbon Tetrachloride		ND	U	0.000459	0.00305	mg/kg	1	5/16/23 16:01
Chlorobenzene		ND	U	0.000442	0.00305	mg/kg	1	5/16/23 16:01
Chlorodibromomethane		ND	U	0.000375	0.00305	mg/kg	1	5/16/23 16:01
Chloroethane		ND	U	0.000520	0.00305	mg/kg	1	5/16/23 16:01
Chloroform		ND	U	0.000512	0.00305	mg/kg	1	5/16/23 16:01
Chloromethane		ND	U	0.00117	0.00305	mg/kg	1	5/16/23 16:01
cis-1,2-Dichloroethene		ND	U	0.000147	0.00305	mg/kg	1	5/16/23 16:01
cis-1,3-Dichloropropene		ND	U	0.000386	0.00305	mg/kg	1	5/16/23 16:01
Cyclohexane		ND	U	0.000675	0.00305	mg/kg	1	5/16/23 16:01
Dichlorodifluoromethane		ND	U	0.00103	0.00305	mg/kg	1	5/16/23 16:01
EthylBenzene		**0.00267**	J	**0.000413**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
Isopropylbenzene		**0.0326**		**0.000479**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
m+p-Xylenes		**0.00942**		**0.000770**	**0.00610**	**mg/kg**	**1**	**5/16/23 16:01**
Methyl Acetate		ND	U	0.000404	0.00305	mg/kg	1	5/16/23 16:01
Methyl tert-Butyl Ether		ND	U	0.000515	0.00305	mg/kg	1	5/16/23 16:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil) Sample Name: **OH-SB_46_3.0-4.0_20230512** Collected: **5/12/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	**0.00426**		**0.000491**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
Methylene Chloride	ND	U	0.000916	0.00762	mg/kg	1	5/16/23 16:01
o-Xylene	**0.00875**		**0.000392**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
Styrene	ND	U	0.000436	0.00305	mg/kg	1	5/16/23 16:01
tert-Butyl alcohol UJ, RC:Q	ND	U	0.00640	0.0305	mg/kg	1	5/16/23 16:01
Tetrachloroethene	ND	U	0.000302	0.00305	mg/kg	1	5/16/23 16:01
Toluene	**0.00142**	J	**0.000245**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
Total Xylenes	**0.0182**		**0.000392**	**0.00305**	**mg/kg**	**1**	**5/16/23 16:01**
trans-1,2-Dichloroethene	ND	U	0.000413	0.00305	mg/kg	1	5/16/23 16:01
trans-1,3-Dichloropropene	ND	U	0.000582	0.00305	mg/kg	1	5/16/23 16:01
Trichloroethene	ND	U	0.000448	0.00305	mg/kg	1	5/16/23 16:01
Trichlorofluoromethane	ND	U	0.000351	0.00305	mg/kg	1	5/16/23 16:01
Vinyl chloride	ND	U	0.000579	0.00305	mg/kg	1	5/16/23 16:01

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	0.0590	20.81	J	mg/kg	1	5/16/23 16:01
1H-Indene, 2,3-dihydro-1,2-dimethyl-	0.0433	21.07	J	mg/kg	1	5/16/23 16:01
1H-Indene, 2,3-dihydro-4-methyl-	0.0407	20.27	J	mg/kg	1	5/16/23 16:01
Benzene, (1-methylethyl)-	0.0570	16.95	J	mg/kg	1	5/16/23 16:01
Benzene, 1,3,5-trimethyl-	0.0397	17.96	J	mg/kg	1	5/16/23 16:01
Benzene, 1-methyl-2-(1-methylethyl)- (01)	0.0892	18.45	J	mg/kg	1	5/16/23 16:01
Benzene, 1-methyl-2-(1-methylethyl)- (02)	0.0851	19.08	J	mg/kg	1	5/16/23 16:01
Benzene, 1-methyl-4-propyl-	0.0432	18.74	J	mg/kg	1	5/16/23 16:01
Benzoic acid, 2,5-dimethyl-, (2,4-dimeth	0.0414	20.06	J	mg/kg	1	5/16/23 16:01
Cyclopentane	0.0670	4.04	J	mg/kg	1	5/16/23 16:01
Indan, 1-methyl- (01)	0.154	19.26	J	mg/kg	1	5/16/23 16:01
Indan, 1-methyl- (02)	0.122	20.52	J	mg/kg	1	5/16/23 16:01
Indane	0.266	18.27	J	mg/kg	1	5/16/23 16:01
n-Amylcyclohexane	0.0592	19.72	J	mg/kg	1	5/16/23 16:01
s-Butylcyclohexane	0.0536	17.71	J	mg/kg	1	5/16/23 16:01
TIC Total	**1.22**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-03 (Soil)

Sample Name: **OH-SB_46_3.0-4.0_20230512**
Collected: **5/12/2023 11:15:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.0**				**%**	**1**	**5/15/23 11:37**

23E0684-04 (Ground Water)

Sample Name: **TB-20230512**
Collected: **5/12/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 15:21
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 15:21
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 15:21
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 15:21
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 15:21
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 15:21
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 15:21
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 15:21
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 15:21
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/17/23 15:21
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/17/23 15:21
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/17/23 15:21
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/17/23 15:21
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/17/23 15:21
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/17/23 15:21
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/17/23 15:21
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/17/23 15:21
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/17/23 15:21
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/17/23 15:21
Acetone	ND	U	10.0	10.0	ug/L	1	5/17/23 15:21
Benzene	ND	U	0.129	1.00	ug/L	1	5/17/23 15:21
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/17/23 15:21
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/17/23 15:21
Bromoform	ND	U	0.421	1.00	ug/L	1	5/17/23 15:21
Bromomethane UJ, RC:6L,SL	ND	U	0.702	10.0	ug/L	1	5/17/23 15:21
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/17/23 15:21
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/17/23 15:21
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/17/23 15:21
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/17/23 15:21
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/17/23 15:21
Chloroform	ND	U	0.365	1.00	ug/L	1	5/17/23 15:21

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0684
Date to Lab: 5/12/2023 5:40:00PM

23E0684-04 (Ground Water) Sample Name: **TB-20230512** Collected: **5/12/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	UJ, RC:SL	ND	U	0.758	1.00	ug/L	1	5/17/23 15:21
cis-1,2-Dichloroethene		ND	U	0.352	1.00	ug/L	1	5/17/23 15:21
cis-1,3-Dichloropropene		ND	U	0.294	1.00	ug/L	1	5/17/23 15:21
Cyclohexane		ND	U	0.298	2.00	ug/L	1	5/17/23 15:21
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.328	2.00	ug/L	1	5/17/23 15:21
EthylBenzene		ND	U	0.244	1.00	ug/L	1	5/17/23 15:21
Isopropylbenzene		ND	U	0.275	1.00	ug/L	1	5/17/23 15:21
m+p-Xylenes		ND	U	0.461	2.00	ug/L	1	5/17/23 15:21
Methyl Acetate	UJ, RC:Q	ND	U	0.373	1.00	ug/L	1	5/17/23 15:21
Methyl tert-Butyl Ether		ND	U	0.596	1.00	ug/L	1	5/17/23 15:21
Methylcyclohexane		ND	U	0.222	1.00	ug/L	1	5/17/23 15:21
Methylene Chloride		ND	U	3.00	3.00	ug/L	1	5/17/23 15:21
o-Xylene		ND	U	0.244	1.00	ug/L	1	5/17/23 15:21
Styrene		ND	U	0.176	1.00	ug/L	1	5/17/23 15:21
tert-Butyl alcohol	UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	5/17/23 15:21
Tetrachloroethene		ND	U	0.466	1.00	ug/L	1	5/17/23 15:21
Toluene		ND	U	0.205	1.00	ug/L	1	5/17/23 15:21
Total Xylenes		ND	U	0.244	1.00	ug/L	1	5/17/23 15:21
trans-1,2-Dichloroethene		ND	U	0.241	1.00	ug/L	1	5/17/23 15:21
trans-1,3-Dichloropropene	UJ, RC:SL	ND	U	0.279	1.00	ug/L	1	5/17/23 15:21
Trichloroethene		ND	U	0.146	1.00	ug/L	1	5/17/23 15:21
Trichlorofluoromethane		ND	U	0.413	1.00	ug/L	1	5/17/23 15:21
Vinyl chloride		ND	U	0.157	1.00	ug/L	1	5/17/23 15:21

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2326888

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Project Name:	23E0684	**Lab Number:**	L2326888
Project Number:	23E0684	**Report Date:**	10/23/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2326888-01	OH-SB-46-1.0-2.0-20230512	SOIL	Not Specified	05/12/23 10:30	05/15/23
L2326888-02	OH-SB-46-3.0-4.0-20230512	SOIL	Not Specified	05/12/23 11:15	05/15/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Revision

October 23, 2023: The Client IDs were amended on L2326888-01 and -02.

Report Submission

June 12, 2023: This final report includes the results of all requested analyses.

May 30, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 10/23/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2326888

Account Name : Aqua Pro-Tech Laboratories
Project Number : 23E0684
Project Name : 23E0684

Received : 15-MAY-2023
Reviewer : Julie DeCenzo

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	3.1	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326888
Project Name	: 23E0684	Project Number	: 23E0684
Lab ID	: L2326888-01D	Date Collected	: 05/12/23 10:30
Client ID	: OH-SB-46-1.0-2.0-20230512	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/03/23 01:44
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 4
Lab File ID	: F206022317	Analyst	: CNC
Sample Amount	: 10.02 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 67
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	2070	88.8	25.5	J, RC:SL
91-20-3C1	C1-Naphthalenes	2120	88.8	25.5	
91-20-3C2	C2-Naphthalenes	3230	88.8	25.5	
91-20-3C3	C3-Naphthalenes	3500	88.8	25.5	
91-20-3C4	C4-Naphthalenes	2130	88.8	25.5	
208-96-8	Acenaphthylene	5560	88.8	17.0	
83-32-9	Acenaphthene	2080	88.8	15.7	
86-73-7	Fluorene	2750	88.8	23.7	
86-73-7C1	C1-Fluorenes	2990	88.8	23.7	
86-73-7C2	C2-Fluorenes	3600	88.8	23.7	
86-73-7C3	C3-Fluorenes	3200	88.8	23.7	
85-01-8	Phenanthrene	27600	88.8	29.4	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	17900	88.8	29.4	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	12000	88.8	29.4	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	4840	88.8	29.4	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1660	88.8	29.4	
120-12-7	Anthracene	6380	88.8	18.3	
206-44-0	Fluoranthene	45100	88.8	28.2	
129-00-0	Pyrene	39400	88.8	23.4	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	23900	88.8	23.4	
56-55-3	Benz(a)anthracene	26800	88.8	18.1	
218-01-9	Chrysene	26100	88.8	18.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: L2326888-01D	**Date Collected**	: 05/12/23 10:30
Client ID	: OH-SB-46-1.0-2.0-20230512	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/03/23 01:44
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F206022317	**Analyst**	: CNC
Sample Amount	: 10.02 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 67
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	11900	88.8	18.0	
218-01-9C2	C2-Chrysenes BS	5760	88.8	18.0	
218-01-9C3	C3-Chrysenes	4010	88.8	18.0	
218-01-9C4	C4-Chrysenes	2000	88.8	18.0	
205-99-2	Benzo(b)fluoranthene	23000	88.8	23.1	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	19400	88.8	17.6	
192-97-2	Benzo(e)pyrene	16300	88.8	18.3	
50-32-8	Benzo(a)pyrene	25800	88.8	25.4	
198-55-0	Perylene	6700	88.8	17.1	
193-39-5	Indeno(1,2,3-cd)pyrene	16900	88.8	24.1	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	4490	88.8	24.0	
191-24-2	Benzo(g,h,i)perylene	16000	88.8	23.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326888
Project Name	: 23E0684	Project Number	: 23E0684
Lab ID	: L2326888-02	Date Collected	: 05/12/23 11:15
Client ID	: OH-SB-46-3.0-4.0-20230512	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/08/23 16:28
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206052328	Analyst	: CNC
Sample Amount	: 10.08 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 79
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	1050	7.54	2.17	J, RC:SL
91-20-3C1	C1-Naphthalenes	1070	7.54	2.17	
91-20-3C2	C2-Naphthalenes	1630	7.54	2.17	
91-20-3C3	C3-Naphthalenes	1180	7.54	2.17	
91-20-3C4	C4-Naphthalenes	729	7.54	2.17	
208-96-8	Acenaphthylene	762	7.54	1.44	
83-32-9	Acenaphthene	969	7.54	1.33	
86-73-7	Fluorene	1290	7.54	2.01	
86-73-7C1	C1-Fluorenes	714	7.54	2.01	
86-73-7C2	C2-Fluorenes	1150	7.54	2.01	
86-73-7C3	C3-Fluorenes	1170	7.54	2.01	
85-01-8	Phenanthrene	6760	7.54	2.50	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	3900	7.54	2.50	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	3440	7.54	2.50	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	2040	7.54	2.50	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	996	7.54	2.50	
120-12-7	Anthracene	2250	7.54	1.56	
206-44-0	Fluoranthene	6800	7.54	2.40	
129-00-0	Pyrene	9290	7.54	1.98	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	6090	7.54	1.98	
56-55-3	Benz(a)anthracene	3500	7.54	1.54	
218-01-9	Chrysene	3600	7.54	1.52	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: L2326888-02	**Date Collected**	: 05/12/23 11:15
Client ID	: OH-SB-46-3.0-4.0-20230512	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/08/23 16:28
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052328	**Analyst**	: CNC
Sample Amount	: 10.08 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	2960	7.54	1.52	
218-01-9C2	C2-Chrysenes BS	2040	7.54	1.52	
218-01-9C3	C3-Chrysenes	1330	7.54	1.52	
218-01-9C4	C4-Chrysenes	595	7.54	1.52	
205-99-2	Benzo(b)fluoranthene	3070	7.54	1.96	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2870	7.54	1.50	
192-97-2	Benzo(e)pyrene	3320	7.54	1.56	
50-32-8	Benzo(a)pyrene	4720	7.54	2.15	
198-55-0	Perylene	1110	7.54	1.46	
193-39-5	Indeno(1,2,3-cd)pyrene	3080	7.54	2.05	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	891	7.54	2.04	
191-24-2	Benzo(g,h,i)perylene	4200	7.54	2.00	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: WG1779925-1	**Date Collected**	: NA
Client ID	: WG1779925-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/02/23 15:54
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206022310	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	ND	1.00	0.287	U
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	0.449	1.00	0.263	J
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	0.583	1.00	0.263	J
56-55-3	Benz(a)anthracene	0.240	1.00	0.204	J
218-01-9	Chrysene	0.231	1.00	0.202	J

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: WG1779925-1	**Date Collected**	: NA
Client ID	: WG1779925-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/02/23 15:54
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206022310	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	0.380	1.00	0.202	J
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	0.237	1.00	0.206	J
50-32-8	Benzo(a)pyrene	0.298	1.00	0.285	J
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	0.310	1.00	0.266	J

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: L2326888-01	**Date Collected**	: 05/12/23 10:30
Client ID	: OH-SB-46-1.0-2.0-20230512	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 67
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.5	1.5	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: L2326888-02	**Date Collected**	: 05/12/23 11:15
Client ID	: OH-SB-46-3.0-4.0-20230512	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 79
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: WG1783323-1	**Date Collected**	: NA
Client ID	: WG1783323-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: WG1783323-3	**Date Collected**	: 05/12/23 10:30
Client ID	: OH-SB-46-1.0-2.0-20230512DUP	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 67
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.5	1.5	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: L2326888-01	**Date Collected**	: 05/12/23 10:30
Client ID	: OH-SB-46-1.0-2.0-20230512	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/16/23 23:17
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1779736.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 67
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**67.4**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: L2326888-02	**Date Collected**	: 05/12/23 11:15
Client ID	: OH-SB-46-3.0-4.0-20230512	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/16/23 23:17
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1779736.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 79
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**78.9**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326888
Project Name	: 23E0684	**Project Number**	: 23E0684
Lab ID	: WG1779736-1	**Date Collected**	: 05/08/23 11:30
Client ID	: WG1779736-1 DUP	**Date Received**	: 05/11/23
Sample Location	:	**Date Analyzed**	: 05/16/23 23:17
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1779736.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 86
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**87.6**	**0.100**	**0.100**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2326890 and 23E0605
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: November 10, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
FB-20230511	23E0605-01	5/11/2023	Water
OH-SB-45-1.0-2.0-20230511	23E0605-02	5/11/2023	Soil
OH-SB-45-4.0-5.0-20230511	23E0605-03	5/11/2023	Soil
TB-20230511	23E0605-04	5/11/2023	Water

Data validation was performed on the analytical data for four (4) samples collected May 11, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, surrogates, laboratory control samples, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample OH-SB-45-4.0-5.0-20230511 was logged in incorrectly by the laboratory as "OH-SB-45-4.0-5.0-2.0-20230511." The sample ID was updated in the database and DV Report as "OH-SB-45-4.0-5.0-20230511."
- Sample FB-20230511 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	FB-20230511	4-Bromofluorobenzene	%R < CL	UJ (NDs) J (Detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.
-

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB-20230511	1,4-Dichlorobenzene	%R > CL	No action (NDs) J (Detects)	6H
		Bromomethane	%R < CL	UJ (NDs) J (Detects)	6L
	OH-SB-45-1.0-2.0-0230511 OH-SB-45-4.0-5.0-0230511	Acetone	%R > CL	No action (NDs) J (Detects)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230511	1,2,4-Trichlorobenzene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	0H-SB-45-1.0-2.0-20230511 0H-SB-45-4.0-5.0-20230511	2-Butanone Acetone Cyclohexane	CCV %D > 20% (increase in response)	No action (NDs) J (Detects)	SH
	TB-20230511	1,2,3-Trichlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene	CCV %D > 20% (increase in response)	No action (NDs) J (Detects)	SH
		Bromomethane Chloromethane Dichlorodifluoromethane trans-1,3-Dichloropropene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester and Octadecanoic acid, butyl ester. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	OH-SB-45-1.0-2.0-20230511 OH-SB-45-4.0-5.0-20230511	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	FB-20230511	Benzaldehyde 4-Nitrophenol n-Nitroso-di-n-propylamine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
			response)		
	OH-SB-45-1.0-2.0-20230511 OH-SB-45-4.0-5.0-20230511	Benzaldehyde 3-Nitroaniline 4-Nitrophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,6-Dinitrotoluene 2-Nitroaniline 4-Bromophenyl-phenyl ether 4-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Di-n-butylphthalate Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8081B	OH-SB-45-1.0-2.0-20230511	Decachlorobiphenyl [2C]	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230511	Endrin aldehyde Endrin ketone Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H
		Endosulfan sulfate	%R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230511	Aluminum	%R > CL	No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Dated: November 10, 2023 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0605

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 03, 2023

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APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E0605

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB-20230511	23E0605-01	Ground Water	05/11/2023 12:30	05/11/2023 14:00
OH-SB-45-1.0-2.0-20230511	23E0605-02	Soil	05/11/2023 10:45	05/11/2023 14:00
OH-SB-45-4.0-5.0-2.0-20230511	23E0605-03	Soil	05/11/2023 11:00	05/11/2023 14:00
TB-20230511	23E0605-04	Ground Water	05/11/2023 14:00	05/11/2023 14:00

PN: 23E0605

APL 23E0605

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT: Yu and Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive, 3rd floor	ADDRESS: " "
Elmwood Park, NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: swang@Yu-Associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: HAS

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID# NJ state category B

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0605-01	FB_20230511	5/11/23	1230	-		DI	10		SVOC, PCB, Pest, Herb, Tal metals, CN, VOCs
-02	OH-SB-45 [illegible] 1.0-2.0_20230511	5/11/23	1045	X		S	5		VOC, PCBs, Pest, Herb, Tal Metals, TCN, FCN, SVOCs by 8270 SIM
-03	OH-SB-45_4.0-5.0_20230511	5/11/23	1100	X		S	5		" "
-04	TB_20230511	5/11/23	1400	-		DI	2		VOCs

RELINQUISHED BY (Print) Harrison Stebbins	DATE 5/11/23	RECEIVED BY (Print) Mike D'Angelo	
Signature	Time 1400	Signature	
RELINQUISHED BY (Print) Mike D'Angelo	DATE 5/11/23	RECEIVED BY (Print)	
Signature	Time 14:00	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 200.8 / 7473 / 245.1 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Method 200.8
The percent recovery for Silver was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 7473 / 245.1 / 200.7 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]
Sample 23E0605-02 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

The percent recoveries for 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene were outside of the QC limits for the matrix spike (low). The blank spike met all QC criteria.

Samples 23E0605-01 (FB) has one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 3,3'-Dichlorobenzidine and Indeno(1,2,3-cd)pyrene were outside of the QC limits for the matrix spike (low). The percent recovery for 3,3'-Dichlorobenzidine was outside of the QC limits for the matrix spike duplicate (low). The blank spike met all QC criteria.

Reviewed By: _____ (SK) 8/3/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.68		0.00573	0.0229	mg/kg dry	1	5/15/23 12:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6940		0.163	2.74	mg/kg dry	1	5/24/23 12:27
Arsenic	18.3		0.0978	1.37	mg/kg dry	1	5/24/23 12:27
Barium	146		0.0415	0.548	mg/kg dry	1	5/24/23 12:27
Beryllium	0.541		0.00318	0.0274	mg/kg dry	1	5/24/23 12:27
Cadmium	1.38		0.0535	0.274	mg/kg dry	1	5/24/23 12:27
Calcium	14200		3.08	27.4	mg/kg dry	1	5/24/23 12:27
Chromium	17.7		0.0310	0.274	mg/kg dry	1	5/24/23 12:27
Cobalt	8.64		0.0280	0.219	mg/kg dry	1	5/24/23 12:27
Copper	262	D	0.767	2.74	mg/kg dry	10	5/24/23 14:02
Iron	18800		0.777	5.48	mg/kg dry	1	5/24/23 12:27
Lead	392		0.114	1.37	mg/kg dry	1	5/24/23 12:27
Magnesium	2800		9.69	54.8	mg/kg dry	1	5/24/23 12:27
Manganese	183		0.0341	0.274	mg/kg dry	1	5/24/23 12:27
Nickel	22.4		0.0241	0.137	mg/kg dry	1	5/24/23 12:27
Potassium	1380		32.6	110	mg/kg dry	1	5/24/23 12:27
Sodium	1550		5.23	54.8	mg/kg dry	1	5/24/23 12:27
Vanadium	19.7		0.0631	0.548	mg/kg dry	1	5/24/23 12:27
Zinc	458	D	0.838	8.23	mg/kg dry	10	5/24/23 14:02

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.0143		0.000682	0.00149	mg/kg dry	1	5/15/23 23:07
4,4'-DDT [2C]	0.00276		0.00105	0.00149	mg/kg dry	1	5/15/23 23:07

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.415		0.0366	0.229	mg/kg dry	1	5/17/23 22:01
Acenaphthene	0.945		0.00870	0.152	mg/kg dry	1	5/17/23 22:01
Acenaphthylene	0.813		0.00531	0.152	mg/kg dry	1	5/17/23 22:01
Acetophenone	0.167		0.0151	0.152	mg/kg dry	1	5/17/23 22:01
Anthracene	1.88		0.0221	0.152	mg/kg dry	1	5/17/23 22:01
Benzo(a)anthracene	4.36		0.0154	0.152	mg/kg dry	1	5/17/23 22:01
Benzo(a)pyrene	4.30		0.0266	0.152	mg/kg dry	1	5/17/23 22:01
Benzo(b)fluoranthene	4.46		0.0214	0.152	mg/kg dry	1	5/17/23 22:01
Benzo(g,h,i)perylene	3.47		0.0124	0.152	mg/kg dry	1	5/17/23 22:01
Benzo(k)fluoranthene	2.48		0.0175	0.152	mg/kg dry	1	5/17/23 22:01
Biphenyl	0.0975	J	0.0134	0.152	mg/kg dry	1	5/17/23 22:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbazole	0.927		0.0293	0.382	mg/kg dry	1	5/17/23 22:01
Chrysene	4.35		0.0105	0.152	mg/kg dry	1	5/17/23 22:01
Dibenzo(a,h)anthracene	1.09		0.0151	0.152	mg/kg dry	1	5/17/23 22:01
Fluoranthene	9.39		0.0143	0.152	mg/kg dry	1	5/17/23 22:01
Fluorene	0.932		0.0127	0.152	mg/kg dry	1	5/17/23 22:01
Indeno(1,2,3-cd)pyrene	2.79		0.0164	0.152	mg/kg dry	1	5/17/23 22:01
Naphthalene	0.565		0.0113	0.152	mg/kg dry	1	5/17/23 22:01
Phenanthrene	8.36		0.0201	0.152	mg/kg dry	1	5/17/23 22:01
Pyrene	7.64		0.0112	0.152	mg/kg dry	1	5/17/23 22:01
TIC_2-Phenylnaphthalene	1.05	J			mg/kg dry	1	5/17/23 22:01
TIC_9,10-Anthracenedione	1.27	J			mg/kg dry	1	5/17/23 22:01
TIC_Hexadecanoic acid, butyl ester	4.80	J, B			mg/kg dry	1	5/17/23 22:01
TIC_Octadecanoic acid, butyl ester	1.40	J, B			mg/kg dry	1	5/17/23 22:01
TIC_unknown (01)	0.956	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (02)	0.730	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (03)	0.815	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (04)	1.99	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (05)	2.05	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (06)	0.959	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (07)	3.83	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (08)	1.04	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (09)	0.804	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (10)	0.738	J			mg/kg dry	1	5/17/23 22:01
TIC_unknown (11)	2.10	J			mg/kg dry	1	5/17/23 22:01

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-2.0-20230511**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.151		0.00589	0.0236	mg/kg dry	1	5/15/23 12:14

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3100		0.171	2.87	mg/kg dry	1	5/24/23 12:30
Arsenic	5.07		0.103	1.44	mg/kg dry	1	5/24/23 12:30
Barium	82.2		0.0435	0.575	mg/kg dry	1	5/24/23 12:30
Beryllium	1.19		0.00333	0.0287	mg/kg dry	1	5/24/23 12:30
Cadmium	0.457		0.0560	0.287	mg/kg dry	1	5/24/23 12:30
Calcium	16700		3.23	28.7	mg/kg dry	1	5/24/23 12:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-2.0-20230511**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chromium	10.1		0.0325	0.287	mg/kg dry	1	5/24/23 12:30
Cobalt	4.80		0.0294	0.230	mg/kg dry	1	5/24/23 12:30
Copper	647	D	0.804	2.87	mg/kg dry	10	5/24/23 14:04
Iron	12500		0.814	5.75	mg/kg dry	1	5/24/23 12:30
Lead	155		0.120	1.44	mg/kg dry	1	5/24/23 12:30
Magnesium	832		10.2	57.5	mg/kg dry	1	5/24/23 12:30
Manganese	125		0.0358	0.287	mg/kg dry	1	5/24/23 12:30
Nickel	24.2		0.0253	0.144	mg/kg dry	1	5/24/23 12:30
Potassium	469		34.2	115	mg/kg dry	1	5/24/23 12:30
Sodium	1060		5.48	57.5	mg/kg dry	1	5/24/23 12:30
Vanadium	12.5		0.0661	0.575	mg/kg dry	1	5/24/23 12:30
Zinc	388	D	0.878	8.62	mg/kg dry	10	5/24/23 14:04

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00109	J	0.000701	0.00153	mg/kg dry	1	5/15/23 23:29
4,4'-DDT [2C]	0.00116	J	0.00108	0.00153	mg/kg dry	1	5/15/23 23:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.361		0.0376	0.236	mg/kg dry	1	5/17/23 21:29
Acenaphthene	0.185		0.00895	0.157	mg/kg dry	1	5/17/23 21:29
Acenaphthylene	1.24		0.00546	0.157	mg/kg dry	1	5/17/23 21:29
Acetophenone	0.154	J	0.0156	0.157	mg/kg dry	1	5/17/23 21:29
Anthracene	0.465		0.0227	0.157	mg/kg dry	1	5/17/23 21:29
Benzo(a)anthracene	0.648		0.0158	0.157	mg/kg dry	1	5/17/23 21:29
Benzo(a)pyrene	0.818		0.0273	0.157	mg/kg dry	1	5/17/23 21:29
Benzo(b)fluoranthene	0.882		0.0220	0.157	mg/kg dry	1	5/17/23 21:29
Benzo(g,h,i)perylene	1.61		0.0127	0.157	mg/kg dry	1	5/17/23 21:29
Benzo(k)fluoranthene	0.409		0.0180	0.157	mg/kg dry	1	5/17/23 21:29
Chrysene	0.621		0.0107	0.157	mg/kg dry	1	5/17/23 21:29
Dibenzo(a,h)anthracene	0.287		0.0156	0.157	mg/kg dry	1	5/17/23 21:29
Fluoranthene	0.937		0.0147	0.157	mg/kg dry	1	5/17/23 21:29
Fluorene	0.194		0.0131	0.157	mg/kg dry	1	5/17/23 21:29
Indeno(1,2,3-cd)pyrene	0.896		0.0169	0.157	mg/kg dry	1	5/17/23 21:29
Naphthalene	0.321		0.0116	0.157	mg/kg dry	1	5/17/23 21:29
Phenanthrene	1.27		0.0206	0.157	mg/kg dry	1	5/17/23 21:29
Pyrene	1.27		0.0115	0.157	mg/kg dry	1	5/17/23 21:29
TIC_1-Propyne, 3-phenyl-	1.11	J			mg/kg dry	1	5/17/23 21:29
TIC_Benzene, (1-chloroethyl)methyl-	1.06	J			mg/kg dry	1	5/17/23 21:29

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-2.0-20230511**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1-(bromomethyl)-2-methyl-	2.37	J			mg/kg dry	1	5/17/23 21:29
TIC_Benzene, 1-ethenyl-4-methyl-	3.21	J			mg/kg dry	1	5/17/23 21:29
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	1.67	J			mg/kg dry	1	5/17/23 21:29
TIC_Benzene, 1-propenyl-	1.20	J			mg/kg dry	1	5/17/23 21:29
TIC_Hexadecanoic acid, butyl ester	3.63	J, B			mg/kg dry	1	5/17/23 21:29
TIC_Naphthalene, 1,4-bis(bromomethyl)-	0.676	J			mg/kg dry	1	5/17/23 21:29
TIC_Octadecanoic acid, butyl ester	3.95	J, B			mg/kg dry	1	5/17/23 21:29
TIC_Tetracyclo[4.2.1.1(2,5).0(9,10)]deca-3,7	0.572	J			mg/kg dry	1	5/17/23 21:29
TIC_unknown (01)	0.549	J			mg/kg dry	1	5/17/23 21:29
TIC_unknown (02)	0.405	J			mg/kg dry	1	5/17/23 21:29
TIC_unknown (03)	0.506	J			mg/kg dry	1	5/17/23 21:29
TIC_unknown (04)	0.429	J			mg/kg dry	1	5/17/23 21:29
TIC_unknown (05)	0.413	J			mg/kg dry	1	5/17/23 21:29

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1,2,3-TRIMETHYL-2-VINYL-1,3-DIAZA-2-SILA	0.0113	J			mg/kg dry	1	5/16/23 22:08
TIC_Cyclopropane, ethyl-	0.0387	J			mg/kg dry	1	5/16/23 22:08

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-01 (Ground Water) Sample Name: **FB-20230511** Collected: **5/11/2023 12:30:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/18/23 14:44
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/18/23 14:44
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/18/23 14:44
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/18/23 14:44
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/18/23 14:44
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/18/23 14:44
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/18/23 14:44
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/18/23 14:44
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/18/23 14:44
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/18/23 14:44

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/6/23 6:52
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/6/23 6:52
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/6/23 6:52

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/12/23 15:07

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/24/23 11:56
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/24/23 11:56
Calcium	ND	U	0.256	1.00	mg/L	1	5/24/23 11:56
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/24/23 11:56
Iron	ND	U	0.0580	0.200	mg/L	1	5/24/23 11:56
Magnesium	ND	U	0.681	2.00	mg/L	1	5/24/23 11:56
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/24/23 11:56
Potassium	ND	U	2.41	4.00	mg/L	1	5/24/23 11:56
Sodium	ND	U	0.205	2.00	mg/L	1	5/24/23 11:56
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/24/23 11:56

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-01 (Ground Water) Sample Name: **FB-20230511** Collected: **5/11/2023 12:30:00PM**

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.000293	0.00600	mg/L	1	5/23/23 11:59
Arsenic	ND	U	0.000272	0.00200	mg/L	1	5/23/23 11:59
Barium	ND	U	0.000267	0.00200	mg/L	1	5/23/23 11:59
Cadmium	ND	U	0.000301	0.00200	mg/L	1	5/23/23 11:59
Cobalt	ND	U	0.000196	0.00200	mg/L	1	5/23/23 11:59
Copper	ND	U	0.000217	0.00200	mg/L	1	5/23/23 11:59
Lead	ND	U	0.000338	0.00200	mg/L	1	5/23/23 11:59
Nickel	ND	U	0.000299	0.00200	mg/L	1	5/23/23 11:59
Selenium	ND	U	0.000601	0.00600	mg/L	1	5/23/23 11:59
Silver	ND	U	0.000266	0.00200	mg/L	1	5/23/23 11:59
Thallium	ND	U	0.000339	0.00200	mg/L	1	5/23/23 11:59
Zinc	ND	U	0.000549	0.0300	mg/L	1	5/23/23 11:59

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/16/23 18:57
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/16/23 18:57
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/16/23 18:57
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/16/23 18:57
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/16/23 18:57
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/16/23 18:57
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/16/23 18:57
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/16/23 18:57
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/16/23 18:57
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/16/23 18:57
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/16/23 18:57
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/16/23 18:57
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/16/23 18:57
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/16/23 18:57
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/16/23 18:57
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/16/23 18:57
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/16/23 18:57
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/16/23 18:57
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/16/23 18:57
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/16/23 18:57

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-01 (Ground Water) Sample Name: **FB-20230511** Collected: **5/11/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/15/23 17:41	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/15/23 17:41	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/15/23 17:41	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/15/23 17:41	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/15/23 17:41	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/15/23 17:41	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/15/23 17:41	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/15/23 17:41	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/15/23 17:41	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/15/23 17:41	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/15/23 17:41	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/15/23 17:41	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/15/23 17:41	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/15/23 17:41	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/15/23 17:41	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/15/23 17:41	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/15/23 17:41	UJ, RC:SL
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/15/23 17:41	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/15/23 17:41	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/15/23 17:41	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/15/23 17:41	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/15/23 17:41	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/15/23 17:41	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/15/23 17:41	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/15/23 17:41	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/15/23 17:41	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/15/23 17:41	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/15/23 17:41	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/15/23 17:41	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/15/23 17:41	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/15/23 17:41	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/15/23 17:41	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/15/23 17:41	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/15/23 17:41	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/15/23 17:41	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/15/23 17:41	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/15/23 17:41	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/15/23 17:41	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/15/23 17:41	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-01 (Ground Water) Sample Name: **FB-20230511** Collected: **5/11/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chrysene	ND	U	0.129	2.00	ug/L	1	5/15/23 17:41
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/15/23 17:41
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/15/23 17:41
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/15/23 17:41
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/15/23 17:41
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/15/23 17:41
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/15/23 17:41
Fluorene	ND	U	0.109	2.00	ug/L	1	5/15/23 17:41
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/15/23 17:41
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/15/23 17:41
Isophorone	ND	U	0.111	2.00	ug/L	1	5/15/23 17:41
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/15/23 17:41
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/15/23 17:41
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/15/23 17:41
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/15/23 17:41
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/15/23 17:41
Phenol	ND	U	0.0973	2.00	ug/L	1	5/15/23 17:41
Pyrene	ND	U	0.115	2.00	ug/L	1	5/15/23 17:41

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/15/23 15:31	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/15/23 15:31	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/15/23 15:31	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/15/23 15:31	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/15/23 15:31	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/15/23 15:31	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/15/23 15:31	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/15/23 15:31	RC:SL
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/15/23 15:31	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/15/23 15:31	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/15/23 15:31	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/15/23 15:31	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/15/23 15:31	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-01 (Ground Water) Sample Name: **FB-20230511** Collected: **5/11/2023 12:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/15/23 15:31	UJ, RC:3L
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/15/23 15:31	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/15/23 15:31	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/15/23 15:31	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/15/23 15:31	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/15/23 15:31	
Acetone	ND	U	10.0	10.0	ug/L	1	5/15/23 15:31	
Benzene	ND	U	0.129	1.00	ug/L	1	5/15/23 15:31	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/15/23 15:31	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/15/23 15:31	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/15/23 15:31	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/15/23 15:31	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/15/23 15:31	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/15/23 15:31	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/15/23 15:31	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/15/23 15:31	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/15/23 15:31	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/15/23 15:31	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/15/23 15:31	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/15/23 15:31	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/15/23 15:31	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/15/23 15:31	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/15/23 15:31	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/15/23 15:31	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/15/23 15:31	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/15/23 15:31	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/15/23 15:31	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/15/23 15:31	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/15/23 15:31	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/15/23 15:31	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/15/23 15:31	
Styrene	ND	U	0.176	1.00	ug/L	1	5/15/23 15:31	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/15/23 15:31	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/15/23 15:31	
Toluene	ND	U	0.205	1.00	ug/L	1	5/15/23 15:31	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/15/23 15:31	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/15/23 15:31	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/15/23 15:31	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/15/23 15:31	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-01 (Ground Water)

Sample Name: **FB-20230511** Collected: **5/11/2023 12:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/15/23 15:31 UJ, RC:3L
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/15/23 15:31 UJ, RC:3L

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/12/23 17:15

23E0605-02 (Soil)

Sample Name: **OH-SB-45-1.0-2.0-20230511** Collected: **5/11/2023 10:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00507	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1221	ND	U	0.00998	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1232	ND	U	0.0127	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1242	ND	U	0.00743	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1248	ND	U	0.00777	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1254	ND	U	0.00610	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1260	ND	U	0.00474	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1262	ND	U	0.0102	0.0378	mg/kg	1	5/18/23 12:07
Aroclor-1268	ND	U	0.00458	0.0378	mg/kg	1	5/18/23 12:07
Total PCBs	ND	U	0.00353	0.0378	mg/kg	1	5/18/23 12:07

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0112	0.115	mg/kg	1	5/25/23 21:48
2,4-D	ND	U	0.0190	0.115	mg/kg	1	5/25/23 21:48

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.68**		**0.00573**	**0.0229**	**mg/kg**	**1**	**5/15/23 12:13**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511** Collected: **5/11/2023 10:45:00AM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6940**		**0.163**	**2.74**	**mg/kg**	**1**	**5/24/23 12:27**
Antimony	ND	U	0.149	1.37	mg/kg	1	5/24/23 12:27
Arsenic	**18.3**		**0.0978**	**1.37**	**mg/kg**	**1**	**5/24/23 12:27**
Barium	**146**		**0.0415**	**0.548**	**mg/kg**	**1**	**5/24/23 12:27**
Beryllium	**0.541**		**0.00318**	**0.0274**	**mg/kg**	**1**	**5/24/23 12:27**
Cadmium	**1.38**		**0.0535**	**0.274**	**mg/kg**	**1**	**5/24/23 12:27**
Calcium	**14200**		**3.08**	**27.4**	**mg/kg**	**1**	**5/24/23 12:27**
Chromium	**17.7**		**0.0310**	**0.274**	**mg/kg**	**1**	**5/24/23 12:27**
Cobalt	**8.64**		**0.0280**	**0.219**	**mg/kg**	**1**	**5/24/23 12:27**
Copper	**262**	D	**0.767**	**2.74**	**mg/kg**	**10**	**5/24/23 14:02**
Iron	**18800**		**0.777**	**5.48**	**mg/kg**	**1**	**5/24/23 12:27**
Lead	**392**		**0.114**	**1.37**	**mg/kg**	**1**	**5/24/23 12:27**
Magnesium	**2800**		**9.69**	**54.8**	**mg/kg**	**1**	**5/24/23 12:27**
Manganese	**183**		**0.0341**	**0.274**	**mg/kg**	**1**	**5/24/23 12:27**
Nickel	**22.4**		**0.0241**	**0.137**	**mg/kg**	**1**	**5/24/23 12:27**
Potassium	**1380**		**32.6**	**110**	**mg/kg**	**1**	**5/24/23 12:27**
Selenium	ND	U	0.263	1.37	mg/kg	1	5/24/23 12:27
Silver	ND	U	0.0466	0.165	mg/kg	1	5/24/23 12:27
Sodium	**1550**		**5.23**	**54.8**	**mg/kg**	**1**	**5/24/23 12:27**
Thallium	ND	U	0.0923	1.37	mg/kg	1	5/24/23 12:27
Vanadium	**19.7**		**0.0631**	**0.548**	**mg/kg**	**1**	**5/24/23 12:27**
Zinc	**458**	D	**0.838**	**8.23**	**mg/kg**	**10**	**5/24/23 14:02**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	**0.0143**		**0.000682**	**0.00149**	**mg/kg**	**1**	**5/15/23 23:07**
4,4'-DDE [2C]	ND	U	0.000815	0.00149	mg/kg	1	5/15/23 23:07
4,4'-DDT [2C]	**0.00276**		**0.00105**	**0.00149**	**mg/kg**	**1**	**5/15/23 23:07**
Aldrin	ND	U	0.000706	0.00149	mg/kg	1	5/15/23 23:07
alpha-BHC	ND	U	0.000444	0.00149	mg/kg	1	5/15/23 23:07
beta-BHC	ND	U	0.000712	0.00149	mg/kg	1	5/15/23 23:07
Chlordane	ND	U	0.000662	0.00149	mg/kg	1	5/15/23 23:07
delta-BHC	ND	U	0.000692	0.00149	mg/kg	1	5/15/23 23:07
Dieldrin	ND	U	0.000779	0.00149	mg/kg	1	5/15/23 23:07
Endosulfan I	ND	U	0.000704	0.00149	mg/kg	1	5/15/23 23:07
Endosulfan II	ND	U	0.000677	0.00149	mg/kg	1	5/15/23 23:07
Endosulfan sulfate	ND	U	0.000560	0.00149	mg/kg	1	5/15/23 23:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511** Collected: **5/11/2023 10:45:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfans, Total (alpha and beta)	ND	U	0.000677	0.00149	mg/kg	1	5/15/23 23:07	
Endrin	ND	U	0.000515	0.00149	mg/kg	1	5/15/23 23:07	
Endrin aldehyde	ND	U	0.000594	0.00149	mg/kg	1	5/15/23 23:07	
Endrin ketone	ND	U	0.000525	0.00149	mg/kg	1	5/15/23 23:07	
gamma-BHC (Lindane)	ND	U	0.000472	0.00149	mg/kg	1	5/15/23 23:07	
Heptachlor	ND	U	0.000399	0.00149	mg/kg	1	5/15/23 23:07	
Heptachlor Epoxide	ND	U	0.000752	0.00149	mg/kg	1	5/15/23 23:07	
Methoxychlor	ND	U	0.000437	0.00149	mg/kg	1	5/15/23 23:07	
Toxaphene	ND	U	0.0718	0.0756	mg/kg	1	5/15/23 23:07	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00431	0.0382	mg/kg	1	5/17/23 22:01	
2,3,4,6-Tetrachlorophenol	ND	U	0.0235	0.152	mg/kg	1	5/17/23 22:01	
2,4,5-Trichlorophenol	ND	U	0.0207	0.152	mg/kg	1	5/17/23 22:01	
2,4,6-Trichlorophenol	ND	U	0.00955	0.152	mg/kg	1	5/17/23 22:01	
2,4-Dichlorophenol	ND	U	0.0154	0.152	mg/kg	1	5/17/23 22:01	
2,4-Dimethylphenol	ND	U	0.0150	0.152	mg/kg	1	5/17/23 22:01	
2,4-Dinitrophenol	ND	U	0.0220	0.764	mg/kg	1	5/17/23 22:01	
2,4-Dinitrotoluene	ND	U	0.0163	0.152	mg/kg	1	5/17/23 22:01	
2,6-Dinitrotoluene	ND	U	0.0364	0.152	mg/kg	1	5/17/23 22:01	
2-Chloronaphthalene	ND	U	0.0175	0.152	mg/kg	1	5/17/23 22:01	
2-Chlorophenol	ND	U	0.0202	0.152	mg/kg	1	5/17/23 22:01	
2-Methylnaphthalene	**0.415**		**0.0366**	**0.229**	**mg/kg**	**1**	**5/17/23 22:01**	
2-Methylphenol	ND	U	0.0301	0.152	mg/kg	1	5/17/23 22:01	
2-Nitroaniline	ND	U	0.0123	0.152	mg/kg	1	5/17/23 22:01	
2-Nitrophenol	ND	U	0.0170	0.152	mg/kg	1	5/17/23 22:01	
3,3'-Dichlorobenzidine	ND	U	0.0160	0.152	mg/kg	1	5/17/23 22:01	
3+4-Methylphenol	ND	U	0.0280	0.152	mg/kg	1	5/17/23 22:01	
3-Nitroaniline	ND	U	0.0283	0.152	mg/kg	1	5/17/23 22:01	UJ, RC:SL
4,6-Dinitro-2-methylphenol	ND	U	0.0288	0.382	mg/kg	1	5/17/23 22:01	
4-Bromophenyl-phenyl ether	ND	U	0.0218	0.152	mg/kg	1	5/17/23 22:01	
4-Chloro-3-methylphenol	ND	U	0.0241	0.152	mg/kg	1	5/17/23 22:01	
4-Chloroaniline	ND	U	0.00534	0.152	mg/kg	1	5/17/23 22:01	
4-Chlorophenyl phenyl ether	ND	U	0.00824	0.152	mg/kg	1	5/17/23 22:01	
4-Nitroaniline	ND	U	0.0763	0.152	mg/kg	1	5/17/23 22:01	
4-Nitrophenol	ND	U	0.00976	0.152	mg/kg	1	5/17/23 22:01	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511** Collected: **5/11/2023 10:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acenaphthene	**0.945**		**0.00870**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Acenaphthylene	**0.813**		**0.00531**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Acetophenone	**0.167**		**0.0151**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Anthracene	**1.88**		**0.0221**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Atrazine	ND	U	0.0143	0.152	mg/kg	1	5/17/23 22:01	
Benzaldehyde	ND	U	0.0469	0.152	mg/kg	1	5/17/23 22:01	UJ, RC:SL
Benzo(a)anthracene	**4.36**		**0.0154**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Benzo(a)pyrene	**4.30**		**0.0266**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Benzo(b)fluoranthene	**4.46**		**0.0214**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Benzo(g,h,i)perylene	**3.47**		**0.0124**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	J, RC:SL
Benzo(k)fluoranthene	**2.48**		**0.0175**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Biphenyl	**0.0975**	J	**0.0134**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
bis(2-chloroethoxy)methane	ND	U	0.0211	0.152	mg/kg	1	5/17/23 22:01	
bis(2-chloroethyl)ether	ND	U	0.0167	0.152	mg/kg	1	5/17/23 22:01	
bis(2-chloroisopropyl)ether	ND	U	0.0549	0.152	mg/kg	1	5/17/23 22:01	
bis(2-ethylhexyl)phthalate	ND	U	0.0305	0.152	mg/kg	1	5/17/23 22:01	
Butylbenzylphthalate	ND	U	0.0139	0.152	mg/kg	1	5/17/23 22:01	
Caprolactam	ND	U	0.0197	0.152	mg/kg	1	5/17/23 22:01	
Carbazole	**0.927**		**0.0293**	**0.382**	**mg/kg**	**1**	**5/17/23 22:01**	
Chrysene	**4.35**		**0.0105**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Dibenzo(a,h)anthracene	**1.09**		**0.0151**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	J, RC:SL
Dibenzofuran	ND	U	0.00909	0.152	mg/kg	1	5/17/23 22:01	
Diethylphthalate	ND	U	0.0296	0.152	mg/kg	1	5/17/23 22:01	
Dimethylphthalate	ND	U	0.00947	0.152	mg/kg	1	5/17/23 22:01	
Di-n-butylphthalate	ND	U	0.0623	0.152	mg/kg	1	5/17/23 22:01	
Di-n-octylphthalate	ND	U	0.0313	0.152	mg/kg	1	5/17/23 22:01	
Fluoranthene	**9.39**		**0.0143**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Fluorene	**0.932**		**0.0127**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Hexachlorobenzene	ND	U	0.0199	0.152	mg/kg	1	5/17/23 22:01	
Hexachlorobutadiene	ND	U	0.0732	0.152	mg/kg	1	5/17/23 22:01	
Hexachlorocyclopentadiene	ND	U	0.0636	0.382	mg/kg	1	5/17/23 22:01	
Hexachloroethane	ND	U	0.0167	0.152	mg/kg	1	5/17/23 22:01	
Indeno(1,2,3-cd)pyrene	**2.79**		**0.0164**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Isophorone	ND	U	0.00999	0.152	mg/kg	1	5/17/23 22:01	
Naphthalene	**0.565**		**0.0113**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**	
Nitrobenzene	ND	U	0.0259	0.152	mg/kg	1	5/17/23 22:01	
n-Nitroso-di-n-propylamine	ND	U	0.00817	0.152	mg/kg	1	5/17/23 22:01	
n-Nitrosodiphenylamine	ND	U	0.0325	0.152	mg/kg	1	5/17/23 22:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0605
Project: Owls Head Phase 2 **Date to Lab:** 5/11/2023 2:00:00PM

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-202 30511** Collected: **5/11/2023 10:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pentachlorophenol	ND	U	0.0210	0.382	mg/kg	1	5/17/23 22:01
Phenanthrene	**8.36**		**0.0201**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**
Phenol	ND	U	0.0124	0.152	mg/kg	1	5/17/23 22:01
Pyrene	**7.64**		**0.0112**	**0.152**	**mg/kg**	**1**	**5/17/23 22:01**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Phenylnaphthalene	1.05	11.41	J	mg/kg	1	5/17/23 22:01	
9,10-Anthracenedione	1.27	11.45	J	mg/kg	1	5/17/23 22:01	
Hexadecanoic acid, butyl ester	~~4.80~~	11.95	J, B	mg/kg	1	5/17/23 22:01	R, RC:2
Octadecanoic acid, butyl ester	~~1.40~~	12.75	J, B	mg/kg	1	5/17/23 22:01	R, RC:2
unknown (01)	0.956	10.21	J	mg/kg	1	5/17/23 22:01	
unknown (02)	0.730	10.42	J	mg/kg	1	5/17/23 22:01	
unknown (03)	0.815	11.08	J	mg/kg	1	5/17/23 22:01	
unknown (04)	1.99	11.12	J	mg/kg	1	5/17/23 22:01	
unknown (05)	2.05	11.15	J	mg/kg	1	5/17/23 22:01	
unknown (06)	0.959	11.19	J	mg/kg	1	5/17/23 22:01	
unknown (07)	3.83	11.25	J	mg/kg	1	5/17/23 22:01	
unknown (08)	1.04	11.68	J	mg/kg	1	5/17/23 22:01	
unknown (09)	0.804	12.04	J	mg/kg	1	5/17/23 22:01	
unknown (10)	0.738	13.23	J	mg/kg	1	5/17/23 22:01	
unknown (11)	2.10	15.61	J	mg/kg	1	5/17/23 22:01	
TIC Total	**24.5**						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000440	0.00302	mg/kg	1	5/16/23 21:36
1,1,2,2-Tetrachloroethane	ND	U	0.000416	0.00302	mg/kg	1	5/16/23 21:36
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00129	0.00302	mg/kg	1	5/16/23 21:36
1,1,2-Trichloroethane	ND	U	0.000508	0.00302	mg/kg	1	5/16/23 21:36
1,1-Dichloroethane	ND	U	0.000440	0.00302	mg/kg	1	5/16/23 21:36
1,1-Dichloroethene	ND	U	0.000558	0.00302	mg/kg	1	5/16/23 21:36
1,2,3-Trichlorobenzene	ND	U	0.000651	0.00302	mg/kg	1	5/16/23 21:36
1,2,4-Trichlorobenzene	ND	U	0.000804	0.00302	mg/kg	1	5/16/23 21:36
1,2,4-Trimethylbenzene	ND	U	0.000416	0.00302	mg/kg	1	5/16/23 21:36
1,2-Dibromo-3-chloropropane	ND	U	0.000736	0.00302	mg/kg	1	5/16/23 21:36
1,2-Dibromoethane	ND	U	0.000380	0.00302	mg/kg	1	5/16/23 21:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511** Collected: **5/11/2023 10:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dichlorobenzene	ND	U	0.000532	0.00302	mg/kg	1	5/16/23 21:36
1,2-Dichloroethane	ND	U	0.000425	0.00302	mg/kg	1	5/16/23 21:36
1,2-Dichloropropane	ND	U	0.000495	0.00302	mg/kg	1	5/16/23 21:36
1,3-Dichlorobenzene	ND	U	0.000222	0.00302	mg/kg	1	5/16/23 21:36
1,4-Dichlorobenzene	ND	U	0.000434	0.00302	mg/kg	1	5/16/23 21:36
2-Butanone	ND	U	0.000492	0.00754	mg/kg	1	5/16/23 21:36
2-Hexanone	ND	U	0.000282	0.00302	mg/kg	1	5/16/23 21:36
4-Methyl-2-pentanone	ND	U	0.000377	0.00302	mg/kg	1	5/16/23 21:36
Acetone	ND	U	0.000914	0.00754	mg/kg	1	5/16/23 21:36
Benzene	ND	U	0.000274	0.00302	mg/kg	1	5/16/23 21:36
Bromochloromethane	ND	U	0.000556	0.00302	mg/kg	1	5/16/23 21:36
Bromodichloromethane	ND	U	0.000379	0.00302	mg/kg	1	5/16/23 21:36
Bromoform	ND	U	0.000529	0.00302	mg/kg	1	5/16/23 21:36
Bromomethane	ND	U	0.000870	0.00302	mg/kg	1	5/16/23 21:36
Carbon disulfide	ND	U	0.000433	0.00302	mg/kg	1	5/16/23 21:36
Carbon Tetrachloride	ND	U	0.000454	0.00302	mg/kg	1	5/16/23 21:36
Chlorobenzene	ND	U	0.000437	0.00302	mg/kg	1	5/16/23 21:36
Chlorodibromomethane	ND	U	0.000371	0.00302	mg/kg	1	5/16/23 21:36
Chloroethane	ND	U	0.000514	0.00302	mg/kg	1	5/16/23 21:36
Chloroform	ND	U	0.000507	0.00302	mg/kg	1	5/16/23 21:36
Chloromethane	ND	U	0.00116	0.00302	mg/kg	1	5/16/23 21:36
cis-1,2-Dichloroethene	ND	U	0.000146	0.00302	mg/kg	1	5/16/23 21:36
cis-1,3-Dichloropropene	ND	U	0.000382	0.00302	mg/kg	1	5/16/23 21:36
Cyclohexane	ND	U	0.000668	0.00302	mg/kg	1	5/16/23 21:36
Dichlorodifluoromethane	ND	U	0.00102	0.00302	mg/kg	1	5/16/23 21:36
EthylBenzene	ND	U	0.000409	0.00302	mg/kg	1	5/16/23 21:36
Isopropylbenzene	ND	U	0.000474	0.00302	mg/kg	1	5/16/23 21:36
m+p-Xylenes	ND	U	0.000762	0.00603	mg/kg	1	5/16/23 21:36
Methyl Acetate	ND	U	0.000400	0.00302	mg/kg	1	5/16/23 21:36
Methyl tert-Butyl Ether	ND	U	0.000510	0.00302	mg/kg	1	5/16/23 21:36
Methylcyclohexane	ND	U	0.000486	0.00302	mg/kg	1	5/16/23 21:36
Methylene Chloride	ND	U	0.000906	0.00302	mg/kg	1	5/16/23 21:36
o-Xylene	ND	U	0.000388	0.00302	mg/kg	1	5/16/23 21:36
Styrene	ND	U	0.000431	0.00302	mg/kg	1	5/16/23 21:36
tert-Butyl alcohol	ND	U	0.00633	0.0302	mg/kg	1	5/16/23 21:36
Tetrachloroethene	ND	U	0.000299	0.00302	mg/kg	1	5/16/23 21:36
Toluene	ND	U	0.000243	0.00302	mg/kg	1	5/16/23 21:36
Total Xylenes	ND	U	0.000388	0.00302	mg/kg	1	5/16/23 21:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0605
Project: Owls Head Phase 2 **Date to Lab:** 5/11/2023 2:00:00PM

23E0605-02 (Soil) Sample Name: **OH-SB-45-1.0-2.0-20230511** Collected: **5/11/2023 10:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
trans-1,2-Dichloroethene	ND	U	0.000409	0.00302	mg/kg	1	5/16/23 21:36
trans-1,3-Dichloropropene	ND	U	0.000576	0.00302	mg/kg	1	5/16/23 21:36
Trichloroethene	ND	U	0.000443	0.00302	mg/kg	1	5/16/23 21:36
Trichlorofluoromethane	ND	U	0.000347	0.00302	mg/kg	1	5/16/23 21:36
Vinyl chloride	ND	U	0.000573	0.00302	mg/kg	1	5/16/23 21:36

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.3**				**%**	**1**	**5/12/23 11:17**

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-2.0-20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00522	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1221	ND	U	0.0103	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1232	ND	U	0.0131	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1242	ND	U	0.00764	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1248	ND	U	0.00800	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1254	ND	U	0.00628	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1260	ND	U	0.00487	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1262	ND	U	0.0105	0.0389	mg/kg	1	5/18/23 12:29
Aroclor-1268	ND	U	0.00471	0.0389	mg/kg	1	5/18/23 12:29
Total PCBs	ND	U	0.00363	0.0389	mg/kg	1	5/18/23 12:29

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0116	0.118	mg/kg	1	5/25/23 22:12
2,4-D	ND	U	0.0196	0.118	mg/kg	1	5/25/23 22:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-~~2.0~~-20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.151**		**0.00589**	**0.0236**	**mg/kg**	**1**	**5/15/23 12:14**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3100**		**0.171**	**2.87**	**mg/kg**	**1**	**5/24/23 12:30**
Antimony	ND	U	0.157	1.44	mg/kg	1	5/24/23 12:30
Arsenic	**5.07**		**0.103**	**1.44**	**mg/kg**	**1**	**5/24/23 12:30**
Barium	**82.2**		**0.0435**	**0.575**	**mg/kg**	**1**	**5/24/23 12:30**
Beryllium	**1.19**		**0.00333**	**0.0287**	**mg/kg**	**1**	**5/24/23 12:30**
Cadmium	**0.457**		**0.0560**	**0.287**	**mg/kg**	**1**	**5/24/23 12:30**
Calcium	**16700**		**3.23**	**28.7**	**mg/kg**	**1**	**5/24/23 12:30**
Chromium	**10.1**		**0.0325**	**0.287**	**mg/kg**	**1**	**5/24/23 12:30**
Cobalt	**4.80**		**0.0294**	**0.230**	**mg/kg**	**1**	**5/24/23 12:30**
Copper	**647**	D	**0.804**	**2.87**	**mg/kg**	**10**	**5/24/23 14:04**
Iron	**12500**		**0.814**	**5.75**	**mg/kg**	**1**	**5/24/23 12:30**
Lead	**155**		**0.120**	**1.44**	**mg/kg**	**1**	**5/24/23 12:30**
Magnesium	**832**		**10.2**	**57.5**	**mg/kg**	**1**	**5/24/23 12:30**
Manganese	**125**		**0.0358**	**0.287**	**mg/kg**	**1**	**5/24/23 12:30**
Nickel	**24.2**		**0.0253**	**0.144**	**mg/kg**	**1**	**5/24/23 12:30**
Potassium	**469**		**34.2**	**115**	**mg/kg**	**1**	**5/24/23 12:30**
Selenium	ND	U	0.276	1.44	mg/kg	1	5/24/23 12:30
Silver	ND	U	0.0489	0.172	mg/kg	1	5/24/23 12:30
Sodium	**1060**		**5.48**	**57.5**	**mg/kg**	**1**	**5/24/23 12:30**
Thallium	ND	U	0.0967	1.44	mg/kg	1	5/24/23 12:30
Vanadium	**12.5**		**0.0661**	**0.575**	**mg/kg**	**1**	**5/24/23 12:30**
Zinc	**388**	D	**0.878**	**8.62**	**mg/kg**	**10**	**5/24/23 14:04**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	**0.00109**	J	**0.000701**	**0.00153**	**mg/kg**	**1**	**5/15/23 23:29**
4,4'-DDE [2C]	ND	U	0.000838	0.00153	mg/kg	1	5/15/23 23:29
4,4'-DDT [2C]	**0.00116**	J	**0.00108**	**0.00153**	**mg/kg**	**1**	**5/15/23 23:29**
Aldrin	ND	U	0.000726	0.00153	mg/kg	1	5/15/23 23:29
alpha-BHC	ND	U	0.000456	0.00153	mg/kg	1	5/15/23 23:29
beta-BHC	ND	U	0.000732	0.00153	mg/kg	1	5/15/23 23:29
Chlordane	ND	U	0.000681	0.00153	mg/kg	1	5/15/23 23:29
delta-BHC	ND	U	0.000712	0.00153	mg/kg	1	5/15/23 23:29
Dieldrin	ND	U	0.000802	0.00153	mg/kg	1	5/15/23 23:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-2.0-20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan I	ND	U	0.000724	0.00153	mg/kg	1	5/15/23 23:29
Endosulfan II	ND	U	0.000697	0.00153	mg/kg	1	5/15/23 23:29
Endosulfan sulfate	ND	U	0.000576	0.00153	mg/kg	1	5/15/23 23:29
Endosulfans, Total (alpha and beta)	ND	U	0.000697	0.00153	mg/kg	1	5/15/23 23:29
Endrin	ND	U	0.000529	0.00153	mg/kg	1	5/15/23 23:29
Endrin aldehyde	ND	U	0.000611	0.00153	mg/kg	1	5/15/23 23:29
Endrin ketone	ND	U	0.000540	0.00153	mg/kg	1	5/15/23 23:29
gamma-BHC (Lindane)	ND	U	0.000486	0.00153	mg/kg	1	5/15/23 23:29
Heptachlor	ND	U	0.000410	0.00153	mg/kg	1	5/15/23 23:29
Heptachlor Epoxide	ND	U	0.000773	0.00153	mg/kg	1	5/15/23 23:29
Methoxychlor	ND	U	0.000449	0.00153	mg/kg	1	5/15/23 23:29
Toxaphene	ND	U	0.0738	0.0778	mg/kg	1	5/15/23 23:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00443	0.0393	mg/kg	1	5/17/23 21:29	
2,3,4,6-Tetrachlorophenol	ND	U	0.0242	0.157	mg/kg	1	5/17/23 21:29	
2,4,5-Trichlorophenol	ND	U	0.0213	0.157	mg/kg	1	5/17/23 21:29	
2,4,6-Trichlorophenol	ND	U	0.00982	0.157	mg/kg	1	5/17/23 21:29	
2,4-Dichlorophenol	ND	U	0.0158	0.157	mg/kg	1	5/17/23 21:29	
2,4-Dimethylphenol	ND	U	0.0154	0.157	mg/kg	1	5/17/23 21:29	
2,4-Dinitrophenol	ND	U	0.0226	0.786	mg/kg	1	5/17/23 21:29	
2,4-Dinitrotoluene	ND	U	0.0167	0.157	mg/kg	1	5/17/23 21:29	
2,6-Dinitrotoluene	ND	U	0.0375	0.157	mg/kg	1	5/17/23 21:29	
2-Chloronaphthalene	ND	U	0.0180	0.157	mg/kg	1	5/17/23 21:29	
2-Chlorophenol	ND	U	0.0207	0.157	mg/kg	1	5/17/23 21:29	
2-Methylnaphthalene	**0.361**		**0.0376**	**0.236**	**mg/kg**	**1**	**5/17/23 21:29**	
2-Methylphenol	ND	U	0.0310	0.157	mg/kg	1	5/17/23 21:29	
2-Nitroaniline	ND	U	0.0126	0.157	mg/kg	1	5/17/23 21:29	
2-Nitrophenol	ND	U	0.0174	0.157	mg/kg	1	5/17/23 21:29	
3,3'-Dichlorobenzidine	ND	U	0.0165	0.157	mg/kg	1	5/17/23 21:29	
3+4-Methylphenol	ND	U	0.0288	0.157	mg/kg	1	5/17/23 21:29	
3-Nitroaniline	ND	U	0.0291	0.157	mg/kg	1	5/17/23 21:29	UJ, RC:SL
4,6-Dinitro-2-methylphenol	ND	U	0.0296	0.393	mg/kg	1	5/17/23 21:29	
4-Bromophenyl-phenyl ether	ND	U	0.0224	0.157	mg/kg	1	5/17/23 21:29	
4-Chloro-3-methylphenol	ND	U	0.0248	0.157	mg/kg	1	5/17/23 21:29	
4-Chloroaniline	ND	U	0.00549	0.157	mg/kg	1	5/17/23 21:29	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-~~2.0~~-20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chlorophenyl phenyl ether	ND	U	0.00847	0.157	mg/kg	1	5/17/23 21:29	
4-Nitroaniline	ND	U	0.0785	0.157	mg/kg	1	5/17/23 21:29	
4-Nitrophenol	ND	U	0.0100	0.157	mg/kg	1	5/17/23 21:29	UJ, RC:SL
Acenaphthene	**0.185**		**0.00895**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Acenaphthylene	**1.24**		**0.00546**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Acetophenone	**0.154**	J	**0.0156**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Anthracene	**0.465**		**0.0227**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Atrazine	ND	U	0.0147	0.157	mg/kg	1	5/17/23 21:29	
Benzaldehyde	ND	U	0.0482	0.157	mg/kg	1	5/17/23 21:29	UJ, RC:SL
Benzo(a)anthracene	**0.648**		**0.0158**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Benzo(a)pyrene	**0.818**		**0.0273**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Benzo(b)fluoranthene	**0.882**		**0.0220**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Benzo(g,h,i)perylene	**1.61**		**0.0127**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	J, RC:SL
Benzo(k)fluoranthene	**0.409**		**0.0180**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Biphenyl	ND	U	0.0138	0.157	mg/kg	1	5/17/23 21:29	
bis(2-chloroethoxy)methane	ND	U	0.0217	0.157	mg/kg	1	5/17/23 21:29	
bis(2-chloroethyl)ether	ND	U	0.0172	0.157	mg/kg	1	5/17/23 21:29	
bis(2-chloroisopropyl)ether	ND	U	0.0565	0.157	mg/kg	1	5/17/23 21:29	
bis(2-ethylhexyl)phthalate	ND	U	0.0314	0.157	mg/kg	1	5/17/23 21:29	
Butylbenzylphthalate	ND	U	0.0143	0.157	mg/kg	1	5/17/23 21:29	
Caprolactam	ND	U	0.0203	0.157	mg/kg	1	5/17/23 21:29	
Carbazole	ND	U	0.0302	0.393	mg/kg	1	5/17/23 21:29	
Chrysene	**0.621**		**0.0107**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Dibenzo(a,h)anthracene	**0.287**		**0.0156**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	J, RC:SL
Dibenzofuran	ND	U	0.00935	0.157	mg/kg	1	5/17/23 21:29	
Diethylphthalate	ND	U	0.0304	0.157	mg/kg	1	5/17/23 21:29	
Dimethylphthalate	ND	U	0.00974	0.157	mg/kg	1	5/17/23 21:29	
Di-n-butylphthalate	ND	U	0.0641	0.157	mg/kg	1	5/17/23 21:29	
Di-n-octylphthalate	ND	U	0.0322	0.157	mg/kg	1	5/17/23 21:29	
Fluoranthene	**0.937**		**0.0147**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Fluorene	**0.194**		**0.0131**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Hexachlorobenzene	ND	U	0.0205	0.157	mg/kg	1	5/17/23 21:29	
Hexachlorobutadiene	ND	U	0.0753	0.157	mg/kg	1	5/17/23 21:29	
Hexachlorocyclopentadiene	ND	U	0.0654	0.393	mg/kg	1	5/17/23 21:29	
Hexachloroethane	ND	U	0.0172	0.157	mg/kg	1	5/17/23 21:29	
Indeno(1,2,3-cd)pyrene	**0.896**		**0.0169**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	
Isophorone	ND	U	0.0103	0.157	mg/kg	1	5/17/23 21:29	
Naphthalene	**0.321**		**0.0116**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0605
Project: Owls Head Phase 2 **Date to Lab:** 5/11/2023 2:00:00PM

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-~~2.0~~-20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nitrobenzene	ND	U	0.0266	0.157	mg/kg	1	5/17/23 21:29
n-Nitroso-di-n-propylamine	ND	U	0.00840	0.157	mg/kg	1	5/17/23 21:29
n-Nitrosodiphenylamine	ND	U	0.0335	0.157	mg/kg	1	5/17/23 21:29
Pentachlorophenol	ND	U	0.0216	0.393	mg/kg	1	5/17/23 21:29
Phenanthrene	**1.27**		**0.0206**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**
Phenol	ND	U	0.0127	0.157	mg/kg	1	5/17/23 21:29
Pyrene	**1.27**		**0.0115**	**0.157**	**mg/kg**	**1**	**5/17/23 21:29**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Propyne, 3-phenyl-	1.11	6.33	J	mg/kg	1	5/17/23 21:29	
Benzene, (1-chloroethyl)methyl-	1.06	7.53	J	mg/kg	1	5/17/23 21:29	
Benzene, 1-(bromomethyl)-2-methyl-	2.37	6.90	J	mg/kg	1	5/17/23 21:29	
Benzene, 1-ethenyl-4-methyl-	3.21	5.90	J	mg/kg	1	5/17/23 21:29	
Benzene, 1-methyl-4-(1-methylethyl)-	1.67	7.59	J	mg/kg	1	5/17/23 21:29	
Benzene, 1-propenyl-	1.20	5.93	J	mg/kg	1	5/17/23 21:29	
Hexadecanoic acid, butyl ester	~~3.63~~	11.95	J, B	mg/kg	1	5/17/23 21:29	R, RC:2
Naphthalene, 1,4-bis(bromomethyl)-	0.676	8.81	J	mg/kg	1	5/17/23 21:29	
Octadecanoic acid, butyl ester	~~3.95~~	12.75	J, B	mg/kg	1	5/17/23 21:29	R, RC:2
Tetracyclo[4.2.1.1(2,5).0(9,10)]deca-3,7	0.572	7.08	J	mg/kg	1	5/17/23 21:29	
unknown (01)	0.549	5.16	J	mg/kg	1	5/17/23 21:29	
unknown (02)	0.405	8.04	J	mg/kg	1	5/17/23 21:29	
unknown (03)	0.506	8.54	J	mg/kg	1	5/17/23 21:29	
unknown (04)	0.429	8.71	J	mg/kg	1	5/17/23 21:29	
unknown (05)	0.413	9.57	J	mg/kg	1	5/17/23 21:29	
TIC Total	**21.8**						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000555	0.00380	mg/kg	1	5/16/23 22:08
1,1,2,2-Tetrachloroethane	ND	U	0.000525	0.00380	mg/kg	1	5/16/23 22:08
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00163	0.00380	mg/kg	1	5/16/23 22:08
1,1,2-Trichloroethane	ND	U	0.000641	0.00380	mg/kg	1	5/16/23 22:08
1,1-Dichloroethane	ND	U	0.000555	0.00380	mg/kg	1	5/16/23 22:08

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-~~2.0-~~ 20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.000703	0.00380	mg/kg	1	5/16/23 22:08
1,2,3-Trichlorobenzene	ND	U	0.000821	0.00380	mg/kg	1	5/16/23 22:08
1,2,4-Trichlorobenzene	ND	U	0.00101	0.00380	mg/kg	1	5/16/23 22:08
1,2,4-Trimethylbenzene	ND	U	0.000525	0.00380	mg/kg	1	5/16/23 22:08
1,2-Dibromo-3-chloropropane	ND	U	0.000928	0.00380	mg/kg	1	5/16/23 22:08
1,2-Dibromoethane	ND	U	0.000479	0.00380	mg/kg	1	5/16/23 22:08
1,2-Dichlorobenzene	ND	U	0.000671	0.00380	mg/kg	1	5/16/23 22:08
1,2-Dichloroethane	ND	U	0.000536	0.00380	mg/kg	1	5/16/23 22:08
1,2-Dichloropropane	ND	U	0.000624	0.00380	mg/kg	1	5/16/23 22:08
1,3-Dichlorobenzene	ND	U	0.000279	0.00380	mg/kg	1	5/16/23 22:08
1,4-Dichlorobenzene	ND	U	0.000548	0.00380	mg/kg	1	5/16/23 22:08
2-Butanone	ND	U	0.000620	0.00951	mg/kg	1	5/16/23 22:08
2-Hexanone	ND	U	0.000356	0.00380	mg/kg	1	5/16/23 22:08
4-Methyl-2-pentanone	ND	U	0.000475	0.00380	mg/kg	1	5/16/23 22:08
Acetone	ND	U	0.00115	0.00951	mg/kg	1	5/16/23 22:08
Benzene	ND	U	0.000346	0.00380	mg/kg	1	5/16/23 22:08
Bromochloromethane	ND	U	0.000702	0.00380	mg/kg	1	5/16/23 22:08
Bromodichloromethane	ND	U	0.000477	0.00380	mg/kg	1	5/16/23 22:08
Bromoform	ND	U	0.000667	0.00380	mg/kg	1	5/16/23 22:08
Bromomethane	ND	U	0.00110	0.00380	mg/kg	1	5/16/23 22:08
Carbon disulfide	ND	U	0.000546	0.00380	mg/kg	1	5/16/23 22:08
Carbon Tetrachloride	ND	U	0.000572	0.00380	mg/kg	1	5/16/23 22:08
Chlorobenzene	ND	U	0.000551	0.00380	mg/kg	1	5/16/23 22:08
Chlorodibromomethane	ND	U	0.000468	0.00380	mg/kg	1	5/16/23 22:08
Chloroethane	ND	U	0.000648	0.00380	mg/kg	1	5/16/23 22:08
Chloroform	ND	U	0.000639	0.00380	mg/kg	1	5/16/23 22:08
Chloromethane	ND	U	0.00146	0.00380	mg/kg	1	5/16/23 22:08
cis-1,2-Dichloroethene	ND	U	0.000184	0.00380	mg/kg	1	5/16/23 22:08
cis-1,3-Dichloropropene	ND	U	0.000481	0.00380	mg/kg	1	5/16/23 22:08
Cyclohexane	ND	U	0.000842	0.00380	mg/kg	1	5/16/23 22:08
Dichlorodifluoromethane	ND	U	0.00128	0.00380	mg/kg	1	5/16/23 22:08
EthylBenzene	ND	U	0.000515	0.00380	mg/kg	1	5/16/23 22:08
Isopropylbenzene	ND	U	0.000597	0.00380	mg/kg	1	5/16/23 22:08
m+p-Xylenes	ND	U	0.000960	0.00760	mg/kg	1	5/16/23 22:08
Methyl Acetate	ND	U	0.000504	0.00380	mg/kg	1	5/16/23 22:08
Methyl tert-Butyl Ether	ND	U	0.000643	0.00380	mg/kg	1	5/16/23 22:08
Methylcyclohexane	ND	U	0.000612	0.00380	mg/kg	1	5/16/23 22:08
Methylene Chloride	ND	U	0.00114	0.00380	mg/kg	1	5/16/23 22:08

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0605
Project: Owls Head Phase 2 **Date to Lab:** 5/11/2023 2:00:00PM

23E0605-03 (Soil) Sample Name: **OH-SB-45-4.0-5.0-~~2.0-~~ 20230511** Collected: **5/11/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene	ND	U	0.000489	0.00380	mg/kg	1	5/16/23 22:08
Styrene	ND	U	0.000544	0.00380	mg/kg	1	5/16/23 22:08
tert-Butyl alcohol	ND	U	0.00798	0.0380	mg/kg	1	5/16/23 22:08
Tetrachloroethene	ND	U	0.000376	0.00380	mg/kg	1	5/16/23 22:08
Toluene	ND	U	0.000306	0.00380	mg/kg	1	5/16/23 22:08
Total Xylenes	ND	U	0.000489	0.00380	mg/kg	1	5/16/23 22:08
trans-1,2-Dichloroethene	ND	U	0.000515	0.00380	mg/kg	1	5/16/23 22:08
trans-1,3-Dichloropropene	ND	U	0.000726	0.00380	mg/kg	1	5/16/23 22:08
Trichloroethene	ND	U	0.000559	0.00380	mg/kg	1	5/16/23 22:08
Trichlorofluoromethane	ND	U	0.000437	0.00380	mg/kg	1	5/16/23 22:08
Vinyl chloride	ND	U	0.000722	0.00380	mg/kg	1	5/16/23 22:08

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,2,3-TRIMETHYL-2-VINYL-1,3-DIAZA-2-SILA	0.0113	21.13	J	mg/kg	1	5/16/23 22:08
Cyclopropane, ethyl-	0.0387	5.51	J	mg/kg	1	5/16/23 22:08
TIC Total	**0.050**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.8**				**%**	**1**	**5/12/23 11:17**

23E0605-04 (Ground Water) Sample Name: **TB-20230511** Collected: **5/11/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/16/23 14:46
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/16/23 14:46
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/16/23 14:46
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/16/23 14:46
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/16/23 14:46
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/16/23 14:46
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/16/23 14:46
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/16/23 14:46
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/16/23 14:46
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/16/23 14:46

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-04 (Ground Water) Sample Name: **TB-20230511** Collected: **5/11/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/16/23 14:46	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/16/23 14:46	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/16/23 14:46	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/16/23 14:46	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/16/23 14:46	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/16/23 14:46	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/16/23 14:46	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/16/23 14:46	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/16/23 14:46	
Acetone	ND	U	10.0	10.0	ug/L	1	5/16/23 14:46	
Benzene	ND	U	0.129	1.00	ug/L	1	5/16/23 14:46	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/16/23 14:46	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/16/23 14:46	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/16/23 14:46	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/16/23 14:46	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/16/23 14:46	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/16/23 14:46	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/16/23 14:46	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/16/23 14:46	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/16/23 14:46	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/16/23 14:46	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/16/23 14:46	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/16/23 14:46	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/16/23 14:46	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/16/23 14:46	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/16/23 14:46	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/16/23 14:46	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/16/23 14:46	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/16/23 14:46	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/16/23 14:46	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/16/23 14:46	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/16/23 14:46	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/16/23 14:46	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/16/23 14:46	
Styrene	ND	U	0.176	1.00	ug/L	1	5/16/23 14:46	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/16/23 14:46	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/16/23 14:46	
Toluene	ND	U	0.205	1.00	ug/L	1	5/16/23 14:46	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/16/23 14:46	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0605
Date to Lab: 5/11/2023 2:00:00PM

23E0605-04 (Ground Water) Sample Name: **TB-20230511** Collected: **5/11/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/16/23 14:46	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/16/23 14:46	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/16/23 14:46	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/16/23 14:46	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/16/23 14:46	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326890
Project Name	: 23E0605	Project Number	: 23E0605
Lab ID	: L2326890-01	Date Collected	: 05/11/23 10:45
Client ID	: OH-SB-45-1.0-2.0-20230511	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/02/23 21:31
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206022314	Analyst	: CNC
Sample Amount	: 10.3 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 83
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	509	28.1	8.07	J, RC:SL
91-20-3C1	C1-Naphthalenes	530	28.1	8.07	
91-20-3C2	C2-Naphthalenes	902	28.1	8.07	
91-20-3C3	C3-Naphthalenes	1040	28.1	8.07	
91-20-3C4	C4-Naphthalenes	769	28.1	8.07	
208-96-8	Acenaphthylene	2920	28.1	5.36	
83-32-9	Acenaphthene	905	28.1	4.95	
86-73-7	Fluorene	784	28.1	7.49	
86-73-7C1	C1-Fluorenes	888	28.1	7.49	
86-73-7C2	C2-Fluorenes	1550	28.1	7.49	
86-73-7C3	C3-Fluorenes	2040	28.1	7.49	
85-01-8	Phenanthrene	10700	28.1	9.30	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	8160	28.1	9.30	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	5400	28.1	9.30	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	2080	28.1	9.30	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	631	28.1	9.30	
120-12-7	Anthracene	2920	28.1	5.79	
206-44-0	Fluoranthene	10800	28.1	8.92	
129-00-0	Pyrene	11800	28.1	7.38	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	6040	28.1	7.38	
56-55-3	Benz(a)anthracene	5250	28.1	5.72	
218-01-9	Chrysene	5620	28.1	5.67	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326890
Project Name	: 23E0605	**Project Number**	: 23E0605
Lab ID	: L2326890-01	**Date Collected**	: 05/11/23 10:45
Client ID	: OH-SB-45-1.0-2.0-20230511	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/02/23 21:31
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206022314	**Analyst**	: CNC
Sample Amount	: 10.3 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	2880	28.1	5.67	
218-01-9C2	C2-Chrysenes BS	1570	28.1	5.67	
218-01-9C3	C3-Chrysenes	1250	28.1	5.67	
218-01-9C4	C4-Chrysenes	832	28.1	5.67	
205-99-2	Benzo(b)fluoranthene	4980	28.1	7.30	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3830	28.1	5.57	
192-97-2	Benzo(e)pyrene	3770	28.1	5.79	
50-32-8	Benzo(a)pyrene	5360	28.1	8.01	
198-55-0	Perylene	1400	28.1	5.42	
193-39-5	Indeno(1,2,3-cd)pyrene	3690	28.1	7.62	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	910	28.1	7.58	
191-24-2	Benzo(g,h,i)perylene	4020	28.1	7.46	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326890
Project Name	: 23E0605	Project Number	: 23E0605
Lab ID	: L2326890-02	Date Collected	: 05/11/23 11:00
Client ID	: OH-SB-45-4.0-5.0-20230511	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/02/23 22:56
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206022315	Analyst	: CNC
Sample Amount	: 15.07 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	202	11.1	3.19	J, RC:SL
91-20-3C1	C1-Naphthalenes	200	11.1	3.19	
91-20-3C2	C2-Naphthalenes	329	11.1	3.19	
91-20-3C3	C3-Naphthalenes	288	11.1	3.19	
91-20-3C4	C4-Naphthalenes	221	11.1	3.19	
208-96-8	Acenaphthylene	1970	11.1	2.12	
83-32-9	Acenaphthene	196	11.1	1.96	
86-73-7	Fluorene	154	11.1	2.96	
86-73-7C1	C1-Fluorenes	425	11.1	2.96	
86-73-7C2	C2-Fluorenes	599	11.1	2.96	
86-73-7C3	C3-Fluorenes	594	11.1	2.96	
85-01-8	Phenanthrene	913	11.1	3.68	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1360	11.1	3.68	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1370	11.1	3.68	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	721	11.1	3.68	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	331	11.1	3.68	
120-12-7	Anthracene	841	11.1	2.29	
206-44-0	Fluoranthene	724	11.1	3.53	
129-00-0	Pyrene	1800	11.1	2.92	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1600	11.1	2.92	
56-55-3	Benz(a)anthracene	496	11.1	2.26	
218-01-9	Chrysene	617	11.1	2.24	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326890
Project Name	: 23E0605	**Project Number**	: 23E0605
Lab ID	: L2326890-02	**Date Collected**	: 05/11/23 11:00
Client ID	: OH-SB-45-4.0-5.0-20230511	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/02/23 22:56
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206022315	**Analyst**	: CNC
Sample Amount	: 15.07 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	730	11.1	2.24	
218-01-9C2	C2-Chrysenes BS	618	11.1	2.24	
218-01-9C3	C3-Chrysenes	537	11.1	2.24	
218-01-9C4	C4-Chrysenes	366	11.1	2.24	
205-99-2	Benzo(b)fluoranthene	572	11.1	2.89	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	399	11.1	2.20	
192-97-2	Benzo(e)pyrene	805	11.1	2.29	
50-32-8	Benzo(a)pyrene	735	11.1	3.17	
198-55-0	Perylene	189	11.1	2.14	
193-39-5	Indeno(1,2,3-cd)pyrene	859	11.1	3.01	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	208	11.1	3.00	
191-24-2	Benzo(g,h,i)perylene	1550	11.1	2.95	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326890
Project Name	: 23E0605	**Project Number**	: 23E0605
Lab ID	: L2326890-01	**Date Collected**	: 05/11/23 10:45
Client ID	: OH-SB-45-1.0-2.0-20230511	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 83
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326890
Project Name	: 23E0605	**Project Number**	: 23E0605
Lab ID	: L2326890-02	**Date Collected**	: 05/11/23 11:00
Client ID	: OH-SB-45-4.0-5.0-20230511	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2326891 and 23E0721
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: November 10, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-34_1.0-2.0_20230513	23E0721-01	5/13/2023	Soil
OH-SB-34_2.0-3.0_20230513	23E0721-02	5/13/2023	Soil
OH-SB-33_1.0-2.0_20230513	23E0721-03	5/13/2023	Soil
OH-SB-33_3.5-4_20230513	23E0721-04	5/13/2023	Soil
FB_20230513	23E0721-05	5/13/2023	Water
TB_20230513	23E0721-06	5/13/2023	Water
OH-SB-20_1.0-2.0_20230515	23E0721-07	5/15/2023	Soil
OH-SB-20_4.0-5.0_20230515	23E0721-08	5/15/2023	Soil
OH-SB-15_3.5-4.5_20230515	23E0721-09	5/15/2023	Soil
OH-SB-15_6.0-7.0_20230515	23E0721-10	5/15/2023	Soil
FB_20230515	23E0721-11	5/15/2023	Water
OH-SB-66-1.0-2.0_20230515	23E0721-12	5/15/2023	Soil

Data validation was performed on the analytical data for twelve (12) samples collected May 13 through May 15, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Silver results were rejected due to major recovery issues associated with laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, surrogates, laboratory control samples, matrix spike samples and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Samples FB_20230513 and FB_20230515 were listed for Alkylated PAH analysis; these samples were not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230511 TB_20230513 FB-20230515	Bromomethane	10%< %R < CL	UJ (NDs) J (Detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analytes	Exceedance	Qualification	Reason Code
8260D	0H-SB-34_1.0-2.0_20230513	1,2,3-Trichlorobenzene	10%< %R < CL	UJ (NDs) J (Detects)	4L
		1,2,4-Trichlorobenzene			
		1,2-Dichlorobenzene			
		1,4-Dichlorobenzene			
		cis-1,3-Dichloropropene			
		Trichloroethene			

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB_20230513 TB_20230513 FB_20230515	Bromomethane Chloromethane Dichlorodifluoromethane trans-1,3-Dichloropropene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	OH-SB-34_1.0-2.0_20230513 OH-SB-34_2.0-3.0_20230513 OH-SB-33_1.0-2.0_20230513 OH-SB-33_3.5-4_20230513 OH-SB-20_1.0-2.0_20230515 OH-SB-20_4.0-5.0_20230515 OH-SB-15_3.5-4.5_20230515 OH-SB-15_6.0-7.0_20230515 OH-SB-66-1.0-2.0_20230515	2-Butanone 2-Hexanone Acetone Trichloroethene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester and unknowns. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.
- Nitrobenzene-d5 recovery was above control limit for sample OH-SB-20_4.0-5.0_20230515 but met the criteria of two of the three SVOC surrogates within control limits.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	0H-SB-34_1.0-2.0_20230513 0H-SB-34_2.0-3.0_20230513 0H-SB-33_1.0-2.0_20230513 0H-SB-33_3.5-4_20230513 0H-SB-20_1.0-2.0_20230515 0H-SB-20_4.0-5.0_20230515 0H-SB-15_3.5-4.5_20230515 0H-SB-15_6.0-7.0_20230515 0H-SB-66-1.0-2.0_20230515	2,4-Dinitrotoluene 2,6-Dinitrotoluene	10% < %R < CL	UJ (NDs) J (Detects)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	OH-SB-20_1.0-2.0_20230515 OH-SB-66-1.0-2.0_20230515	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-20_4.0-5.0_20230515	Naphthalene Acenaphthene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	OH-SB-34_1.0-2.0_20230513 OH-SB-34_2.0-3.0_20230513 OH-SB-33_1.0-2.0_20230513 OH-SB-33_3.5-4_20230513 OH-SB-20_1.0-2.0_20230515 OH-SB-20_4.0-5.0_20230515 OH-SB-15_3.5-4.5_20230515 OH-SB-15_6.0-7.0_20230515	2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Methylphenol 2-Nitroaniline 4,6-Dinitro-2-methylphenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	OH-SB-66-1.0-2.0_20230515	3-Nitroaniline			
	FB_20230513	4-Nitrophenol Benzaldehyde Hexachlorobenzene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	FB_20230515	2,4-Dinitrophenol 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol 4-Nitrophenol Butylbenzylphthalate Caprolactam Di-n-octylphthalate Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-34_1.0-2.0_20230513 OH-SB-34_2.0-3.0_20230513 OH-SB-33_1.0-2.0_20230513 OH-SB-33_3.5-4_20230513 OH-SB-66-1.0-2.0_20230515	Decachlorobiphenyl [1C]	10% < %R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-20_4.0-5.0_20230515	Decachlorobiphenyl [1C]	%R > CL	J (Detects) No action (NDs)	3H
8151A	FB_20230513 FB_20230515	2,4-DCAA	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-33_1.0-2.0_20230513 OH-SB-20_1.0-2.0_20230515	2,4-DCAA	10% < %R < CL	J (Detects) UJ (NDs)	3L
8081	OH-SB-15_6.0-7.0_20230515	Decachlorobiphenyl [1C]	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB_20230513 FB_20230515	Endrin aldehyde Endrin ketone Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H
		Endosulfan sulfate	10% < %R < CL	J (Detects) UJ (NDs)	6L
	OH-SB-34_1.0-2.0_20230513 OH-SB-34_2.0-3.0_20230513 OH-SB-33_1.0-2.0_20230513 OH-SB-33_3.5-4_20230513	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
	OH-SB-20_1.0-2.0_20230515 OH-SB-20_4.0-5.0_20230515 OH-SB-15_3.5-4.5_20230515 OH-SB-15_6.0-7.0_20230515 OH-SB-66-1.0-2.0_20230515	Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis exhibited acceptable recoveries and RPDs.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- The field blank FB_20230513 had a detection for zinc; all associated sample results for zinc were greater than five times the blank detection and therefore no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB_20230513 FB_20230515	Silver	20% < %R < CL	J (Detects) UJ (NDs)	6L
6010D	OH-SB-34_1.0-2.0_20230513 OH-SB-34_2.0-3.0_20230513 OH-SB-33_1.0-2.0_20230513 OH-SB-33_3.5-4_20230513 OH-SB-20_1.0-2.0_20230515 OH-SB-20_4.0-5.0_20230515 OH-SB-15_3.5-4.5_20230515 OH-SB-15_6.0-7.0_20230515 OH-SB-66-1.0-2.0_20230515	Silver	20% > %R < CL	J (Detects) R (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis performed for mercury exhibited acceptable recoveries and RPDs.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis performed for mercury exhibited acceptable RPDs.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Dated: November 10, 2023 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

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A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0721

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 08, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E0721

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-34_1.0-2.0_20230513	23E0721-01	Soil	05/13/2023 10:55	05/15/2023 15:38
OH-SB-34_2.0-3.0_20230513	23E0721-02	Soil	05/13/2023 11:15	05/15/2023 15:38
OH-SB-33_1.0-2.0_20230513	23E0721-03	Soil	05/13/2023 11:55	05/15/2023 15:38
OH-SB-33_3.5-4_20230513	23E0721-04	Soil	05/13/2023 12:15	05/15/2023 15:38
FB_20230513	23E0721-05	Ground Water	05/13/2023 12:45	05/15/2023 15:38
TB_20230513	23E0721-06	Ground Water	05/13/2023 13:00	05/15/2023 15:38
OH-SB-20_1.0-2.0_20230515	23E0721-07	Soil	05/15/2023 08:15	05/15/2023 15:38
OH-SB-20_4.0-5.0_20230515	23E0721-08	Soil	05/15/2023 09:00	05/15/2023 15:38
OH-SB-15_3.5-4.5_20230515	23E0721-09	Soil	05/15/2023 11:15	05/15/2023 15:38
OH-SB-15_6.0-7.0_20230515	23E0721-10	Soil	05/15/2023 11:40	05/15/2023 15:38
FB_20230515	23E0721-11	Ground Water	05/15/2023 12:40	05/15/2023 15:38
OH-SB-66-1.0-2.0_20230515	23E0721-12	Soil	05/15/2023 13:20	05/15/2023 15:38

APL 23E0721

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www.aquaprotechlabs.com
FAIRFIELD, NEW JERSEY 07004
TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

CLIENT: Yu and Associates	SEND REPORT TO: "
ADDRESS: 611 River Drive, 3rd Floor Elmwood Park, NJ 07407	ADDRESS: "
PHONE: 201-773-9621	PHONE: "
E-MAIL: SLiang@Yu-Associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: "
PROJECT MGR: Sixuan Wang	ADDRESS: "
PROJECT or PO #: 156854	SAMPLED BY: HAS

TURN-AROUND TIME
- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#
PWSID#
- NJ State category B

CONTAMINATION LEVEL
- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0721-01	OH-SB-34.1.0-2.0_20230513	5/13/23	1055	X		S	5		VOC, SVOC, PCB, Pest, Herb, TAL Metals TCN, FCN, Alkylated PAH by 8270 SIM
-02	OH-SB-34.2.0-3.0_20230513	5/13/23	1115	X		S	5		"
-03	OH-SB-33.1.0-2.0_20230513	5/13/23	1155	X		S	5		"
-04	OH-SB-33.3.5-4.5_20230513	5/13/23	1215	X		S	5		"
-05	FB_20230513	5/13/23	1245	X		S	10		"
-06	TB_20230513	5/13/23	1300	X		S	2		VOC
-07	OH-SB-20-1.0-2.0_20230515	05/15/23	0815	X		S	5		VOC, SVOC, PCB, Pest, Herb, Tal Metals TCN, FCN, Alkylated PAH by 8270 SIM
-08	OH-SB-20-4.0-5.0_20230515	↓	0900	X		S	5		"
-09	OH-SB-35-4.5_20230515	↓	1115	X		S	5		"

RELINQUISHED BY (Print) MAX MOONEY	DATE 05/15/23	RECEIVED BY (Print) MPSW AIPHA	05/13/23
Signature	Time 1340	Signature	13:10
RELINQUISHED BY (Print) MPSW AIPHA	DATE 5/15/23	RECEIVED BY (Print) Rose Nap	
Signature	Time 1538	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

PN: 23E0721

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1275 BLOOMFIELD AVENUE • BUILDING 6
FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: Yu & Associates	SEND REPORT TO: "
ADDRESS: 61 River Drive	ADDRESS: "
3rd Floor Elmwood Park NJ 07407	"
PHONE: 201-773-9621	PHONE: "
E-MAIL: Swang@Yu-Associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: "
PROJECT MGR: Sixuan Wang	ADDRESS: "
PROJECT or PO #: 156854	SAMPLED BY: MHM

TURN-AROUND TIME
- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____
PWSID# ____

- NJ State Category B

CONTAMINATION LEVEL
- [ ] HIGH [ ] MEDIUM [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0721 -10	OH-SB-15-60-70' 20230515	05/15/23	1140	✓		S	5		VOC, SVOC, PCB, Pest, Herb, Tal metals TCN, RN, Alkalied, Parks, NJ, 8270-SIM
-11	FB-20230515	↓	1240	✓		DI	10		" "
-12	OH-SB-66-10-12.0-20230515	↓	1320	✓		S	5		" "

RELINQUISHED BY (Print) Max Mahoney	DATE 05/15/23	RECEIVED BY (Print) MDJN AIPHA	05/15/23 13:10
Signature	Time 1340	Signature	
RELINQUISHED BY (Print) MDJN AIPHA	DATE 5/15/23	RECEIVED BY (Print) Rose Nap	
Signature	Time 1538	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	
COMMENTS/SPECIAL INSTRUCTIONS		Cooler Temp. upon receipt at lab 4.0	

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY
By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.7:
The percent recovery for Silver was outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Some of the samples have surrogates outside of the QC limits, due to matrix interferences.

ANALYSIS: PCBs [8082A]
Some of the samples have surrogates outside of the QC limits, due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E0721-01, -02 and -10 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).
The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

The percent recoveries for some compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 2,4-Dinitrotoluene and 2,6-Dinitrotoluene were outside of the QC limits for the blank spike (low).
The percent recovery for 2,4-Dinitrophenol was outside of the QC limits for the matrix spike (slightly low).

Sample 23E0721-08 (1:5) has one surrogate (Nitrobenzene-d5) outside of the QC limits (high), due to matrix interference.

Reviewed By: _____ (SK) 8/8/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.315		0.00620	0.0248	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12100		0.176	2.97	mg/kg dry	1	5/30/23 9:49
Arsenic	10.9		0.106	1.48	mg/kg dry	1	5/30/23 9:49
Barium	96.4		0.0449	0.594	mg/kg dry	1	5/30/23 9:49
Beryllium	1.57		0.00344	0.0297	mg/kg dry	1	5/30/23 9:49
Cadmium	0.445		0.0579	0.297	mg/kg dry	1	5/30/23 9:49
Calcium	75400	D	33.4	297	mg/kg dry	10	5/30/23 12:56
Chromium	12.2		0.0335	0.297	mg/kg dry	1	5/30/23 9:49
Cobalt	3.41		0.0303	0.237	mg/kg dry	1	5/30/23 9:49
Copper	49.3		0.0830	0.297	mg/kg dry	1	5/30/23 9:49
Iron	12000		0.841	5.94	mg/kg dry	1	5/30/23 9:49
Lead	108		0.124	1.48	mg/kg dry	1	5/30/23 9:49
Magnesium	3670		10.5	59.4	mg/kg dry	1	5/30/23 9:49
Manganese	188		0.0369	0.297	mg/kg dry	1	5/30/23 9:49
Nickel	9.05		0.0261	0.148	mg/kg dry	1	5/30/23 9:49
Potassium	1940		35.3	119	mg/kg dry	1	5/30/23 9:49
Sodium	3090		5.66	59.4	mg/kg dry	1	5/30/23 9:49
Vanadium	26.2		0.0683	0.594	mg/kg dry	1	5/30/23 9:49
Zinc	130		0.0907	0.890	mg/kg dry	1	5/30/23 9:49

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0473	J	0.0396	0.248	mg/kg dry	1	5/19/23 19:29
3+4-Methylphenol	0.0954	J	0.0303	0.165	mg/kg dry	1	5/19/23 19:29
Acenaphthene	0.0576	J	0.00942	0.165	mg/kg dry	1	5/19/23 19:29
Acenaphthylene	2.75		0.00574	0.165	mg/kg dry	1	5/19/23 19:29
Anthracene	1.20		0.0239	0.165	mg/kg dry	1	5/19/23 19:29
Benzo(a)anthracene	7.25		0.0166	0.165	mg/kg dry	1	5/19/23 19:29
Benzo(a)pyrene	8.16		0.0288	0.165	mg/kg dry	1	5/19/23 19:29
Benzo(b)fluoranthene	9.63		0.0232	0.165	mg/kg dry	1	5/19/23 19:29
Benzo(g,h,i)perylene	5.06		0.0134	0.165	mg/kg dry	1	5/19/23 19:29
Benzo(k)fluoranthene	3.81		0.0190	0.165	mg/kg dry	1	5/19/23 19:29
Carbazole	0.266	J	0.0318	0.413	mg/kg dry	1	5/19/23 19:29
Chrysene	7.12		0.0113	0.165	mg/kg dry	1	5/19/23 19:29
Dibenzo(a,h)anthracene	1.70		0.0164	0.165	mg/kg dry	1	5/19/23 19:29
Dibenzofuran	0.147	J	0.00984	0.165	mg/kg dry	1	5/19/23 19:29
Fluoranthene	9.81		0.0155	0.165	mg/kg dry	1	5/19/23 19:29

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	0.134	J	0.0138	0.165	mg/kg dry	1	5/19/23 19:29
Indeno(1,2,3-cd)pyrene	4.47		0.0177	0.165	mg/kg dry	1	5/19/23 19:29
Naphthalene	0.282		0.0122	0.165	mg/kg dry	1	5/19/23 19:29
Phenanthrene	1.54		0.0217	0.165	mg/kg dry	1	5/19/23 19:29
Pyrene	10.0		0.0121	0.165	mg/kg dry	1	5/19/23 19:29
TIC_Hexatriacontane	0.499	J			mg/kg dry	1	5/19/23 19:29
TIC_Naphtho[2,3-b]norbornadiene	0.546	J			mg/kg dry	1	5/19/23 19:29
TIC_Octadecanoic acid, butyl ester	0.749	J, B			mg/kg dry	1	5/19/23 19:29
TIC_unknown (01)	0.796	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (02)	0.672	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (03)	2.01	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (04)	0.718	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (05)	0.786	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (06)	1.29	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (07)	5.04	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (08)	0.961	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (09)	0.612	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (10)	3.15	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (11)	7.55	J			mg/kg dry	1	5/19/23 19:29
TIC_unknown (12)	0.688	J			mg/kg dry	1	5/19/23 19:29

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.108		0.00774	0.0650	mg/kg dry	1	5/16/23 15:57

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.388		0.00626	0.0251	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5900		0.185	3.12	mg/kg dry	1	5/30/23 9:51
Antimony	2.95		0.170	1.56	mg/kg dry	1	5/30/23 9:51
Arsenic	9.02		0.111	1.56	mg/kg dry	1	5/30/23 9:51
Barium	787	D	0.471	6.23	mg/kg dry	10	5/30/23 12:58
Beryllium	0.881		0.00361	0.0312	mg/kg dry	1	5/30/23 9:51
Cadmium	0.910		0.0608	0.312	mg/kg dry	1	5/30/23 9:51

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	101000	D	35.1	312	mg/kg dry	10	5/30/23 12:58
Chromium	73.2		0.0352	0.312	mg/kg dry	1	5/30/23 9:51
Cobalt	3.46		0.0318	0.249	mg/kg dry	1	5/30/23 9:51
Copper	51.7		0.0872	0.312	mg/kg dry	1	5/30/23 9:51
Iron	12400		0.883	6.23	mg/kg dry	1	5/30/23 9:51
Lead	3990	D	1.30	15.6	mg/kg dry	10	5/30/23 12:58
Magnesium	2090		11.0	62.3	mg/kg dry	1	5/30/23 9:51
Manganese	132		0.0388	0.312	mg/kg dry	1	5/30/23 9:51
Nickel	8.57		0.0274	0.156	mg/kg dry	1	5/30/23 9:51
Potassium	1170		37.1	125	mg/kg dry	1	5/30/23 9:51
Sodium	2520		5.94	62.3	mg/kg dry	1	5/30/23 9:51
Vanadium	23.7		0.0717	0.623	mg/kg dry	1	5/30/23 9:51
Zinc	211		0.0952	0.935	mg/kg dry	1	5/30/23 9:51

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.242	J	0.0400	0.251	mg/kg dry	1	5/19/23 20:01
Acenaphthene	0.784		0.00951	0.167	mg/kg dry	1	5/19/23 20:01
Acenaphthylene	0.673		0.00580	0.167	mg/kg dry	1	5/19/23 20:01
Anthracene	1.53		0.0242	0.167	mg/kg dry	1	5/19/23 20:01
Benzo(a)anthracene	3.65		0.0168	0.167	mg/kg dry	1	5/19/23 20:01
Benzo(a)pyrene	4.11		0.0291	0.167	mg/kg dry	1	5/19/23 20:01
Benzo(b)fluoranthene	4.71		0.0234	0.167	mg/kg dry	1	5/19/23 20:01
Benzo(g,h,i)perylene	2.59		0.0135	0.167	mg/kg dry	1	5/19/23 20:01
Benzo(k)fluoranthene	1.62		0.0192	0.167	mg/kg dry	1	5/19/23 20:01
Biphenyl	0.0911	J	0.0147	0.167	mg/kg dry	1	5/19/23 20:01
Carbazole	0.586		0.0321	0.417	mg/kg dry	1	5/19/23 20:01
Chrysene	3.90		0.0114	0.167	mg/kg dry	1	5/19/23 20:01
Dibenzo(a,h)anthracene	0.727		0.0165	0.167	mg/kg dry	1	5/19/23 20:01
Dibenzofuran	0.395		0.00993	0.167	mg/kg dry	1	5/19/23 20:01
Fluoranthene	7.73		0.0157	0.167	mg/kg dry	1	5/19/23 20:01
Fluorene	0.643		0.0139	0.167	mg/kg dry	1	5/19/23 20:01
Indeno(1,2,3-cd)pyrene	2.17		0.0179	0.167	mg/kg dry	1	5/19/23 20:01
Naphthalene	0.297		0.0124	0.167	mg/kg dry	1	5/19/23 20:01
Phenanthrene	5.69		0.0219	0.167	mg/kg dry	1	5/19/23 20:01
Pyrene	7.58		0.0123	0.167	mg/kg dry	1	5/19/23 20:01
TIC_4,7-Dimethyl-1,10-phenanthroline	0.429	J			mg/kg dry	1	5/19/23 20:01
TIC_Hexadecanoic acid, butyl ester	2.38	J, B			mg/kg dry	1	5/19/23 20:01
TIC_o-Terphenyl	0.553	J			mg/kg dry	1	5/19/23 20:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (01)	0.518	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (02)	0.861	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (03)	1.12	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (04)	0.497	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (05)	2.10	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (06)	0.762	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (07)	0.848	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (08)	0.866	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (09)	0.814	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (10)	0.552	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (11)	0.603	J			mg/kg dry	1	5/19/23 20:01
TIC_unknown (12)	4.04	J			mg/kg dry	1	5/19/23 20:01

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.818		0.00955	0.0802	mg/kg dry	1	5/16/23 15:57

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0674		0.00602	0.0241	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2050		0.183	3.09	mg/kg dry	1	5/30/23 9:53
Antimony	1.79		0.168	1.54	mg/kg dry	1	5/30/23 9:53
Arsenic	3.73		0.110	1.54	mg/kg dry	1	5/30/23 9:53
Barium	154		0.0467	0.617	mg/kg dry	1	5/30/23 9:53
Beryllium	0.825		0.00358	0.0309	mg/kg dry	1	5/30/23 9:53
Calcium	13300		3.47	30.9	mg/kg dry	1	5/30/23 9:53
Chromium	21.1		0.0349	0.309	mg/kg dry	1	5/30/23 9:53
Cobalt	10.6		0.0316	0.247	mg/kg dry	1	5/30/23 9:53
Copper	30.9		0.0864	0.309	mg/kg dry	1	5/30/23 9:53
Iron	6640		0.875	6.17	mg/kg dry	1	5/30/23 9:53
Lead	625		0.129	1.54	mg/kg dry	1	5/30/23 9:53
Magnesium	575		10.9	61.7	mg/kg dry	1	5/30/23 9:53
Manganese	40.5		0.0384	0.309	mg/kg dry	1	5/30/23 9:53
Nickel	8.52		0.0271	0.154	mg/kg dry	1	5/30/23 9:53
Potassium	614		36.7	123	mg/kg dry	1	5/30/23 9:53

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Sodium	1240		5.89	61.7	mg/kg dry	1	5/30/23 9:53
Vanadium	15.8		0.0710	0.617	mg/kg dry	1	5/30/23 9:53
Zinc	45.1		0.0943	0.926	mg/kg dry	1	5/30/23 9:53

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.0562	J	0.00914	0.160	mg/kg dry	1	5/19/23 20:33
Acenaphthylene	0.0814	J	0.00557	0.160	mg/kg dry	1	5/19/23 20:33
Anthracene	0.232		0.0232	0.160	mg/kg dry	1	5/19/23 20:33
Benzo(a)anthracene	0.916		0.0161	0.160	mg/kg dry	1	5/19/23 20:33
Benzo(a)pyrene	0.886		0.0279	0.160	mg/kg dry	1	5/19/23 20:33
Benzo(b)fluoranthene	0.867		0.0225	0.160	mg/kg dry	1	5/19/23 20:33
Benzo(g,h,i)perylene	0.539		0.0130	0.160	mg/kg dry	1	5/19/23 20:33
Benzo(k)fluoranthene	0.559		0.0184	0.160	mg/kg dry	1	5/19/23 20:33
Chrysene	0.912		0.0110	0.160	mg/kg dry	1	5/19/23 20:33
Dibenzo(a,h)anthracene	0.151	J	0.0159	0.160	mg/kg dry	1	5/19/23 20:33
Dibenzofuran	0.0315	J	0.00955	0.160	mg/kg dry	1	5/19/23 20:33
Fluoranthene	1.61		0.0151	0.160	mg/kg dry	1	5/19/23 20:33
Fluorene	0.0891	J	0.0134	0.160	mg/kg dry	1	5/19/23 20:33
Indeno(1,2,3-cd)pyrene	0.439		0.0172	0.160	mg/kg dry	1	5/19/23 20:33
Naphthalene	0.0420	J	0.0119	0.160	mg/kg dry	1	5/19/23 20:33
Phenanthrene	1.11		0.0211	0.160	mg/kg dry	1	5/19/23 20:33
Pyrene	1.81		0.0118	0.160	mg/kg dry	1	5/19/23 20:33
TIC_Benzene, 1,1-(2-cyclopropen-1-ylidene)b	0.395	J			mg/kg dry	1	5/19/23 20:33
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	1.98	J			mg/kg dry	1	5/19/23 20:33
TIC_Octadecanoic acid, butyl ester	0.897	J, B			mg/kg dry	1	5/19/23 20:33
TIC_unknown (01)	0.380	J			mg/kg dry	1	5/19/23 20:33
TIC_unknown (02)	0.395	J			mg/kg dry	1	5/19/23 20:33
TIC_unknown (03)	0.871	J			mg/kg dry	1	5/19/23 20:33

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Tetrachloroethene	0.00670		0.000441	0.00446	mg/kg dry	1	5/18/23 16:26

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.604		0.00843	0.0708	mg/kg dry	1	5/16/23 15:57

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.04		0.00649	0.0260	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4380		0.187	3.15	mg/kg dry	1	5/30/23 9:56
Antimony	2.12		0.172	1.57	mg/kg dry	1	5/30/23 9:56
Arsenic	19.5		0.112	1.57	mg/kg dry	1	5/30/23 9:56
Barium	577	D	0.476	6.30	mg/kg dry	10	5/30/23 13:00
Beryllium	1.69		0.00365	0.0315	mg/kg dry	1	5/30/23 9:56
Cadmium	0.321		0.0614	0.315	mg/kg dry	1	5/30/23 9:56
Calcium	4530		3.54	31.5	mg/kg dry	1	5/30/23 9:56
Chromium	72.4		0.0356	0.315	mg/kg dry	1	5/30/23 9:56
Cobalt	7.18		0.0322	0.252	mg/kg dry	1	5/30/23 9:56
Copper	97.6		0.0881	0.315	mg/kg dry	1	5/30/23 9:56
Iron	13600		0.892	6.30	mg/kg dry	1	5/30/23 9:56
Lead	1260		0.131	1.57	mg/kg dry	1	5/30/23 9:56
Magnesium	467		11.1	63.0	mg/kg dry	1	5/30/23 9:56
Manganese	43.5		0.0392	0.315	mg/kg dry	1	5/30/23 9:56
Nickel	13.3		0.0277	0.157	mg/kg dry	1	5/30/23 9:56
Potassium	794		37.5	126	mg/kg dry	1	5/30/23 9:56
Selenium	5.83		0.302	1.57	mg/kg dry	1	5/30/23 9:56
Sodium	2050		6.01	63.0	mg/kg dry	1	5/30/23 9:56
Vanadium	20.4		0.0724	0.630	mg/kg dry	1	5/30/23 9:56
Zinc	48.5		0.0962	0.945	mg/kg dry	1	5/30/23 9:56

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.283		0.0414	0.260	mg/kg dry	1	5/19/23 21:05
Acenaphthene	0.159	J	0.00985	0.173	mg/kg dry	1	5/19/23 21:05
Acenaphthylene	0.0817	J	0.00601	0.173	mg/kg dry	1	5/19/23 21:05
Anthracene	0.316		0.0250	0.173	mg/kg dry	1	5/19/23 21:05
Benzo(a)anthracene	1.37		0.0174	0.173	mg/kg dry	1	5/19/23 21:05
Benzo(a)pyrene	1.31		0.0301	0.173	mg/kg dry	1	5/19/23 21:05
Benzo(b)fluoranthene	1.45		0.0243	0.173	mg/kg dry	1	5/19/23 21:05
Benzo(g,h,i)perylene	0.843		0.0140	0.173	mg/kg dry	1	5/19/23 21:05
Benzo(k)fluoranthene	0.449		0.0199	0.173	mg/kg dry	1	5/19/23 21:05
Chrysene	1.48		0.0118	0.173	mg/kg dry	1	5/19/23 21:05
Dibenzo(a,h)anthracene	0.251		0.0171	0.173	mg/kg dry	1	5/19/23 21:05
Dibenzofuran	0.123	J	0.0103	0.173	mg/kg dry	1	5/19/23 21:05
Fluoranthene	1.99		0.0162	0.173	mg/kg dry	1	5/19/23 21:05

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	0.122	J	0.0144	0.173	mg/kg dry	1	5/19/23 21:05
Indeno(1,2,3-cd)pyrene	0.658		0.0186	0.173	mg/kg dry	1	5/19/23 21:05
Naphthalene	0.241		0.0128	0.173	mg/kg dry	1	5/19/23 21:05
Phenanthrene	1.87		0.0227	0.173	mg/kg dry	1	5/19/23 21:05
Pyrene	2.74		0.0127	0.173	mg/kg dry	1	5/19/23 21:05
TIC_15,19-Dimethylpentatriacontane	0.451	J			mg/kg dry	1	5/19/23 21:05
TIC_2-Propenedithioic acid, 3-(4-fluoropheny	0.368	J			mg/kg dry	1	5/19/23 21:05
TIC_Benzene, 1,1-(1,3-butadienylidene)bis-	0.519	J			mg/kg dry	1	5/19/23 21:05
TIC_Hexadecanoic acid, butyl ester	3.17	J, B			mg/kg dry	1	5/19/23 21:05
TIC_Naphthalene, 1,4-dimethyl-	0.641	J			mg/kg dry	1	5/19/23 21:05
TIC_Naphthalene, 1-hexyl-	0.403	J			mg/kg dry	1	5/19/23 21:05
TIC_Naphtho[2,3-b]norbornadiene	0.591	J			mg/kg dry	1	5/19/23 21:05
TIC_Octadecanoic acid, 2-methylpropyl ester	1.16	J			mg/kg dry	1	5/19/23 21:05
TIC_Tetradecane	0.824	J			mg/kg dry	1	5/19/23 21:05
TIC_unknown (01)	0.799	J			mg/kg dry	1	5/19/23 21:05
TIC_unknown (02)	0.813	J			mg/kg dry	1	5/19/23 21:05
TIC_unknown (03)	0.616	J			mg/kg dry	1	5/19/23 21:05
TIC_unknown (04)	0.367	J			mg/kg dry	1	5/19/23 21:05
TIC_unknown (05)	0.407	J			mg/kg dry	1	5/19/23 21:05
TIC_unknown (06)	1.38	J			mg/kg dry	1	5/19/23 21:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	0.121		0.00125	0.00324	mg/kg dry	1	5/18/23 16:55
TIC_Cyclopentane	0.0577	J			mg/kg dry	1	5/18/23 16:55

23E0721-05 (Ground Water) Sample Name: **FB_20230513**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Zinc	0.0308		0.00144	0.0300	mg/L	1	5/24/23 13:02

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0578		0.00545	0.0218	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8890		0.164	2.76	mg/kg dry	1	5/30/23 9:58
Barium	45.4		0.0418	0.553	mg/kg dry	1	5/30/23 9:58
Beryllium	1.39		0.00320	0.0276	mg/kg dry	1	5/30/23 9:58
Cadmium	2.72		0.0539	0.276	mg/kg dry	1	5/30/23 9:58
Calcium	77500	D	31.1	276	mg/kg dry	10	5/30/23 13:06
Chromium	14.0		0.0312	0.276	mg/kg dry	1	5/30/23 9:58
Cobalt	3.48		0.0283	0.221	mg/kg dry	1	5/30/23 9:58
Copper	4890	D	7.73	27.6	mg/kg dry	100	5/30/23 13:06
Iron	10400		0.783	5.53	mg/kg dry	1	5/30/23 9:58
Lead	33.6		0.115	1.38	mg/kg dry	1	5/30/23 9:58
Magnesium	11300		9.77	55.3	mg/kg dry	1	5/30/23 9:58
Manganese	184		0.0344	0.276	mg/kg dry	1	5/30/23 9:58
Nickel	32.1		0.0243	0.138	mg/kg dry	1	5/30/23 9:58
Potassium	1460		32.9	111	mg/kg dry	1	5/30/23 9:58
Sodium	2230		5.27	55.3	mg/kg dry	1	5/30/23 9:58
Vanadium	34.0		0.0636	0.553	mg/kg dry	1	5/30/23 9:58
Zinc	71.0		0.0844	0.829	mg/kg dry	1	5/30/23 9:58

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE [2C]	0.00136	J	0.000774	0.00142	mg/kg dry	1	5/18/23 22:50
Chlordane [2C]	0.00535		0.000630	0.00142	mg/kg dry	1	5/18/23 22:50

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthylene	0.0516	J	0.00504	0.145	mg/kg dry	1	5/19/23 21:37
Anthracene	0.0704	J	0.0210	0.145	mg/kg dry	1	5/19/23 21:37
Benzo(a)anthracene	0.234		0.0146	0.145	mg/kg dry	1	5/19/23 21:37
Benzo(a)pyrene	0.288		0.0253	0.145	mg/kg dry	1	5/19/23 21:37
Benzo(b)fluoranthene	0.256		0.0204	0.145	mg/kg dry	1	5/19/23 21:37
Benzo(g,h,i)perylene	0.263		0.0118	0.145	mg/kg dry	1	5/19/23 21:37
Benzo(k)fluoranthene	0.0859	J	0.0167	0.145	mg/kg dry	1	5/19/23 21:37
bis(2-ethylhexyl)phthalate	0.530		0.0290	0.145	mg/kg dry	1	5/19/23 21:37
Chrysene	0.278		0.00993	0.145	mg/kg dry	1	5/19/23 21:37
Fluoranthene	0.246		0.0136	0.145	mg/kg dry	1	5/19/23 21:37
Indeno(1,2,3-cd)pyrene	0.173		0.0156	0.145	mg/kg dry	1	5/19/23 21:37
Phenanthrene	0.111	J	0.0191	0.145	mg/kg dry	1	5/19/23 21:37

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pyrene	0.297		0.0107	0.145	mg/kg dry	1	5/19/23 21:37
TIC_Hexadecanoic acid, butyl ester	5.09	J, B			mg/kg dry	1	5/19/23 21:37
TIC_unknown	1.63	J, B			mg/kg dry	1	5/19/23 21:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	0.0512		0.00105	0.00272	mg/kg dry	1	5/18/23 17:25
TIC_Cyclopentane	0.0345	J			mg/kg dry	1	5/18/23 17:25
TIC_Heptane, 2,2,4,6,6-pentamethyl-	0.00766	J			mg/kg dry	1	5/18/23 17:25

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.150		0.00774	0.0310	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6260		0.227	3.82	mg/kg dry	1	5/30/23 10:00
Arsenic	4.69		0.136	1.91	mg/kg dry	1	5/30/23 10:00
Barium	46.3		0.0577	0.763	mg/kg dry	1	5/30/23 10:00
Beryllium	1.01		0.00442	0.0382	mg/kg dry	1	5/30/23 10:00
Cadmium	0.759		0.0744	0.382	mg/kg dry	1	5/30/23 10:00
Calcium	145000	D	42.9	382	mg/kg dry	10	5/30/23 13:08
Chromium	12.4		0.0431	0.382	mg/kg dry	1	5/30/23 10:00
Cobalt	3.10		0.0390	0.305	mg/kg dry	1	5/30/23 10:00
Copper	1290	D	1.07	3.82	mg/kg dry	10	5/30/23 13:08
Iron	12700		1.08	7.63	mg/kg dry	1	5/30/23 10:00
Lead	91.6		0.159	1.91	mg/kg dry	1	5/30/23 10:00
Magnesium	4520		13.5	76.3	mg/kg dry	1	5/30/23 10:00
Manganese	222		0.0475	0.382	mg/kg dry	1	5/30/23 10:00
Nickel	11.8		0.0335	0.191	mg/kg dry	1	5/30/23 10:00
Potassium	1410		45.4	153	mg/kg dry	1	5/30/23 10:00
Sodium	3180		7.27	76.3	mg/kg dry	1	5/30/23 10:00
Vanadium	19.6		0.0877	0.763	mg/kg dry	1	5/30/23 10:00
Zinc	36.8		0.117	1.14	mg/kg dry	1	5/30/23 10:00

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.00100	J	0.000895	0.00201	mg/kg dry	1	5/18/23 23:12
Dieldrin	0.00391		0.00105	0.00201	mg/kg dry	1	5/18/23 23:12

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	38.7	D	0.0588	1.03	mg/kg dry	5	5/19/23 22:09
Acenaphthylene	56.0	D	0.0359	1.03	mg/kg dry	5	5/19/23 22:09
Anthracene	88.9	D	0.299	2.06	mg/kg dry	10	5/23/23 20:15
Benzo(a)anthracene	68.3	D	0.208	2.06	mg/kg dry	10	5/23/23 20:15
Benzo(a)pyrene	102	D	0.359	2.06	mg/kg dry	10	5/23/23 20:15
Benzo(b)fluoranthene	88.2	D	0.290	2.06	mg/kg dry	10	5/23/23 20:15
Benzo(g,h,i)perylene	108	D	0.167	2.06	mg/kg dry	10	5/23/23 20:15
Benzo(k)fluoranthene	19.1	D	0.118	1.03	mg/kg dry	5	5/19/23 22:09
Biphenyl	17.6	D	0.0906	1.03	mg/kg dry	5	5/19/23 22:09
Chrysene	76.5	D	0.141	2.06	mg/kg dry	10	5/23/23 20:15
Dibenzo(a,h)anthracene	12.8	D	0.102	1.03	mg/kg dry	5	5/19/23 22:09
Fluoranthene	119	D	0.194	2.06	mg/kg dry	10	5/23/23 20:15
Fluorene	34.3	D	0.0860	1.03	mg/kg dry	5	5/19/23 22:09
Indeno(1,2,3-cd)pyrene	45.0	D	0.111	1.03	mg/kg dry	5	5/19/23 22:09
Naphthalene	13.7	D	0.0764	1.03	mg/kg dry	5	5/19/23 22:09
Phenanthrene	176	D	1.36	10.3	mg/kg dry	50	5/25/23 16:43
Pyrene	435	D	0.758	10.3	mg/kg dry	50	5/25/23 16:43
TIC_Benzene, 1,2,4-trimethyl-	31.2	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Benzene, 1,2-diethyl-	40.5	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Benzene, 1-ethenyl-2-methyl-	85.7	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Benzene, 1-ethenyl-3-methyl-	31.0	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Benzene, 1-ethyl-4-methyl-	28.9	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Benzene, 1-propynyl-	75.2	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Cyclohexane, butyl-	36.9	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Naphthalene, (1-methylethyl)-	29.9	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Naphthalene, 1,3-dimethyl-	29.4	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Naphthalene, 1,4-dimethyl-	39.4	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Naphthalene, 1-methyl-	55.9	J, D			mg/kg dry	5	5/19/23 22:09
TIC_Naphthalene, 2,6-dimethyl-	60.3	J, D			mg/kg dry	5	5/19/23 22:09
TIC_unknown (01)	29.5	J, D			mg/kg dry	5	5/19/23 22:09
TIC_unknown (02)	28.0	J, D			mg/kg dry	5	5/19/23 22:09

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (03)	129	J, D			mg/kg dry	5	5/19/23 22:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00999		0.000534	0.00387	mg/kg dry	1	5/19/23 3:08
Benzene	0.114		0.000352	0.00387	mg/kg dry	1	5/19/23 3:08
Carbon disulfide	0.0373		0.000556	0.00387	mg/kg dry	1	5/19/23 3:08
Cyclohexane	0.0192		0.000858	0.00387	mg/kg dry	1	5/19/23 3:08
EthylBenzene	0.441		0.000525	0.00387	mg/kg dry	1	5/19/23 3:08
Isopropylbenzene	0.0900		0.000608	0.00387	mg/kg dry	1	5/19/23 3:08
m+p-Xylenes	0.0282		0.000978	0.00774	mg/kg dry	1	5/19/23 3:08
Methylcyclohexane	0.117		0.000623	0.00387	mg/kg dry	1	5/19/23 3:08
o-Xylene	0.0156		0.000498	0.00387	mg/kg dry	1	5/19/23 3:08
Toluene	0.0284		0.000312	0.00387	mg/kg dry	1	5/19/23 3:08
Total Xylenes	0.0439		0.000498	0.00387	mg/kg dry	1	5/19/23 3:08
TIC_2-Cyclohepten-1-one	0.111	J			mg/kg dry	1	5/19/23 3:08
TIC_2-Methylindene	0.139	J			mg/kg dry	1	5/19/23 3:08
TIC_3-Phenylbut-1-ene	0.245	J			mg/kg dry	1	5/19/23 3:08
TIC_4-Heptenal	0.111	J			mg/kg dry	1	5/19/23 3:08
TIC_Benzene, 1,2,4,5-tetramethyl-	0.102	J			mg/kg dry	1	5/19/23 3:08
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.105	J			mg/kg dry	1	5/19/23 3:08
TIC_Benzene, 4-ethyl-1,2-dimethyl-	0.233	J			mg/kg dry	1	5/19/23 3:08
TIC_Benzene, methyl(1-methylethenyl)-	0.109	J			mg/kg dry	1	5/19/23 3:08
TIC_Benzene, propyl-	0.131	J			mg/kg dry	1	5/19/23 3:08
TIC_Cyclohexane, 1-ethyl-2-methyl-	0.0936	J			mg/kg dry	1	5/19/23 3:08
TIC_Cyclohexane, ethyl-	0.150	J			mg/kg dry	1	5/19/23 3:08
TIC_Cyclohexanone, 2,3-dimethyl-	0.110	J			mg/kg dry	1	5/19/23 3:08
TIC_Cyclohexene, 1-methyl-	0.142	J			mg/kg dry	1	5/19/23 3:08
TIC_Cyclopentene, 3-methyl-	0.180	J			mg/kg dry	1	5/19/23 3:08
TIC_Cycloprop[a]indene, 1,1a,6,6a-tetrahydro	0.103	J			mg/kg dry	1	5/19/23 3:08

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0963		0.00612	0.0245	mg/kg dry	1	5/16/23 9:53

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8260		0.184	3.09	mg/kg dry	1	5/30/23 10:02
Arsenic	10.4		0.110	1.55	mg/kg dry	1	5/30/23 10:02
Barium	71.7		0.0467	0.618	mg/kg dry	1	5/30/23 10:02
Beryllium	1.59		0.00358	0.0309	mg/kg dry	1	5/30/23 10:02
Calcium	48700	D	34.8	309	mg/kg dry	10	5/30/23 13:10
Chromium	14.4		0.0349	0.309	mg/kg dry	1	5/30/23 10:02
Cobalt	8.01		0.0316	0.247	mg/kg dry	1	5/30/23 10:02
Copper	120		0.0865	0.309	mg/kg dry	1	5/30/23 10:02
Iron	62400	D	8.76	61.8	mg/kg dry	10	5/30/23 13:10
Lead	64.2		0.129	1.55	mg/kg dry	1	5/30/23 10:02
Magnesium	2680		10.9	61.8	mg/kg dry	1	5/30/23 10:02
Manganese	215		0.0385	0.309	mg/kg dry	1	5/30/23 10:02
Nickel	128		0.0272	0.155	mg/kg dry	1	5/30/23 10:02
Potassium	1140		36.8	124	mg/kg dry	1	5/30/23 10:02
Sodium	1810		5.89	61.8	mg/kg dry	1	5/30/23 10:02
Vanadium	31.5		0.0711	0.618	mg/kg dry	1	5/30/23 10:02
Zinc	65.8		0.0944	0.927	mg/kg dry	1	5/30/23 10:02

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.00135	J	0.000870	0.00159	mg/kg dry	1	5/18/23 23:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.221	J	0.0391	0.245	mg/kg dry	1	5/19/23 22:41
Acenaphthene	0.263		0.00929	0.163	mg/kg dry	1	5/19/23 22:41
Acenaphthylene	0.148	J	0.00567	0.163	mg/kg dry	1	5/19/23 22:41
Anthracene	0.534		0.0236	0.163	mg/kg dry	1	5/19/23 22:41
Benzo(a)anthracene	1.44		0.0164	0.163	mg/kg dry	1	5/19/23 22:41
Benzo(a)pyrene	1.74		0.0284	0.163	mg/kg dry	1	5/19/23 22:41
Benzo(b)fluoranthene	1.43		0.0229	0.163	mg/kg dry	1	5/19/23 22:41
Benzo(g,h,i)perylene	1.16		0.0132	0.163	mg/kg dry	1	5/19/23 22:41
Benzo(k)fluoranthene	0.546		0.0187	0.163	mg/kg dry	1	5/19/23 22:41
Carbazole	0.217	J	0.0313	0.408	mg/kg dry	1	5/19/23 22:41
Chrysene	1.63		0.0112	0.163	mg/kg dry	1	5/19/23 22:41
Dibenzo(a,h)anthracene	0.237		0.0162	0.163	mg/kg dry	1	5/19/23 22:41
Dibenzofuran	0.164		0.00971	0.163	mg/kg dry	1	5/19/23 22:41
Fluoranthene	2.53		0.0153	0.163	mg/kg dry	1	5/19/23 22:41
Fluorene	0.321		0.0136	0.163	mg/kg dry	1	5/19/23 22:41
Indeno(1,2,3-cd)pyrene	0.797		0.0175	0.163	mg/kg dry	1	5/19/23 22:41

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Naphthalene	0.369		0.0121	0.163	mg/kg dry	1	5/19/23 22:41
Phenanthrene	2.43		0.0214	0.163	mg/kg dry	1	5/19/23 22:41
Pyrene	2.48		0.0120	0.163	mg/kg dry	1	5/19/23 22:41
TIC_9,10-Dimethylanthracene	0.773	J			mg/kg dry	1	5/19/23 22:41
TIC_Aldrin-R	0.537	J			mg/kg dry	1	5/19/23 22:41
TIC_Aminopyrine	0.912	J			mg/kg dry	1	5/19/23 22:41
TIC_Benzene, 1,3-cyclohexadien-1-yl-	0.437	J			mg/kg dry	1	5/19/23 22:41
TIC_Benzene, 1-ethyl-4-methyl-	0.424	J			mg/kg dry	1	5/19/23 22:41
TIC_Benzene, 2-butyl-1,3,4-trifluoro-	1.43	J			mg/kg dry	1	5/19/23 22:41
TIC_Carbamic acid, tricyclo[2.2.1.0(2,6)]hep	0.594	J			mg/kg dry	1	5/19/23 22:41
TIC_Oxirane, 2,3-bis(1-methylethyl)-, trans-	2.01	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (01)	0.503	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (02)	0.408	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (03)	0.613	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (04)	0.817	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (05)	0.761	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (06)	0.884	J			mg/kg dry	1	5/19/23 22:41
TIC_unknown (07)	0.391	J			mg/kg dry	1	5/19/23 22:41

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
EthylBenzene	0.000650	J	0.000325	0.00240	mg/kg dry	1	5/19/23 3:38
TIC_Naphthalene, 2-methyl-	0.00644	J			mg/kg dry	1	5/19/23 3:38
TIC_Pentane, 2-methyl-	0.00676	J			mg/kg dry	1	5/19/23 3:38

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.364		0.00623	0.0249	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2470		0.188	3.16	mg/kg dry	1	5/30/23 10:05
Antimony	1.60		0.172	1.58	mg/kg dry	1	5/30/23 10:05
Arsenic	3.28		0.113	1.58	mg/kg dry	1	5/30/23 10:05
Barium	147		0.0478	0.632	mg/kg dry	1	5/30/23 10:05

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.819		0.00366	0.0316	mg/kg dry	1	5/30/23 10:05
Calcium	13500		3.55	31.6	mg/kg dry	1	5/30/23 10:05
Chromium	29.4		0.0357	0.316	mg/kg dry	1	5/30/23 10:05
Cobalt	3.89		0.0323	0.253	mg/kg dry	1	5/30/23 10:05
Copper	26.3		0.0884	0.316	mg/kg dry	1	5/30/23 10:05
Iron	6730		0.895	6.32	mg/kg dry	1	5/30/23 10:05
Lead	522		0.132	1.58	mg/kg dry	1	5/30/23 10:05
Magnesium	402		11.2	63.2	mg/kg dry	1	5/30/23 10:05
Manganese	70.2		0.0393	0.316	mg/kg dry	1	5/30/23 10:05
Nickel	100		0.0278	0.158	mg/kg dry	1	5/30/23 10:05
Potassium	451		37.6	126	mg/kg dry	1	5/30/23 10:05
Sodium	854		6.03	63.2	mg/kg dry	1	5/30/23 10:05
Vanadium	12.0		0.0727	0.632	mg/kg dry	1	5/30/23 10:05
Zinc	72.0		0.0965	0.948	mg/kg dry	1	5/30/23 10:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1.21		0.0397	0.249	mg/kg dry	1	5/19/23 23:12
Acenaphthene	5.44		0.00945	0.166	mg/kg dry	1	5/19/23 23:12
Acenaphthylene	5.81		0.00576	0.166	mg/kg dry	1	5/19/23 23:12
Anthracene	9.70		0.0240	0.166	mg/kg dry	1	5/19/23 23:12
Benzo(a)anthracene	15.8	D	0.167	1.66	mg/kg dry	10	5/23/23 20:46
Benzo(a)pyrene	17.9	D	0.289	1.66	mg/kg dry	10	5/23/23 20:46
Benzo(b)fluoranthene	16.6	D	0.233	1.66	mg/kg dry	10	5/23/23 20:46
Benzo(g,h,i)perylene	9.99		0.0134	0.166	mg/kg dry	1	5/19/23 23:12
Benzo(k)fluoranthene	5.29		0.0190	0.166	mg/kg dry	1	5/19/23 23:12
Biphenyl	0.583		0.0146	0.166	mg/kg dry	1	5/19/23 23:12
Carbazole	1.20		0.0319	0.415	mg/kg dry	1	5/19/23 23:12
Chrysene	15.6	D	0.114	1.66	mg/kg dry	10	5/23/23 20:46
Dibenzo(a,h)anthracene	2.15		0.0164	0.166	mg/kg dry	1	5/19/23 23:12
Dibenzofuran	1.76		0.00987	0.166	mg/kg dry	1	5/19/23 23:12
Fluoranthene	36.5	D	0.156	1.66	mg/kg dry	10	5/23/23 20:46
Fluorene	2.88		0.0138	0.166	mg/kg dry	1	5/19/23 23:12
Indeno(1,2,3-cd)pyrene	6.83		0.0178	0.166	mg/kg dry	1	5/19/23 23:12
Naphthalene	4.69		0.0123	0.166	mg/kg dry	1	5/19/23 23:12
Phenanthrene	17.2	D	0.218	1.66	mg/kg dry	10	5/23/23 20:46
Pyrene	40.8	D	0.122	1.66	mg/kg dry	10	5/23/23 20:46
TIC_Acenaphthenone	3.22	J			mg/kg dry	1	5/19/23 23:12
TIC_Benzene, 2-propenyl-	4.13	J			mg/kg dry	1	5/19/23 23:12
TIC_Dibenzothiophene	3.63	J			mg/kg dry	1	5/19/23 23:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Ethanone, 1-(3-butyl-2-hydroxy-5-methylp	3.34	J			mg/kg dry	1	5/19/23 23:12
TIC_Hexadecanoic acid, butyl ester	9.65	J, B			mg/kg dry	1	5/19/23 23:12
TIC_Naphthalene, 2-phenyl-	6.04	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (01)	5.26	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (02)	4.19	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (03)	4.47	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (04)	18.1	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (05)	6.94	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (06)	3.89	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (07)	15.2	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (08)	6.72	J			mg/kg dry	1	5/19/23 23:12
TIC_unknown (09)	3.23	J			mg/kg dry	1	5/19/23 23:12

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00646		0.000268	0.00195	mg/kg dry	1	5/19/23 4:07
Benzene	0.0231		0.000177	0.00195	mg/kg dry	1	5/19/23 4:07
EthylBenzene	0.0754		0.000264	0.00195	mg/kg dry	1	5/19/23 4:07
Isopropylbenzene	0.0135		0.000305	0.00195	mg/kg dry	1	5/19/23 4:07
m+p-Xylenes	0.00791		0.000491	0.00389	mg/kg dry	1	5/19/23 4:07
Methylcyclohexane	0.00102	J	0.000313	0.00195	mg/kg dry	1	5/19/23 4:07
o-Xylene	0.00417		0.000250	0.00195	mg/kg dry	1	5/19/23 4:07
Toluene	0.00475		0.000157	0.00195	mg/kg dry	1	5/19/23 4:07
Total Xylenes	0.0121		0.000250	0.00195	mg/kg dry	1	5/19/23 4:07
TIC_Benzene, 1-ethyl-2-methyl-	0.0544	J			mg/kg dry	1	5/19/23 4:07
TIC_Benzene, 2-ethyl-1,4-dimethyl-	0.0515	J			mg/kg dry	1	5/19/23 4:07
TIC_Benzeneacetaldehyde, .alpha.-methyl-	0.0353	J			mg/kg dry	1	5/19/23 4:07
TIC_Cyclohexane, (1-methylethyl)-	0.0440	J			mg/kg dry	1	5/19/23 4:07
TIC_Cyclohexane, (1-methylpropyl)-	0.0540	J			mg/kg dry	1	5/19/23 4:07
TIC_Cyclohexane, 1,1-dimethyl-	0.0355	J			mg/kg dry	1	5/19/23 4:07
TIC_Cyclohexane, 1,4-dimethyl-	0.0464	J			mg/kg dry	1	5/19/23 4:07
TIC_Cyclohexane, 1,4-dimethyl-, trans-	0.0347	J			mg/kg dry	1	5/19/23 4:07
TIC_Decane, 2,5-dimethyl-	0.102	J			mg/kg dry	1	5/19/23 4:07
TIC_Decane, 4-methyl-	0.0325	J			mg/kg dry	1	5/19/23 4:07

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Dodecane, 2,6,10-trimethyl-	0.0372	J			mg/kg dry	1	5/19/23 4:07
TIC_Dodecane, 6-methyl-	0.0594	J			mg/kg dry	1	5/19/23 4:07
TIC_Indan, 1-methyl-	0.0538	J			mg/kg dry	1	5/19/23 4:07
TIC_Naphthalene, decahydro-, cis-	0.0471	J			mg/kg dry	1	5/19/23 4:07
TIC_Octane, 2,6-dimethyl-	0.0420	J			mg/kg dry	1	5/19/23 4:07

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	0.288		0.00435	0.0348	mg/kg dry	1	5/20/23 16:27
Total PCBs	0.288		0.00324	0.0348	mg/kg dry	1	5/20/23 16:27

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0775		0.00527	0.0211	mg/kg dry	1	5/16/23 9:53

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4560		0.153	2.57	mg/kg dry	1	5/30/23 10:07
Arsenic	2.14		0.0916	1.28	mg/kg dry	1	5/30/23 10:07
Barium	31.6		0.0388	0.514	mg/kg dry	1	5/30/23 10:07
Beryllium	0.845		0.00297	0.0257	mg/kg dry	1	5/30/23 10:07
Cadmium	0.321		0.0501	0.257	mg/kg dry	1	5/30/23 10:07
Calcium	91500	D	28.9	257	mg/kg dry	10	5/30/23 13:12
Chromium	9.76		0.0290	0.257	mg/kg dry	1	5/30/23 10:07
Cobalt	3.06		0.0263	0.205	mg/kg dry	1	5/30/23 10:07
Copper	39.8		0.0719	0.257	mg/kg dry	1	5/30/23 10:07
Iron	10100		0.728	5.14	mg/kg dry	1	5/30/23 10:07
Lead	42.2		0.107	1.28	mg/kg dry	1	5/30/23 10:07
Magnesium	43100	D	90.7	514	mg/kg dry	10	5/30/23 13:12
Manganese	131		0.0320	0.257	mg/kg dry	1	5/30/23 10:07
Nickel	24.7		0.0226	0.128	mg/kg dry	1	5/30/23 10:07
Potassium	967		30.5	103	mg/kg dry	1	5/30/23 10:07
Sodium	471		4.90	51.4	mg/kg dry	1	5/30/23 10:07
Vanadium	40.1		0.0591	0.514	mg/kg dry	1	5/30/23 10:07
Zinc	989	D	0.785	7.71	mg/kg dry	10	5/30/23 13:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	0.798	J	0.141	1.40	mg/kg dry	1	5/22/23 15:36
Benzo(a)pyrene	1.42		0.244	1.40	mg/kg dry	1	5/22/23 15:36
Benzo(b)fluoranthene	1.59		0.197	1.40	mg/kg dry	1	5/22/23 15:36
Benzo(g,h,i)perylene	1.21	J	0.114	1.40	mg/kg dry	1	5/22/23 15:36
Benzo(k)fluoranthene	0.946	J	0.161	1.40	mg/kg dry	1	5/22/23 15:36
bis(2-ethylhexyl)phthalate	2.19		0.280	1.40	mg/kg dry	1	5/22/23 15:36
Chrysene	0.830	J	0.0960	1.40	mg/kg dry	1	5/22/23 15:36
Fluoranthene	0.931	J	0.132	1.40	mg/kg dry	1	5/22/23 15:36
Indeno(1,2,3-cd)pyrene	0.929	J	0.151	1.40	mg/kg dry	1	5/22/23 15:36
Pyrene	1.33	J	0.103	1.40	mg/kg dry	1	5/22/23 15:36
TIC_Hexadecanoic acid, butyl ester	9.72	J, B			mg/kg dry	1	5/22/23 15:36
TIC_Octadecanoic acid, butyl ester	4.54	J, B			mg/kg dry	1	5/22/23 15:36
TIC_unknown (01)	14.3	J			mg/kg dry	1	5/22/23 15:36
TIC_unknown (02)	14.1	J			mg/kg dry	1	5/22/23 15:36
TIC_unknown (03)	13.0	J			mg/kg dry	1	5/22/23 15:36
TIC_unknown (04)	10.3	J			mg/kg dry	1	5/22/23 15:36
TIC_Z-9-Hexadecenal	146	J			mg/kg dry	1	5/22/23 15:36

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopentane	0.00755	J			mg/kg dry	1	5/19/23 4:36

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00549	0.0409	mg/kg	1	5/22/23 18:25	UJ, RC:3L
Aroclor-1221	ND	U	0.0108	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1232	ND	U	0.0137	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1242	ND	U	0.00805	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1248	ND	U	0.00842	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1254	ND	U	0.00661	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1260	ND	U	0.00513	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1262	ND	U	0.0110	0.0409	mg/kg	1	5/22/23 18:25	
Aroclor-1268	ND	U	0.00495	0.0409	mg/kg	1	5/22/23 18:25	
Total PCBs	ND	U	0.00382	0.0409	mg/kg	1	5/22/23 18:25	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.124	mg/kg	1	5/27/23 11:09
2,4-D	ND	U	0.0206	0.124	mg/kg	1	5/27/23 11:09

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.315**		**0.00620**	**0.0248**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12100**		**0.176**	**2.97**	**mg/kg**	**1**	**5/30/23 9:49**
Antimony	ND	U	0.162	1.48	mg/kg	1	5/30/23 9:49
Arsenic	**10.9**		**0.106**	**1.48**	**mg/kg**	**1**	**5/30/23 9:49**
Barium	**96.4**		**0.0449**	**0.594**	**mg/kg**	**1**	**5/30/23 9:49**
Beryllium	**1.57**		**0.00344**	**0.0297**	**mg/kg**	**1**	**5/30/23 9:49**
Cadmium	**0.445**		**0.0579**	**0.297**	**mg/kg**	**1**	**5/30/23 9:49**
Calcium	**75400**	D	**33.4**	**297**	**mg/kg**	**10**	**5/30/23 12:56**
Chromium	**12.2**		**0.0335**	**0.297**	**mg/kg**	**1**	**5/30/23 9:49**
Cobalt	**3.41**		**0.0303**	**0.237**	**mg/kg**	**1**	**5/30/23 9:49**
Copper	**49.3**		**0.0830**	**0.297**	**mg/kg**	**1**	**5/30/23 9:49**
Iron	**12000**		**0.841**	**5.94**	**mg/kg**	**1**	**5/30/23 9:49**
Lead	**108**		**0.124**	**1.48**	**mg/kg**	**1**	**5/30/23 9:49**
Magnesium	**3670**		**10.5**	**59.4**	**mg/kg**	**1**	**5/30/23 9:49**
Manganese	**188**		**0.0369**	**0.297**	**mg/kg**	**1**	**5/30/23 9:49**
Nickel	**9.05**		**0.0261**	**0.148**	**mg/kg**	**1**	**5/30/23 9:49**
Potassium	**1940**		**35.3**	**119**	**mg/kg**	**1**	**5/30/23 9:49**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.285	1.48	mg/kg	1	5/30/23 9:49	
Silver	ND	U	0.0505	0.178	mg/kg	1	5/30/23 9:49	R, RC:6L
Sodium	**3090**		**5.66**	**59.4**	**mg/kg**	**1**	**5/30/23 9:49**	
Thallium	ND	U	0.0999	1.48	mg/kg	1	5/30/23 9:49	
Vanadium	**26.2**		**0.0683**	**0.594**	**mg/kg**	**1**	**5/30/23 9:49**	
Zinc	**130**		**0.0907**	**0.890**	**mg/kg**	**1**	**5/30/23 9:49**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000738	0.00161	mg/kg	1	5/18/23 21:22	
4,4'-DDE	ND	U	0.000882	0.00161	mg/kg	1	5/18/23 21:22	
4,4'-DDT	ND	U	0.00114	0.00161	mg/kg	1	5/18/23 21:22	
Aldrin	ND	U	0.000764	0.00161	mg/kg	1	5/18/23 21:22	
alpha-BHC	ND	U	0.000480	0.00161	mg/kg	1	5/18/23 21:22	
beta-BHC	ND	U	0.000770	0.00161	mg/kg	1	5/18/23 21:22	
Chlordane	ND	U	0.000717	0.00161	mg/kg	1	5/18/23 21:22	
delta-BHC	ND	U	0.000749	0.00161	mg/kg	1	5/18/23 21:22	
Dieldrin	ND	U	0.000844	0.00161	mg/kg	1	5/18/23 21:22	
Endosulfan I	ND	U	0.000762	0.00161	mg/kg	1	5/18/23 21:22	
Endosulfan II	ND	U	0.000733	0.00161	mg/kg	1	5/18/23 21:22	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000607	0.00161	mg/kg	1	5/18/23 21:22	
Endosulfans, Total (alpha and beta)	ND	U	0.000733	0.00161	mg/kg	1	5/18/23 21:22	
Endrin	ND	U	0.000557	0.00161	mg/kg	1	5/18/23 21:22	
Endrin aldehyde	ND	U	0.000643	0.00161	mg/kg	1	5/18/23 21:22	
Endrin ketone	ND	U	0.000568	0.00161	mg/kg	1	5/18/23 21:22	
gamma-BHC (Lindane)	ND	U	0.000511	0.00161	mg/kg	1	5/18/23 21:22	
Heptachlor	ND	U	0.000432	0.00161	mg/kg	1	5/18/23 21:22	
Heptachlor Epoxide	ND	U	0.000814	0.00161	mg/kg	1	5/18/23 21:22	
Methoxychlor	ND	U	0.000473	0.00161	mg/kg	1	5/18/23 21:22	
Toxaphene	ND	U	0.0777	0.0819	mg/kg	1	5/18/23 21:22	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00466	0.0413	mg/kg	1	5/19/23 19:29
2,3,4,6-Tetrachlorophenol	ND	U	0.0254	0.165	mg/kg	1	5/19/23 19:29
2,4,5-Trichlorophenol	ND	U	0.0225	0.165	mg/kg	1	5/19/23 19:29
2,4,6-Trichlorophenol	ND	U	0.0103	0.165	mg/kg	1	5/19/23 19:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0166	0.165	mg/kg	1	5/19/23 19:29	
2,4-Dimethylphenol	ND	U	0.0163	0.165	mg/kg	1	5/19/23 19:29	
2,4-Dinitrophenol	ND	U	0.0238	0.828	mg/kg	1	5/19/23 19:29	
2,4-Dinitrotoluene	ND	U	0.0176	0.165	mg/kg	1	5/19/23 19:29	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0395	0.165	mg/kg	1	5/19/23 19:29	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0190	0.165	mg/kg	1	5/19/23 19:29	
2-Chlorophenol	ND	U	0.0218	0.165	mg/kg	1	5/19/23 19:29	
2-Methylnaphthalene	**0.0473**	J	**0.0396**	**0.248**	**mg/kg**	**1**	**5/19/23 19:29**	
2-Methylphenol	ND	U	0.0326	0.165	mg/kg	1	5/19/23 19:29	
2-Nitroaniline	ND	U	0.0133	0.165	mg/kg	1	5/19/23 19:29	
2-Nitrophenol	ND	U	0.0184	0.165	mg/kg	1	5/19/23 19:29	
3,3'-Dichlorobenzidine	ND	U	0.0174	0.165	mg/kg	1	5/19/23 19:29	
3+4-Methylphenol	**0.0954**	J	**0.0303**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
3-Nitroaniline	ND	U	0.0306	0.165	mg/kg	1	5/19/23 19:29	
4,6-Dinitro-2-methylphenol	ND	U	0.0311	0.413	mg/kg	1	5/19/23 19:29	
4-Bromophenyl-phenyl ether	ND	U	0.0236	0.165	mg/kg	1	5/19/23 19:29	
4-Chloro-3-methylphenol	ND	U	0.0261	0.165	mg/kg	1	5/19/23 19:29	
4-Chloroaniline	ND	U	0.00578	0.165	mg/kg	1	5/19/23 19:29	
4-Chlorophenyl phenyl ether	ND	U	0.00892	0.165	mg/kg	1	5/19/23 19:29	
4-Nitroaniline	ND	U	0.0826	0.165	mg/kg	1	5/19/23 19:29	
4-Nitrophenol	ND	U	0.0106	0.165	mg/kg	1	5/19/23 19:29	
Acenaphthene	**0.0576**	J	**0.00942**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Acenaphthylene	**2.75**		**0.00574**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Acetophenone	ND	U	0.0164	0.165	mg/kg	1	5/19/23 19:29	
Anthracene	**1.20**		**0.0239**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Atrazine	ND	U	0.0155	0.165	mg/kg	1	5/19/23 19:29	
Benzaldehyde	ND	U	0.0507	0.165	mg/kg	1	5/19/23 19:29	
Benzo(a)anthracene	**7.25**		**0.0166**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Benzo(a)pyrene	**8.16**		**0.0288**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Benzo(b)fluoranthene	**9.63**		**0.0232**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Benzo(g,h,i)perylene	**5.06**		**0.0134**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Benzo(k)fluoranthene	**3.81**		**0.0190**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**	
Biphenyl	ND	U	0.0145	0.165	mg/kg	1	5/19/23 19:29	
bis(2-chloroethoxy)methane	ND	U	0.0228	0.165	mg/kg	1	5/19/23 19:29	
bis(2-chloroethyl)ether	ND	U	0.0181	0.165	mg/kg	1	5/19/23 19:29	
bis(2-chloroisopropyl)ether	ND	U	0.0594	0.165	mg/kg	1	5/19/23 19:29	
bis(2-ethylhexyl)phthalate	ND	U	0.0330	0.165	mg/kg	1	5/19/23 19:29	
Butylbenzylphthalate	ND	U	0.0150	0.165	mg/kg	1	5/19/23 19:29	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0213	0.165	mg/kg	1	5/19/23 19:29
Carbazole	**0.266**	J	**0.0318**	**0.413**	**mg/kg**	**1**	**5/19/23 19:29**
Chrysene	**7.12**		**0.0113**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Dibenzo(a,h)anthracene	**1.70**		**0.0164**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Dibenzofuran	**0.147**	J	**0.00984**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Diethylphthalate	ND	U	0.0320	0.165	mg/kg	1	5/19/23 19:29
Dimethylphthalate	ND	U	0.0102	0.165	mg/kg	1	5/19/23 19:29
Di-n-butylphthalate	ND	U	0.0675	0.165	mg/kg	1	5/19/23 19:29
Di-n-octylphthalate	ND	U	0.0339	0.165	mg/kg	1	5/19/23 19:29
Fluoranthene	**9.81**		**0.0155**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Fluorene	**0.134**	J	**0.0138**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Hexachlorobenzene	ND	U	0.0216	0.165	mg/kg	1	5/19/23 19:29
Hexachlorobutadiene	ND	U	0.0793	0.165	mg/kg	1	5/19/23 19:29
Hexachlorocyclopentadiene	ND	U	0.0689	0.413	mg/kg	1	5/19/23 19:29
Hexachloroethane	ND	U	0.0181	0.165	mg/kg	1	5/19/23 19:29
Indeno(1,2,3-cd)pyrene	**4.47**		**0.0177**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Isophorone	ND	U	0.0108	0.165	mg/kg	1	5/19/23 19:29
Naphthalene	**0.282**		**0.0122**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Nitrobenzene	ND	U	0.0280	0.165	mg/kg	1	5/19/23 19:29
n-Nitroso-di-n-propylamine	ND	U	0.00885	0.165	mg/kg	1	5/19/23 19:29
n-Nitrosodiphenylamine	ND	U	0.0352	0.165	mg/kg	1	5/19/23 19:29
Pentachlorophenol	ND	U	0.0227	0.413	mg/kg	1	5/19/23 19:29
Phenanthrene	**1.54**		**0.0217**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**
Phenol	ND	U	0.0134	0.165	mg/kg	1	5/19/23 19:29
Pyrene	**10.0**		**0.0121**	**0.165**	**mg/kg**	**1**	**5/19/23 19:29**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexatriacontane	0.499	9.32	J	mg/kg	1	5/19/23 19:29	
Naphtho[2,3-b]norbornadiene	0.546	10.96	J	mg/kg	1	5/19/23 19:29	
Octadecanoic acid, butyl ester	~~0.749~~	12.58	J, B	mg/kg	1	5/19/23 19:29	R, RC:2
unknown (01)	0.796	10.99	J	mg/kg	1	5/19/23 19:29	
unknown (02)	0.672	11.04	J	mg/kg	1	5/19/23 19:29	
unknown (03)	2.01	11.09	J	mg/kg	1	5/19/23 19:29	
unknown (04)	0.718	11.25	J	mg/kg	1	5/19/23 19:29	
unknown (05)	0.786	11.51	J	mg/kg	1	5/19/23 19:29	
unknown (06)	1.29	11.62	J	mg/kg	1	5/19/23 19:29	
unknown (07)	5.04	11.80	J	mg/kg	1	5/19/23 19:29	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (08)	0.961	12.30	J	mg/kg	1	5/19/23 19:29
unknown (09)	0.612	13.85	J	mg/kg	1	5/19/23 19:29
unknown (10)	3.15	14.99	J	mg/kg	1	5/19/23 19:29
unknown (11)	7.55	15.30	J	mg/kg	1	5/19/23 19:29
unknown (12)	0.688	18.16	J	mg/kg	1	5/19/23 19:29
TIC Total	~~26.1~~ 25.4					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000533	0.00365	mg/kg	1	5/18/23 15:14	
1,1,2,2-Tetrachloroethane	ND	U	0.000504	0.00365	mg/kg	1	5/18/23 15:14	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00156	0.00365	mg/kg	1	5/18/23 15:14	
1,1,2-Trichloroethane	ND	U	0.000615	0.00365	mg/kg	1	5/18/23 15:14	
1,1-Dichloroethane	ND	U	0.000533	0.00365	mg/kg	1	5/18/23 15:14	
1,1-Dichloroethene	ND	U	0.000675	0.00365	mg/kg	1	5/18/23 15:14	
1,2,3-Trichlorobenzene	ND	U	0.000788	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:4L
1,2,4-Trichlorobenzene	ND	U	0.000972	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:4L
1,2,4-Trimethylbenzene	ND	U	0.000504	0.00365	mg/kg	1	5/18/23 15:14	
1,2-Dibromo-3-chloropropane	ND	U	0.000890	0.00912	mg/kg	1	5/18/23 15:14	
1,2-Dibromoethane	ND	U	0.000460	0.00365	mg/kg	1	5/18/23 15:14	
1,2-Dichlorobenzene	ND	U	0.000644	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:4L
1,2-Dichloroethane	ND	U	0.000515	0.00365	mg/kg	1	5/18/23 15:14	
1,2-Dichloropropane	ND	U	0.000598	0.00365	mg/kg	1	5/18/23 15:14	
1,3-Dichlorobenzene	ND	U	0.000268	0.00365	mg/kg	1	5/18/23 15:14	
1,4-Dichlorobenzene	ND	U	0.000525	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:4L
2-Butanone	ND	U	0.000595	0.0182	mg/kg	1	5/18/23 15:14	UJ, RC:SL
2-Hexanone	ND	U	0.000341	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000456	0.00365	mg/kg	1	5/18/23 15:14	
Acetone	ND	U	0.00111	0.0912	mg/kg	1	5/18/23 15:14	UJ, RC:SL
Benzene	ND	U	0.000332	0.00365	mg/kg	1	5/18/23 15:14	
Bromochloromethane	ND	U	0.000673	0.00365	mg/kg	1	5/18/23 15:14	
Bromodichloromethane	ND	U	0.000458	0.00365	mg/kg	1	5/18/23 15:14	
Bromoform	ND	U	0.000640	0.00365	mg/kg	1	5/18/23 15:14	
Bromomethane	ND	U	0.00105	0.00365	mg/kg	1	5/18/23 15:14	
Carbon disulfide	ND	U	0.000524	0.00365	mg/kg	1	5/18/23 15:14	
Carbon Tetrachloride	ND	U	0.000549	0.00365	mg/kg	1	5/18/23 15:14	
Chlorobenzene	ND	U	0.000529	0.00365	mg/kg	1	5/18/23 15:14	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorodibromomethane	ND	U	0.000449	0.00365	mg/kg	1	5/18/23 15:14	
Chloroethane	ND	U	0.000622	0.00365	mg/kg	1	5/18/23 15:14	
Chloroform	ND	U	0.000613	0.00365	mg/kg	1	5/18/23 15:14	
Chloromethane	ND	U	0.00140	0.00365	mg/kg	1	5/18/23 15:14	
cis-1,2-Dichloroethene	ND	U	0.000176	0.00365	mg/kg	1	5/18/23 15:14	
cis-1,3-Dichloropropene	ND	U	0.000462	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:4L
Cyclohexane	ND	U	0.000808	0.00365	mg/kg	1	5/18/23 15:14	
Dichlorodifluoromethane	ND	U	0.00123	0.00365	mg/kg	1	5/18/23 15:14	
EthylBenzene	ND	U	0.000494	0.00365	mg/kg	1	5/18/23 15:14	
Isopropylbenzene	ND	U	0.000573	0.00365	mg/kg	1	5/18/23 15:14	
m+p-Xylenes	ND	U	0.000921	0.00730	mg/kg	1	5/18/23 15:14	
Methyl Acetate	ND	U	0.000483	0.00365	mg/kg	1	5/18/23 15:14	
Methyl tert-Butyl Ether	ND	U	0.000617	0.00365	mg/kg	1	5/18/23 15:14	
Methylcyclohexane	ND	U	0.000587	0.00365	mg/kg	1	5/18/23 15:14	
Methylene Chloride	ND	U	0.00110	0.00912	mg/kg	1	5/18/23 15:14	
o-Xylene	ND	U	0.000469	0.00365	mg/kg	1	5/18/23 15:14	
Styrene	ND	U	0.000522	0.00365	mg/kg	1	5/18/23 15:14	
tert-Butyl alcohol	ND	U	0.00766	0.0365	mg/kg	1	5/18/23 15:14	
Tetrachloroethene	ND	U	0.000361	0.00365	mg/kg	1	5/18/23 15:14	
Toluene	ND	U	0.000294	0.00365	mg/kg	1	5/18/23 15:14	
Total Xylenes	ND	U	0.000469	0.00365	mg/kg	1	5/18/23 15:14	
trans-1,2-Dichloroethene	ND	U	0.000494	0.00365	mg/kg	1	5/18/23 15:14	
trans-1,3-Dichloropropene	ND	U	0.000697	0.00365	mg/kg	1	5/18/23 15:14	
Trichloroethene	ND	U	0.000536	0.00365	mg/kg	1	5/18/23 15:14	UJ, RC:4L,SL
Trichlorofluoromethane	ND	U	0.000420	0.00365	mg/kg	1	5/18/23 15:14	
Vinyl chloride	ND	U	0.000693	0.00365	mg/kg	1	5/18/23 15:14	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.6**				**%**	**1**	**5/16/23 10:58**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-01 (Soil) Sample Name: **OH-SB-34_1.0-2.0_20230513** Collected: **5/13/2023 10:55:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.108**		**0.00774**	**0.0650**	**mg/kg**	**1**	**5/16/23 15:57**

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00554	0.0413	mg/kg	1	5/22/23 18:47	UJ, RC:3L
Aroclor-1221	ND	U	0.0109	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1232	ND	U	0.0139	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1242	ND	U	0.00812	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1248	ND	U	0.00850	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1254	ND	U	0.00667	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1260	ND	U	0.00518	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1262	ND	U	0.0111	0.0413	mg/kg	1	5/22/23 18:47	
Aroclor-1268	ND	U	0.00500	0.0413	mg/kg	1	5/22/23 18:47	
Total PCBs	ND	U	0.00386	0.0413	mg/kg	1	5/22/23 18:47	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0123	0.125	mg/kg	1	5/27/23 11:33
2,4-D	ND	U	0.0208	0.125	mg/kg	1	5/27/23 11:33

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.388**		**0.00626**	**0.0251**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5900**		**0.185**	**3.12**	**mg/kg**	**1**	**5/30/23 9:51**
Antimony	**2.95**		**0.170**	**1.56**	**mg/kg**	**1**	**5/30/23 9:51**
Arsenic	**9.02**		**0.111**	**1.56**	**mg/kg**	**1**	**5/30/23 9:51**
Barium	**787**	D	**0.471**	**6.23**	**mg/kg**	**10**	**5/30/23 12:58**
Beryllium	**0.881**		**0.00361**	**0.0312**	**mg/kg**	**1**	**5/30/23 9:51**
Cadmium	**0.910**		**0.0608**	**0.312**	**mg/kg**	**1**	**5/30/23 9:51**
Calcium	**101000**	D	**35.1**	**312**	**mg/kg**	**10**	**5/30/23 12:58**
Chromium	**73.2**		**0.0352**	**0.312**	**mg/kg**	**1**	**5/30/23 9:51**
Cobalt	**3.46**		**0.0318**	**0.249**	**mg/kg**	**1**	**5/30/23 9:51**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Copper	**51.7**		**0.0872**	**0.312**	**mg/kg**	**1**	**5/30/23 9:51**	
Iron	**12400**		**0.883**	**6.23**	**mg/kg**	**1**	**5/30/23 9:51**	
Lead	**3990**	D	**1.30**	**15.6**	**mg/kg**	**10**	**5/30/23 12:58**	
Magnesium	**2090**		**11.0**	**62.3**	**mg/kg**	**1**	**5/30/23 9:51**	
Manganese	**132**		**0.0388**	**0.312**	**mg/kg**	**1**	**5/30/23 9:51**	
Nickel	**8.57**		**0.0274**	**0.156**	**mg/kg**	**1**	**5/30/23 9:51**	
Potassium	**1170**		**37.1**	**125**	**mg/kg**	**1**	**5/30/23 9:51**	
Selenium	ND	U	0.299	1.56	mg/kg	1	5/30/23 9:51	
Silver	ND	U	0.0530	0.187	mg/kg	1	5/30/23 9:51	R, RC:6L
Sodium	**2520**		**5.94**	**62.3**	**mg/kg**	**1**	**5/30/23 9:51**	
Thallium	ND	U	0.105	1.56	mg/kg	1	5/30/23 9:51	
Vanadium	**23.7**		**0.0717**	**0.623**	**mg/kg**	**1**	**5/30/23 9:51**	
Zinc	**211**		**0.0952**	**0.935**	**mg/kg**	**1**	**5/30/23 9:51**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000745	0.00163	mg/kg	1	5/18/23 21:44	
4,4'-DDE	ND	U	0.000891	0.00163	mg/kg	1	5/18/23 21:44	
4,4'-DDT	ND	U	0.00115	0.00163	mg/kg	1	5/18/23 21:44	
Aldrin	ND	U	0.000772	0.00163	mg/kg	1	5/18/23 21:44	
alpha-BHC	ND	U	0.000485	0.00163	mg/kg	1	5/18/23 21:44	
beta-BHC	ND	U	0.000778	0.00163	mg/kg	1	5/18/23 21:44	
Chlordane	ND	U	0.000724	0.00163	mg/kg	1	5/18/23 21:44	
delta-BHC	ND	U	0.000757	0.00163	mg/kg	1	5/18/23 21:44	
Dieldrin	ND	U	0.000852	0.00163	mg/kg	1	5/18/23 21:44	
Endosulfan I	ND	U	0.000769	0.00163	mg/kg	1	5/18/23 21:44	
Endosulfan II	ND	U	0.000740	0.00163	mg/kg	1	5/18/23 21:44	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000613	0.00163	mg/kg	1	5/18/23 21:44	
Endosulfans, Total (alpha and beta)	ND	U	0.000740	0.00163	mg/kg	1	5/18/23 21:44	
Endrin	ND	U	0.000562	0.00163	mg/kg	1	5/18/23 21:44	
Endrin aldehyde	ND	U	0.000649	0.00163	mg/kg	1	5/18/23 21:44	
Endrin ketone	ND	U	0.000574	0.00163	mg/kg	1	5/18/23 21:44	
gamma-BHC (Lindane)	ND	U	0.000516	0.00163	mg/kg	1	5/18/23 21:44	
Heptachlor	ND	U	0.000436	0.00163	mg/kg	1	5/18/23 21:44	
Heptachlor Epoxide	ND	U	0.000822	0.00163	mg/kg	1	5/18/23 21:44	
Methoxychlor	ND	U	0.000477	0.00163	mg/kg	1	5/18/23 21:44	
Toxaphene	ND	U	0.0785	0.0827	mg/kg	1	5/18/23 21:44	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00471	0.0417	mg/kg	1	5/19/23 20:01	
2,3,4,6-Tetrachlorophenol	ND	U	0.0257	0.167	mg/kg	1	5/19/23 20:01	
2,4,5-Trichlorophenol	ND	U	0.0227	0.167	mg/kg	1	5/19/23 20:01	
2,4,6-Trichlorophenol	ND	U	0.0104	0.167	mg/kg	1	5/19/23 20:01	
2,4-Dichlorophenol	ND	U	0.0168	0.167	mg/kg	1	5/19/23 20:01	
2,4-Dimethylphenol	ND	U	0.0164	0.167	mg/kg	1	5/19/23 20:01	
2,4-Dinitrophenol	ND	U	0.0241	0.836	mg/kg	1	5/19/23 20:01	
2,4-Dinitrotoluene	ND	U	0.0178	0.167	mg/kg	1	5/19/23 20:01	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0398	0.167	mg/kg	1	5/19/23 20:01	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0192	0.167	mg/kg	1	5/19/23 20:01	
2-Chlorophenol	ND	U	0.0220	0.167	mg/kg	1	5/19/23 20:01	
2-Methylnaphthalene	**0.242**	J	**0.0400**	**0.251**	**mg/kg**	**1**	**5/19/23 20:01**	
2-Methylphenol	ND	U	0.0329	0.167	mg/kg	1	5/19/23 20:01	
2-Nitroaniline	ND	U	0.0134	0.167	mg/kg	1	5/19/23 20:01	
2-Nitrophenol	ND	U	0.0185	0.167	mg/kg	1	5/19/23 20:01	
3,3'-Dichlorobenzidine	ND	U	0.0175	0.167	mg/kg	1	5/19/23 20:01	
3+4-Methylphenol	ND	U	0.0306	0.167	mg/kg	1	5/19/23 20:01	
3-Nitroaniline	ND	U	0.0309	0.167	mg/kg	1	5/19/23 20:01	
4,6-Dinitro-2-methylphenol	ND	U	0.0314	0.417	mg/kg	1	5/19/23 20:01	
4-Bromophenyl-phenyl ether	ND	U	0.0238	0.167	mg/kg	1	5/19/23 20:01	
4-Chloro-3-methylphenol	ND	U	0.0263	0.167	mg/kg	1	5/19/23 20:01	
4-Chloroaniline	ND	U	0.00584	0.167	mg/kg	1	5/19/23 20:01	
4-Chlorophenyl phenyl ether	ND	U	0.00901	0.167	mg/kg	1	5/19/23 20:01	
4-Nitroaniline	ND	U	0.0834	0.167	mg/kg	1	5/19/23 20:01	
4-Nitrophenol	ND	U	0.0107	0.167	mg/kg	1	5/19/23 20:01	
Acenaphthene	**0.784**		**0.00951**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Acenaphthylene	**0.673**		**0.00580**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Acetophenone	ND	U	0.0165	0.167	mg/kg	1	5/19/23 20:01	
Anthracene	**1.53**		**0.0242**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Atrazine	ND	U	0.0157	0.167	mg/kg	1	5/19/23 20:01	
Benzaldehyde	ND	U	0.0512	0.167	mg/kg	1	5/19/23 20:01	
Benzo(a)anthracene	**3.65**		**0.0168**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Benzo(a)pyrene	**4.11**		**0.0291**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Benzo(b)fluoranthene	**4.71**		**0.0234**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Benzo(g,h,i)perylene	**2.59**		**0.0135**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Benzo(k)fluoranthene	**1.62**		**0.0192**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
Biphenyl	**0.0911**	J	**0.0147**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**	
bis(2-chloroethoxy)methane	ND	U	0.0231	0.167	mg/kg	1	5/19/23 20:01	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0183	0.167	mg/kg	1	5/19/23 20:01
bis(2-chloroisopropyl)ether	ND	U	0.0600	0.167	mg/kg	1	5/19/23 20:01
bis(2-ethylhexyl)phthalate	ND	U	0.0333	0.167	mg/kg	1	5/19/23 20:01
Butylbenzylphthalate	ND	U	0.0152	0.167	mg/kg	1	5/19/23 20:01
Caprolactam	ND	U	0.0215	0.167	mg/kg	1	5/19/23 20:01
Carbazole	**0.586**		**0.0321**	**0.417**	**mg/kg**	**1**	**5/19/23 20:01**
Chrysene	**3.90**		**0.0114**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Dibenzo(a,h)anthracene	**0.727**		**0.0165**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Dibenzofuran	**0.395**		**0.00993**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Diethylphthalate	ND	U	0.0323	0.167	mg/kg	1	5/19/23 20:01
Dimethylphthalate	ND	U	0.0103	0.167	mg/kg	1	5/19/23 20:01
Di-n-butylphthalate	ND	U	0.0681	0.167	mg/kg	1	5/19/23 20:01
Di-n-octylphthalate	ND	U	0.0342	0.167	mg/kg	1	5/19/23 20:01
Fluoranthene	**7.73**		**0.0157**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Fluorene	**0.643**		**0.0139**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Hexachlorobenzene	ND	U	0.0218	0.167	mg/kg	1	5/19/23 20:01
Hexachlorobutadiene	ND	U	0.0800	0.167	mg/kg	1	5/19/23 20:01
Hexachlorocyclopentadiene	ND	U	0.0695	0.417	mg/kg	1	5/19/23 20:01
Hexachloroethane	ND	U	0.0183	0.167	mg/kg	1	5/19/23 20:01
Indeno(1,2,3-cd)pyrene	**2.17**		**0.0179**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Isophorone	ND	U	0.0109	0.167	mg/kg	1	5/19/23 20:01
Naphthalene	**0.297**		**0.0124**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Nitrobenzene	ND	U	0.0283	0.167	mg/kg	1	5/19/23 20:01
n-Nitroso-di-n-propylamine	ND	U	0.00893	0.167	mg/kg	1	5/19/23 20:01
n-Nitrosodiphenylamine	ND	U	0.0356	0.167	mg/kg	1	5/19/23 20:01
Pentachlorophenol	ND	U	0.0229	0.417	mg/kg	1	5/19/23 20:01
Phenanthrene	**5.69**		**0.0219**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**
Phenol	ND	U	0.0135	0.167	mg/kg	1	5/19/23 20:01
Pyrene	**7.58**		**0.0123**	**0.167**	**mg/kg**	**1**	**5/19/23 20:01**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
4,7-Dimethyl-1,10-phenanthroline	0.429	11.87	J	mg/kg	1	5/19/23 20:01	
Hexadecanoic acid, butyl ester	~~2.38~~	11.80	J, B	mg/kg	1	5/19/23 20:01	R, RC:2
o-Terphenyl	0.553	12.89	J	mg/kg	1	5/19/23 20:01	
unknown (01)	0.518	10.26	J	mg/kg	1	5/19/23 20:01	
unknown (02)	0.861	10.96	J	mg/kg	1	5/19/23 20:01	
unknown (03)	1.12	10.99	J	mg/kg	1	5/19/23 20:01	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (04)	0.497	11.04	J	mg/kg	1	5/19/23 20:01
unknown (05)	2.10	11.09	J	mg/kg	1	5/19/23 20:01
unknown (06)	0.762	11.25	J	mg/kg	1	5/19/23 20:01
unknown (07)	0.848	11.28	J	mg/kg	1	5/19/23 20:01
unknown (08)	0.866	11.51	J	mg/kg	1	5/19/23 20:01
unknown (09)	0.814	11.62	J	mg/kg	1	5/19/23 20:01
unknown (10)	0.552	12.30	J	mg/kg	1	5/19/23 20:01
unknown (11)	0.603	12.58	J	mg/kg	1	5/19/23 20:01
unknown (12)	4.04	15.29	J	mg/kg	1	5/19/23 20:01
TIC Total	**16.9**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000631	0.00432	mg/kg	1	5/18/23 15:56	
1,1,2,2-Tetrachloroethane	ND	U	0.000596	0.00432	mg/kg	1	5/18/23 15:56	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00185	0.00432	mg/kg	1	5/18/23 15:56	
1,1,2-Trichloroethane	ND	U	0.000728	0.00432	mg/kg	1	5/18/23 15:56	
1,1-Dichloroethane	ND	U	0.000631	0.00432	mg/kg	1	5/18/23 15:56	
1,1-Dichloroethene	ND	U	0.000799	0.00432	mg/kg	1	5/18/23 15:56	
1,2,3-Trichlorobenzene	ND	U	0.000933	0.00432	mg/kg	1	5/18/23 15:56	
1,2,4-Trichlorobenzene	ND	U	0.00115	0.00432	mg/kg	1	5/18/23 15:56	
1,2,4-Trimethylbenzene	ND	U	0.000596	0.00432	mg/kg	1	5/18/23 15:56	
1,2-Dibromo-3-chloropropane	ND	U	0.00105	0.0108	mg/kg	1	5/18/23 15:56	
1,2-Dibromoethane	ND	U	0.000544	0.00432	mg/kg	1	5/18/23 15:56	
1,2-Dichlorobenzene	ND	U	0.000762	0.00432	mg/kg	1	5/18/23 15:56	
1,2-Dichloroethane	ND	U	0.000609	0.00432	mg/kg	1	5/18/23 15:56	
1,2-Dichloropropane	ND	U	0.000708	0.00432	mg/kg	1	5/18/23 15:56	
1,3-Dichlorobenzene	ND	U	0.000318	0.00432	mg/kg	1	5/18/23 15:56	
1,4-Dichlorobenzene	ND	U	0.000622	0.00432	mg/kg	1	5/18/23 15:56	
2-Butanone	ND	U	0.000704	0.0216	mg/kg	1	5/18/23 15:56	UJ, RC:SL
2-Hexanone	ND	U	0.000404	0.00432	mg/kg	1	5/18/23 15:56	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000540	0.00432	mg/kg	1	5/18/23 15:56	
Acetone	ND	U	0.00131	0.108	mg/kg	1	5/18/23 15:56	UJ, RC:SL
Benzene	ND	U	0.000393	0.00432	mg/kg	1	5/18/23 15:56	
Bromochloromethane	ND	U	0.000797	0.00432	mg/kg	1	5/18/23 15:56	
Bromodichloromethane	ND	U	0.000542	0.00432	mg/kg	1	5/18/23 15:56	
Bromoform	ND	U	0.000758	0.00432	mg/kg	1	5/18/23 15:56	

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MDL - Minimum detection limit, **RL** - Reporting limit
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromomethane	ND	U	0.00125	0.00432	mg/kg	1	5/18/23 15:56	
Carbon disulfide	ND	U	0.000620	0.00432	mg/kg	1	5/18/23 15:56	
Carbon Tetrachloride	ND	U	0.000650	0.00432	mg/kg	1	5/18/23 15:56	
Chlorobenzene	ND	U	0.000626	0.00432	mg/kg	1	5/18/23 15:56	
Chlorodibromomethane	ND	U	0.000531	0.00432	mg/kg	1	5/18/23 15:56	
Chloroethane	ND	U	0.000737	0.00432	mg/kg	1	5/18/23 15:56	
Chloroform	ND	U	0.000726	0.00432	mg/kg	1	5/18/23 15:56	
Chloromethane	ND	U	0.00166	0.00432	mg/kg	1	5/18/23 15:56	
cis-1,2-Dichloroethene	ND	U	0.000209	0.00432	mg/kg	1	5/18/23 15:56	
cis-1,3-Dichloropropene	ND	U	0.000546	0.00432	mg/kg	1	5/18/23 15:56	
Cyclohexane	ND	U	0.000957	0.00432	mg/kg	1	5/18/23 15:56	
Dichlorodifluoromethane	ND	U	0.00146	0.00432	mg/kg	1	5/18/23 15:56	
EthylBenzene	ND	U	0.000585	0.00432	mg/kg	1	5/18/23 15:56	
Isopropylbenzene	ND	U	0.000678	0.00432	mg/kg	1	5/18/23 15:56	
m+p-Xylenes	ND	U	0.00109	0.00864	mg/kg	1	5/18/23 15:56	
Methyl Acetate	ND	U	0.000572	0.00432	mg/kg	1	5/18/23 15:56	
Methyl tert-Butyl Ether	ND	U	0.000730	0.00432	mg/kg	1	5/18/23 15:56	
Methylcyclohexane	ND	U	0.000695	0.00432	mg/kg	1	5/18/23 15:56	
Methylene Chloride	ND	U	0.00130	0.0108	mg/kg	1	5/18/23 15:56	
o-Xylene	ND	U	0.000555	0.00432	mg/kg	1	5/18/23 15:56	
Styrene	ND	U	0.000618	0.00432	mg/kg	1	5/18/23 15:56	
tert-Butyl alcohol	ND	U	0.00907	0.0432	mg/kg	1	5/18/23 15:56	
Tetrachloroethene	ND	U	0.000428	0.00432	mg/kg	1	5/18/23 15:56	
Toluene	ND	U	0.000348	0.00432	mg/kg	1	5/18/23 15:56	
Total Xylenes	ND	U	0.000555	0.00432	mg/kg	1	5/18/23 15:56	
trans-1,2-Dichloroethene	ND	U	0.000585	0.00432	mg/kg	1	5/18/23 15:56	
trans-1,3-Dichloropropene	ND	U	0.000825	0.00432	mg/kg	1	5/18/23 15:56	
Trichloroethene	ND	U	0.000635	0.00432	mg/kg	1	5/18/23 15:56	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000497	0.00432	mg/kg	1	5/18/23 15:56	
Vinyl chloride	ND	U	0.000821	0.00432	mg/kg	1	5/18/23 15:56	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-02 (Soil) Sample Name: **OH-SB-34_2.0-3.0_20230513** Collected: **5/13/2023 11:15:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.8**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.818**		**0.00955**	**0.0802**	**mg/kg**	**1**	**5/16/23 15:57**

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00533	0.0397	mg/kg	1	5/22/23 19:09	UJ, RC:3L
Aroclor-1221	ND	U	0.0105	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1232	ND	U	0.0133	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1242	ND	U	0.00781	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1248	ND	U	0.00817	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1254	ND	U	0.00641	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1260	ND	U	0.00498	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1262	ND	U	0.0107	0.0397	mg/kg	1	5/22/23 19:09	
Aroclor-1268	ND	U	0.00481	0.0397	mg/kg	1	5/22/23 19:09	
Total PCBs	ND	U	0.00371	0.0397	mg/kg	1	5/22/23 19:09	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0118	0.120	mg/kg	1	5/27/23 11:56	UJ, RC:3L
2,4-D	ND	U	0.0200	0.120	mg/kg	1	5/27/23 11:56	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0674**		**0.00602**	**0.0241**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2050**		**0.183**	**3.09**	**mg/kg**	**1**	**5/30/23 9:53**
Antimony	**1.79**		**0.168**	**1.54**	**mg/kg**	**1**	**5/30/23 9:53**
Arsenic	**3.73**		**0.110**	**1.54**	**mg/kg**	**1**	**5/30/23 9:53**
Barium	**154**		**0.0467**	**0.617**	**mg/kg**	**1**	**5/30/23 9:53**
Beryllium	**0.825**		**0.00358**	**0.0309**	**mg/kg**	**1**	**5/30/23 9:53**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	ND	U	0.0602	0.309	mg/kg	1	5/30/23 9:53	
Calcium	**13300**		**3.47**	**30.9**	**mg/kg**	**1**	**5/30/23 9:53**	
Chromium	**21.1**		**0.0349**	**0.309**	**mg/kg**	**1**	**5/30/23 9:53**	
Cobalt	**10.6**		**0.0316**	**0.247**	**mg/kg**	**1**	**5/30/23 9:53**	
Copper	**30.9**		**0.0864**	**0.309**	**mg/kg**	**1**	**5/30/23 9:53**	
Iron	**6640**		**0.875**	**6.17**	**mg/kg**	**1**	**5/30/23 9:53**	
Lead	**625**		**0.129**	**1.54**	**mg/kg**	**1**	**5/30/23 9:53**	
Magnesium	**575**		**10.9**	**61.7**	**mg/kg**	**1**	**5/30/23 9:53**	
Manganese	**40.5**		**0.0384**	**0.309**	**mg/kg**	**1**	**5/30/23 9:53**	
Nickel	**8.52**		**0.0271**	**0.154**	**mg/kg**	**1**	**5/30/23 9:53**	
Potassium	**614**		**36.7**	**123**	**mg/kg**	**1**	**5/30/23 9:53**	
Selenium	ND	U	0.296	1.54	mg/kg	1	5/30/23 9:53	
Silver	ND	U	0.0525	0.185	mg/kg	1	5/30/23 9:53	R, RC:6L
Sodium	**1240**		**5.89**	**61.7**	**mg/kg**	**1**	**5/30/23 9:53**	
Thallium	ND	U	0.104	1.54	mg/kg	1	5/30/23 9:53	
Vanadium	**15.8**		**0.0710**	**0.617**	**mg/kg**	**1**	**5/30/23 9:53**	
Zinc	**45.1**		**0.0943**	**0.926**	**mg/kg**	**1**	**5/30/23 9:53**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000716	0.00157	mg/kg	1	5/18/23 22:06	
4,4'-DDE	ND	U	0.000856	0.00157	mg/kg	1	5/18/23 22:06	
4,4'-DDT	ND	U	0.00111	0.00157	mg/kg	1	5/18/23 22:06	
Aldrin	ND	U	0.000742	0.00157	mg/kg	1	5/18/23 22:06	
alpha-BHC	ND	U	0.000466	0.00157	mg/kg	1	5/18/23 22:06	
beta-BHC	ND	U	0.000748	0.00157	mg/kg	1	5/18/23 22:06	
Chlordane	ND	U	0.000696	0.00157	mg/kg	1	5/18/23 22:06	
delta-BHC	ND	U	0.000727	0.00157	mg/kg	1	5/18/23 22:06	
Dieldrin	ND	U	0.000819	0.00157	mg/kg	1	5/18/23 22:06	
Endosulfan I	ND	U	0.000739	0.00157	mg/kg	1	5/18/23 22:06	
Endosulfan II	ND	U	0.000712	0.00157	mg/kg	1	5/18/23 22:06	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000589	0.00157	mg/kg	1	5/18/23 22:06	
Endosulfans, Total (alpha and beta)	ND	U	0.000712	0.00157	mg/kg	1	5/18/23 22:06	
Endrin	ND	U	0.000541	0.00157	mg/kg	1	5/18/23 22:06	
Endrin aldehyde	ND	U	0.000624	0.00157	mg/kg	1	5/18/23 22:06	
Endrin ketone	ND	U	0.000551	0.00157	mg/kg	1	5/18/23 22:06	
gamma-BHC (Lindane)	ND	U	0.000496	0.00157	mg/kg	1	5/18/23 22:06	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000419	0.00157	mg/kg	1	5/18/23 22:06
Heptachlor Epoxide	ND	U	0.000790	0.00157	mg/kg	1	5/18/23 22:06
Methoxychlor	ND	U	0.000459	0.00157	mg/kg	1	5/18/23 22:06
Toxaphene	ND	U	0.0754	0.0795	mg/kg	1	5/18/23 22:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00453	0.0401	mg/kg	1	5/19/23 20:33	
2,3,4,6-Tetrachlorophenol	ND	U	0.0247	0.160	mg/kg	1	5/19/23 20:33	
2,4,5-Trichlorophenol	ND	U	0.0218	0.160	mg/kg	1	5/19/23 20:33	
2,4,6-Trichlorophenol	ND	U	0.0100	0.160	mg/kg	1	5/19/23 20:33	
2,4-Dichlorophenol	ND	U	0.0161	0.160	mg/kg	1	5/19/23 20:33	
2,4-Dimethylphenol	ND	U	0.0158	0.160	mg/kg	1	5/19/23 20:33	
2,4-Dinitrophenol	ND	U	0.0231	0.803	mg/kg	1	5/19/23 20:33	
2,4-Dinitrotoluene	ND	U	0.0171	0.160	mg/kg	1	5/19/23 20:33	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0383	0.160	mg/kg	1	5/19/23 20:33	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0184	0.160	mg/kg	1	5/19/23 20:33	
2-Chlorophenol	ND	U	0.0212	0.160	mg/kg	1	5/19/23 20:33	
2-Methylnaphthalene	ND	U	0.0384	0.241	mg/kg	1	5/19/23 20:33	
2-Methylphenol	ND	U	0.0317	0.160	mg/kg	1	5/19/23 20:33	
2-Nitroaniline	ND	U	0.0129	0.160	mg/kg	1	5/19/23 20:33	
2-Nitrophenol	ND	U	0.0178	0.160	mg/kg	1	5/19/23 20:33	
3,3'-Dichlorobenzidine	ND	U	0.0169	0.160	mg/kg	1	5/19/23 20:33	
3+4-Methylphenol	ND	U	0.0294	0.160	mg/kg	1	5/19/23 20:33	
3-Nitroaniline	ND	U	0.0297	0.160	mg/kg	1	5/19/23 20:33	
4,6-Dinitro-2-methylphenol	ND	U	0.0302	0.401	mg/kg	1	5/19/23 20:33	
4-Bromophenyl-phenyl ether	ND	U	0.0229	0.160	mg/kg	1	5/19/23 20:33	
4-Chloro-3-methylphenol	ND	U	0.0253	0.160	mg/kg	1	5/19/23 20:33	
4-Chloroaniline	ND	U	0.00561	0.160	mg/kg	1	5/19/23 20:33	
4-Chlorophenyl phenyl ether	ND	U	0.00866	0.160	mg/kg	1	5/19/23 20:33	
4-Nitroaniline	ND	U	0.0802	0.160	mg/kg	1	5/19/23 20:33	
4-Nitrophenol	ND	U	0.0103	0.160	mg/kg	1	5/19/23 20:33	
Acenaphthene	**0.0562**	J	**0.00914**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**	
Acenaphthylene	**0.0814**	J	**0.00557**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**	
Acetophenone	ND	U	0.0159	0.160	mg/kg	1	5/19/23 20:33	
Anthracene	**0.232**		**0.0232**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**	
Atrazine	ND	U	0.0151	0.160	mg/kg	1	5/19/23 20:33	
Benzaldehyde	ND	U	0.0492	0.160	mg/kg	1	5/19/23 20:33	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	**0.916**		**0.0161**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Benzo(a)pyrene	**0.886**		**0.0279**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Benzo(b)fluoranthene	**0.867**		**0.0225**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Benzo(g,h,i)perylene	**0.539**		**0.0130**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Benzo(k)fluoranthene	**0.559**		**0.0184**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Biphenyl	ND	U	0.0141	0.160	mg/kg	1	5/19/23 20:33
bis(2-chloroethoxy)methane	ND	U	0.0222	0.160	mg/kg	1	5/19/23 20:33
bis(2-chloroethyl)ether	ND	U	0.0176	0.160	mg/kg	1	5/19/23 20:33
bis(2-chloroisopropyl)ether	ND	U	0.0577	0.160	mg/kg	1	5/19/23 20:33
bis(2-ethylhexyl)phthalate	ND	U	0.0320	0.160	mg/kg	1	5/19/23 20:33
Butylbenzylphthalate	ND	U	0.0146	0.160	mg/kg	1	5/19/23 20:33
Caprolactam	ND	U	0.0207	0.160	mg/kg	1	5/19/23 20:33
Carbazole	ND	U	0.0308	0.401	mg/kg	1	5/19/23 20:33
Chrysene	**0.912**		**0.0110**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Dibenzo(a,h)anthracene	**0.151**	J	**0.0159**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Dibenzofuran	**0.0315**	J	**0.00955**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Diethylphthalate	ND	U	0.0311	0.160	mg/kg	1	5/19/23 20:33
Dimethylphthalate	ND	U	0.00995	0.160	mg/kg	1	5/19/23 20:33
Di-n-butylphthalate	ND	U	0.0655	0.160	mg/kg	1	5/19/23 20:33
Di-n-octylphthalate	ND	U	0.0329	0.160	mg/kg	1	5/19/23 20:33
Fluoranthene	**1.61**		**0.0151**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Fluorene	**0.0891**	J	**0.0134**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Hexachlorobenzene	ND	U	0.0210	0.160	mg/kg	1	5/19/23 20:33
Hexachlorobutadiene	ND	U	0.0769	0.160	mg/kg	1	5/19/23 20:33
Hexachlorocyclopentadiene	ND	U	0.0668	0.401	mg/kg	1	5/19/23 20:33
Hexachloroethane	ND	U	0.0176	0.160	mg/kg	1	5/19/23 20:33
Indeno(1,2,3-cd)pyrene	**0.439**		**0.0172**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Isophorone	ND	U	0.0105	0.160	mg/kg	1	5/19/23 20:33
Naphthalene	**0.0420**	J	**0.0119**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Nitrobenzene	ND	U	0.0272	0.160	mg/kg	1	5/19/23 20:33
n-Nitroso-di-n-propylamine	ND	U	0.00859	0.160	mg/kg	1	5/19/23 20:33
n-Nitrosodiphenylamine	ND	U	0.0342	0.160	mg/kg	1	5/19/23 20:33
Pentachlorophenol	ND	U	0.0220	0.401	mg/kg	1	5/19/23 20:33
Phenanthrene	**1.11**		**0.0211**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**
Phenol	ND	U	0.0130	0.160	mg/kg	1	5/19/23 20:33
Pyrene	**1.81**		**0.0118**	**0.160**	**mg/kg**	**1**	**5/19/23 20:33**

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MDL - Minimum detection limit, **RL** - Reporting limit
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Benzene, 1,1-(2-cyclopropen-1-ylidene)b	0.395	10.96	J	mg/kg	1	5/19/23 20:33	
Hexadecanoic acid, 1,1-dimethylethyl est	1.98	11.80	J	mg/kg	1	5/19/23 20:33	
Octadecanoic acid, butyl ester	~~0.897~~	12.58	J, B	mg/kg	1	5/19/23 20:33	R, RC:2
unknown (01)	0.380	11.00	J	mg/kg	1	5/19/23 20:33	
unknown (02)	0.395	11.08	J	mg/kg	1	5/19/23 20:33	
unknown (03)	0.871	15.29	J	mg/kg	1	5/19/23 20:33	
TIC Total	~~4.91~~ 4.013						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000651	0.00446	mg/kg	1	5/18/23 16:26	
1,1,2,2-Tetrachloroethane	ND	U	0.000615	0.00446	mg/kg	1	5/18/23 16:26	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00191	0.00446	mg/kg	1	5/18/23 16:26	
1,1,2-Trichloroethane	ND	U	0.000751	0.00446	mg/kg	1	5/18/23 16:26	
1,1-Dichloroethane	ND	U	0.000651	0.00446	mg/kg	1	5/18/23 16:26	
1,1-Dichloroethene	ND	U	0.000825	0.00446	mg/kg	1	5/18/23 16:26	
1,2,3-Trichlorobenzene	ND	U	0.000963	0.00446	mg/kg	1	5/18/23 16:26	
1,2,4-Trichlorobenzene	ND	U	0.00119	0.00446	mg/kg	1	5/18/23 16:26	
1,2,4-Trimethylbenzene	ND	U	0.000615	0.00446	mg/kg	1	5/18/23 16:26	
1,2-Dibromo-3-chloropropane	ND	U	0.00109	0.0111	mg/kg	1	5/18/23 16:26	
1,2-Dibromoethane	ND	U	0.000562	0.00446	mg/kg	1	5/18/23 16:26	
1,2-Dichlorobenzene	ND	U	0.000787	0.00446	mg/kg	1	5/18/23 16:26	
1,2-Dichloroethane	ND	U	0.000629	0.00446	mg/kg	1	5/18/23 16:26	
1,2-Dichloropropane	ND	U	0.000731	0.00446	mg/kg	1	5/18/23 16:26	
1,3-Dichlorobenzene	ND	U	0.000328	0.00446	mg/kg	1	5/18/23 16:26	
1,4-Dichlorobenzene	ND	U	0.000642	0.00446	mg/kg	1	5/18/23 16:26	
2-Butanone	ND	U	0.000727	0.0223	mg/kg	1	5/18/23 16:26	UJ, RC:SL
2-Hexanone	ND	U	0.000417	0.00446	mg/kg	1	5/18/23 16:26	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000557	0.00446	mg/kg	1	5/18/23 16:26	
Acetone	ND	U	0.00135	0.111	mg/kg	1	5/18/23 16:26	UJ, RC:SL
Benzene	ND	U	0.000406	0.00446	mg/kg	1	5/18/23 16:26	
Bromochloromethane	ND	U	0.000823	0.00446	mg/kg	1	5/18/23 16:26	
Bromodichloromethane	ND	U	0.000560	0.00446	mg/kg	1	5/18/23 16:26	
Bromoform	ND	U	0.000783	0.00446	mg/kg	1	5/18/23 16:26	
Bromomethane	ND	U	0.00129	0.00446	mg/kg	1	5/18/23 16:26	
Carbon disulfide	ND	U	0.000640	0.00446	mg/kg	1	5/18/23 16:26	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Carbon Tetrachloride	ND	U	0.000671	0.00446	mg/kg	1	5/18/23 16:26	
Chlorobenzene	ND	U	0.000647	0.00446	mg/kg	1	5/18/23 16:26	
Chlorodibromomethane	ND	U	0.000549	0.00446	mg/kg	1	5/18/23 16:26	
Chloroethane	ND	U	0.000760	0.00446	mg/kg	1	5/18/23 16:26	
Chloroform	ND	U	0.000749	0.00446	mg/kg	1	5/18/23 16:26	
Chloromethane	ND	U	0.00172	0.00446	mg/kg	1	5/18/23 16:26	
cis-1,2-Dichloroethene	ND	U	0.000216	0.00446	mg/kg	1	5/18/23 16:26	
cis-1,3-Dichloropropene	ND	U	0.000564	0.00446	mg/kg	1	5/18/23 16:26	
Cyclohexane	ND	U	0.000988	0.00446	mg/kg	1	5/18/23 16:26	
Dichlorodifluoromethane	ND	U	0.00151	0.00446	mg/kg	1	5/18/23 16:26	
EthylBenzene	ND	U	0.000604	0.00446	mg/kg	1	5/18/23 16:26	
Isopropylbenzene	ND	U	0.000700	0.00446	mg/kg	1	5/18/23 16:26	
m+p-Xylenes	ND	U	0.00113	0.00892	mg/kg	1	5/18/23 16:26	
Methyl Acetate	ND	U	0.000591	0.00446	mg/kg	1	5/18/23 16:26	
Methyl tert-Butyl Ether	ND	U	0.000754	0.00446	mg/kg	1	5/18/23 16:26	
Methylcyclohexane	ND	U	0.000718	0.00446	mg/kg	1	5/18/23 16:26	
Methylene Chloride	ND	U	0.00134	0.0111	mg/kg	1	5/18/23 16:26	
o-Xylene	ND	U	0.000573	0.00446	mg/kg	1	5/18/23 16:26	
Styrene	ND	U	0.000638	0.00446	mg/kg	1	5/18/23 16:26	
tert-Butyl alcohol	ND	U	0.00937	0.0446	mg/kg	1	5/18/23 16:26	
Tetrachloroethene	**0.00670**		**0.000441**	**0.00446**	**mg/kg**	**1**	**5/18/23 16:26**	
Toluene	ND	U	0.000359	0.00446	mg/kg	1	5/18/23 16:26	
Total Xylenes	ND	U	0.000573	0.00446	mg/kg	1	5/18/23 16:26	
trans-1,2-Dichloroethene	ND	U	0.000604	0.00446	mg/kg	1	5/18/23 16:26	
trans-1,3-Dichloropropene	ND	U	0.000852	0.00446	mg/kg	1	5/18/23 16:26	
Trichloroethene	ND	U	0.000656	0.00446	mg/kg	1	5/18/23 16:26	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000513	0.00446	mg/kg	1	5/18/23 16:26	
Vinyl chloride	ND	U	0.000847	0.00446	mg/kg	1	5/18/23 16:26	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**83.1**				**%**	**1**	**5/16/23 10:58**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-03 (Soil) Sample Name: **OH-SB-33_1.0-2.0_20230513** Collected: **5/13/2023 11:55:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.604**		**0.00843**	**0.0708**	**mg/kg**	**1**	**5/16/23 15:57**

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513** Collected: **5/13/2023 12:15:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00574	0.0428	mg/kg	1	5/22/23 19:31	UJ, RC:3L
Aroclor-1221	ND	U	0.0113	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1232	ND	U	0.0144	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1242	ND	U	0.00842	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1248	ND	U	0.00880	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1254	ND	U	0.00691	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1260	ND	U	0.00536	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1262	ND	U	0.0115	0.0428	mg/kg	1	5/22/23 19:31	
Aroclor-1268	ND	U	0.00518	0.0428	mg/kg	1	5/22/23 19:31	
Total PCBs	ND	U	0.00400	0.0428	mg/kg	1	5/22/23 19:31	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0127	0.130	mg/kg	1	5/27/23 12:20
2,4-D	ND	U	0.0215	0.130	mg/kg	1	5/27/23 12:20

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.04**		**0.00649**	**0.0260**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4380**		**0.187**	**3.15**	**mg/kg**	**1**	**5/30/23 9:56**
Antimony	**2.12**		**0.172**	**1.57**	**mg/kg**	**1**	**5/30/23 9:56**
Arsenic	**19.5**		**0.112**	**1.57**	**mg/kg**	**1**	**5/30/23 9:56**
Barium	**577**	D	**0.476**	**6.30**	**mg/kg**	**10**	**5/30/23 13:00**
Beryllium	**1.69**		**0.00365**	**0.0315**	**mg/kg**	**1**	**5/30/23 9:56**
Cadmium	**0.321**		**0.0614**	**0.315**	**mg/kg**	**1**	**5/30/23 9:56**
Calcium	**4530**		**3.54**	**31.5**	**mg/kg**	**1**	**5/30/23 9:56**
Chromium	**72.4**		**0.0356**	**0.315**	**mg/kg**	**1**	**5/30/23 9:56**
Cobalt	**7.18**		**0.0322**	**0.252**	**mg/kg**	**1**	**5/30/23 9:56**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513** Collected: **5/13/2023 12:15:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Copper	**97.6**		**0.0881**	**0.315**	**mg/kg**	**1**	**5/30/23 9:56**	
Iron	**13600**		**0.892**	**6.30**	**mg/kg**	**1**	**5/30/23 9:56**	
Lead	**1260**		**0.131**	**1.57**	**mg/kg**	**1**	**5/30/23 9:56**	
Magnesium	**467**		**11.1**	**63.0**	**mg/kg**	**1**	**5/30/23 9:56**	
Manganese	**43.5**		**0.0392**	**0.315**	**mg/kg**	**1**	**5/30/23 9:56**	
Nickel	**13.3**		**0.0277**	**0.157**	**mg/kg**	**1**	**5/30/23 9:56**	
Potassium	**794**		**37.5**	**126**	**mg/kg**	**1**	**5/30/23 9:56**	
Selenium	**5.83**		**0.302**	**1.57**	**mg/kg**	**1**	**5/30/23 9:56**	
Silver	ND	U	0.0536	0.189	mg/kg	1	5/30/23 9:56	R, RC:6L
Sodium	**2050**		**6.01**	**63.0**	**mg/kg**	**1**	**5/30/23 9:56**	
Thallium	ND	U	0.106	1.57	mg/kg	1	5/30/23 9:56	
Vanadium	**20.4**		**0.0724**	**0.630**	**mg/kg**	**1**	**5/30/23 9:56**	
Zinc	**48.5**		**0.0962**	**0.945**	**mg/kg**	**1**	**5/30/23 9:56**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000772	0.00169	mg/kg	1	5/18/23 22:28	
4,4'-DDE	ND	U	0.000923	0.00169	mg/kg	1	5/18/23 22:28	
4,4'-DDT	ND	U	0.00119	0.00169	mg/kg	1	5/18/23 22:28	
Aldrin	ND	U	0.000799	0.00169	mg/kg	1	5/18/23 22:28	
alpha-BHC	ND	U	0.000502	0.00169	mg/kg	1	5/18/23 22:28	
beta-BHC	ND	U	0.000806	0.00169	mg/kg	1	5/18/23 22:28	
Chlordane	ND	U	0.000750	0.00169	mg/kg	1	5/18/23 22:28	
delta-BHC	ND	U	0.000784	0.00169	mg/kg	1	5/18/23 22:28	
Dieldrin	ND	U	0.000882	0.00169	mg/kg	1	5/18/23 22:28	
Endosulfan I	ND	U	0.000797	0.00169	mg/kg	1	5/18/23 22:28	
Endosulfan II	ND	U	0.000767	0.00169	mg/kg	1	5/18/23 22:28	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000635	0.00169	mg/kg	1	5/18/23 22:28	
Endosulfans, Total (alpha and beta)	ND	U	0.000767	0.00169	mg/kg	1	5/18/23 22:28	
Endrin	ND	U	0.000583	0.00169	mg/kg	1	5/18/23 22:28	
Endrin aldehyde	ND	U	0.000672	0.00169	mg/kg	1	5/18/23 22:28	
Endrin ketone	ND	U	0.000594	0.00169	mg/kg	1	5/18/23 22:28	
gamma-BHC (Lindane)	ND	U	0.000535	0.00169	mg/kg	1	5/18/23 22:28	
Heptachlor	ND	U	0.000452	0.00169	mg/kg	1	5/18/23 22:28	
Heptachlor Epoxide	ND	U	0.000851	0.00169	mg/kg	1	5/18/23 22:28	
Methoxychlor	ND	U	0.000494	0.00169	mg/kg	1	5/18/23 22:28	
Toxaphene	ND	U	0.0813	0.0856	mg/kg	1	5/18/23 22:28	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513** Collected: **5/13/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00488	0.0432	mg/kg	1	5/19/23 21:05	
2,3,4,6-Tetrachlorophenol	ND	U	0.0266	0.173	mg/kg	1	5/19/23 21:05	
2,4,5-Trichlorophenol	ND	U	0.0235	0.173	mg/kg	1	5/19/23 21:05	
2,4,6-Trichlorophenol	ND	U	0.0108	0.173	mg/kg	1	5/19/23 21:05	
2,4-Dichlorophenol	ND	U	0.0174	0.173	mg/kg	1	5/19/23 21:05	
2,4-Dimethylphenol	ND	U	0.0170	0.173	mg/kg	1	5/19/23 21:05	
2,4-Dinitrophenol	ND	U	0.0249	0.866	mg/kg	1	5/19/23 21:05	
2,4-Dinitrotoluene	ND	U	0.0184	0.173	mg/kg	1	5/19/23 21:05	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0413	0.173	mg/kg	1	5/19/23 21:05	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0199	0.173	mg/kg	1	5/19/23 21:05	
2-Chlorophenol	ND	U	0.0228	0.173	mg/kg	1	5/19/23 21:05	
2-Methylnaphthalene	**0.283**		**0.0414**	**0.260**	**mg/kg**	**1**	**5/19/23 21:05**	
2-Methylphenol	ND	U	0.0341	0.173	mg/kg	1	5/19/23 21:05	
2-Nitroaniline	ND	U	0.0139	0.173	mg/kg	1	5/19/23 21:05	
2-Nitrophenol	ND	U	0.0192	0.173	mg/kg	1	5/19/23 21:05	
3,3'-Dichlorobenzidine	ND	U	0.0182	0.173	mg/kg	1	5/19/23 21:05	
3+4-Methylphenol	ND	U	0.0317	0.173	mg/kg	1	5/19/23 21:05	
3-Nitroaniline	ND	U	0.0321	0.173	mg/kg	1	5/19/23 21:05	
4,6-Dinitro-2-methylphenol	ND	U	0.0326	0.432	mg/kg	1	5/19/23 21:05	
4-Bromophenyl-phenyl ether	ND	U	0.0247	0.173	mg/kg	1	5/19/23 21:05	
4-Chloro-3-methylphenol	ND	U	0.0273	0.173	mg/kg	1	5/19/23 21:05	
4-Chloroaniline	ND	U	0.00605	0.173	mg/kg	1	5/19/23 21:05	
4-Chlorophenyl phenyl ether	ND	U	0.00933	0.173	mg/kg	1	5/19/23 21:05	
4-Nitroaniline	ND	U	0.0864	0.173	mg/kg	1	5/19/23 21:05	
4-Nitrophenol	ND	U	0.0111	0.173	mg/kg	1	5/19/23 21:05	
Acenaphthene	**0.159**	J	**0.00985**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Acenaphthylene	**0.0817**	J	**0.00601**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Acetophenone	ND	U	0.0171	0.173	mg/kg	1	5/19/23 21:05	
Anthracene	**0.316**		**0.0250**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Atrazine	ND	U	0.0162	0.173	mg/kg	1	5/19/23 21:05	
Benzaldehyde	ND	U	0.0531	0.173	mg/kg	1	5/19/23 21:05	
Benzo(a)anthracene	**1.37**		**0.0174**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Benzo(a)pyrene	**1.31**		**0.0301**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Benzo(b)fluoranthene	**1.45**		**0.0243**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Benzo(g,h,i)perylene	**0.843**		**0.0140**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Benzo(k)fluoranthene	**0.449**		**0.0199**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**	
Biphenyl	ND	U	0.0152	0.173	mg/kg	1	5/19/23 21:05	
bis(2-chloroethoxy)methane	ND	U	0.0239	0.173	mg/kg	1	5/19/23 21:05	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_2023 0513** Collected: **5/13/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0189	0.173	mg/kg	1	5/19/23 21:05
bis(2-chloroisopropyl)ether	ND	U	0.0622	0.173	mg/kg	1	5/19/23 21:05
bis(2-ethylhexyl)phthalate	ND	U	0.0345	0.173	mg/kg	1	5/19/23 21:05
Butylbenzylphthalate	ND	U	0.0157	0.173	mg/kg	1	5/19/23 21:05
Caprolactam	ND	U	0.0223	0.173	mg/kg	1	5/19/23 21:05
Carbazole	ND	U	0.0332	0.432	mg/kg	1	5/19/23 21:05
Chrysene	**1.48**		**0.0118**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Dibenzo(a,h)anthracene	**0.251**		**0.0171**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Dibenzofuran	**0.123**	J	**0.0103**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Diethylphthalate	ND	U	0.0335	0.173	mg/kg	1	5/19/23 21:05
Dimethylphthalate	ND	U	0.0107	0.173	mg/kg	1	5/19/23 21:05
Di-n-butylphthalate	ND	U	0.0706	0.173	mg/kg	1	5/19/23 21:05
Di-n-octylphthalate	ND	U	0.0354	0.173	mg/kg	1	5/19/23 21:05
Fluoranthene	**1.99**		**0.0162**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Fluorene	**0.122**	J	**0.0144**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Hexachlorobenzene	ND	U	0.0226	0.173	mg/kg	1	5/19/23 21:05
Hexachlorobutadiene	ND	U	0.0829	0.173	mg/kg	1	5/19/23 21:05
Hexachlorocyclopentadiene	ND	U	0.0720	0.432	mg/kg	1	5/19/23 21:05
Hexachloroethane	ND	U	0.0189	0.173	mg/kg	1	5/19/23 21:05
Indeno(1,2,3-cd)pyrene	**0.658**		**0.0186**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Isophorone	ND	U	0.0113	0.173	mg/kg	1	5/19/23 21:05
Naphthalene	**0.241**		**0.0128**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Nitrobenzene	ND	U	0.0293	0.173	mg/kg	1	5/19/23 21:05
n-Nitroso-di-n-propylamine	ND	U	0.00925	0.173	mg/kg	1	5/19/23 21:05
n-Nitrosodiphenylamine	ND	U	0.0369	0.173	mg/kg	1	5/19/23 21:05
Pentachlorophenol	ND	U	0.0237	0.432	mg/kg	1	5/19/23 21:05
Phenanthrene	**1.87**		**0.0227**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**
Phenol	ND	U	0.0140	0.173	mg/kg	1	5/19/23 21:05
Pyrene	**2.74**		**0.0127**	**0.173**	**mg/kg**	**1**	**5/19/23 21:05**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
15,19-Dimethylpentatriacontane	0.451	10.25	J	mg/kg	1	5/19/23 21:05	
2-Propenedithioic acid, 3-(4-fluoropheny	0.368	9.36	J	mg/kg	1	5/19/23 21:05	
Benzene, 1,1-(1,3-butadienylidene)bis-	0.519	11.47	J	mg/kg	1	5/19/23 21:05	
Hexadecanoic acid, butyl ester	~~3.17~~	11.80	J, B	mg/kg	1	5/19/23 21:05	R, RC:2
Naphthalene, 1,4-dimethyl-	0.641	8.60	J	mg/kg	1	5/19/23 21:05	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513** Collected: **5/13/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1-hexyl-	0.403	8.00	J	mg/kg	1	5/19/23 21:05
Naphtho[2,3-b]norbornadiene	0.591	10.96	J	mg/kg	1	5/19/23 21:05
Octadecanoic acid, 2-methylpropyl ester	1.16	12.58	J	mg/kg	1	5/19/23 21:05
Tetradecane	0.824	9.81	J	mg/kg	1	5/19/23 21:05
unknown (01)	0.799	10.99	J	mg/kg	1	5/19/23 21:05
unknown (02)	0.813	11.08	J	mg/kg	1	5/19/23 21:05
unknown (03)	0.616	11.51	J	mg/kg	1	5/19/23 21:05
unknown (04)	0.367	12.30	J	mg/kg	1	5/19/23 21:05
unknown (05)	0.407	13.85	J	mg/kg	1	5/19/23 21:05
unknown (06)	1.38	15.29	J	mg/kg	1	5/19/23 21:05
TIC Total	~~12.5~~ 9.33					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000474	0.00324	mg/kg	1	5/18/23 16:55	
1,1,2,2-Tetrachloroethane	ND	U	0.000448	0.00324	mg/kg	1	5/18/23 16:55	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00139	0.00324	mg/kg	1	5/18/23 16:55	
1,1,2-Trichloroethane	ND	U	0.000547	0.00324	mg/kg	1	5/18/23 16:55	
1,1-Dichloroethane	ND	U	0.000474	0.00324	mg/kg	1	5/18/23 16:55	
1,1-Dichloroethene	ND	U	0.000600	0.00324	mg/kg	1	5/18/23 16:55	
1,2,3-Trichlorobenzene	ND	U	0.000701	0.00324	mg/kg	1	5/18/23 16:55	
1,2,4-Trichlorobenzene	ND	U	0.000865	0.00324	mg/kg	1	5/18/23 16:55	
1,2,4-Trimethylbenzene	ND	U	0.000448	0.00324	mg/kg	1	5/18/23 16:55	
1,2-Dibromo-3-chloropropane	ND	U	0.000792	0.00811	mg/kg	1	5/18/23 16:55	
1,2-Dibromoethane	ND	U	0.000409	0.00324	mg/kg	1	5/18/23 16:55	
1,2-Dichlorobenzene	ND	U	0.000573	0.00324	mg/kg	1	5/18/23 16:55	
1,2-Dichloroethane	ND	U	0.000457	0.00324	mg/kg	1	5/18/23 16:55	
1,2-Dichloropropane	ND	U	0.000532	0.00324	mg/kg	1	5/18/23 16:55	
1,3-Dichlorobenzene	ND	U	0.000238	0.00324	mg/kg	1	5/18/23 16:55	
1,4-Dichlorobenzene	ND	U	0.000467	0.00324	mg/kg	1	5/18/23 16:55	
2-Butanone	ND	U	0.000529	0.0162	mg/kg	1	5/18/23 16:55	UJ, RC:SL
2-Hexanone	ND	U	0.000303	0.00324	mg/kg	1	5/18/23 16:55	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000406	0.00324	mg/kg	1	5/18/23 16:55	
Acetone	ND	U	0.000983	0.0811	mg/kg	1	5/18/23 16:55	UJ, RC:SL
Benzene	ND	U	0.000295	0.00324	mg/kg	1	5/18/23 16:55	
Bromochloromethane	ND	U	0.000599	0.00324	mg/kg	1	5/18/23 16:55	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513** Collected: **5/13/2023 12:15:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromodichloromethane	ND	U	0.000407	0.00324	mg/kg	1	5/18/23 16:55	
Bromoform	ND	U	0.000569	0.00324	mg/kg	1	5/18/23 16:55	
Bromomethane	ND	U	0.000936	0.00324	mg/kg	1	5/18/23 16:55	
Carbon disulfide	ND	U	0.000466	0.00324	mg/kg	1	5/18/23 16:55	
Carbon Tetrachloride	ND	U	0.000488	0.00324	mg/kg	1	5/18/23 16:55	
Chlorobenzene	ND	U	0.000470	0.00324	mg/kg	1	5/18/23 16:55	
Chlorodibromomethane	ND	U	0.000399	0.00324	mg/kg	1	5/18/23 16:55	
Chloroethane	ND	U	0.000553	0.00324	mg/kg	1	5/18/23 16:55	
Chloroform	ND	U	0.000545	0.00324	mg/kg	1	5/18/23 16:55	
Chloromethane	**0.121**		**0.00125**	**0.00324**	**mg/kg**	**1**	**5/18/23 16:55**	
cis-1,2-Dichloroethene	ND	U	0.000157	0.00324	mg/kg	1	5/18/23 16:55	
cis-1,3-Dichloropropene	ND	U	0.000410	0.00324	mg/kg	1	5/18/23 16:55	
Cyclohexane	ND	U	0.000719	0.00324	mg/kg	1	5/18/23 16:55	
Dichlorodifluoromethane	ND	U	0.00109	0.00324	mg/kg	1	5/18/23 16:55	
EthylBenzene	ND	U	0.000440	0.00324	mg/kg	1	5/18/23 16:55	
Isopropylbenzene	ND	U	0.000509	0.00324	mg/kg	1	5/18/23 16:55	
m+p-Xylenes	ND	U	0.000819	0.00649	mg/kg	1	5/18/23 16:55	
Methyl Acetate	ND	U	0.000430	0.00324	mg/kg	1	5/18/23 16:55	
Methyl tert-Butyl Ether	ND	U	0.000548	0.00324	mg/kg	1	5/18/23 16:55	
Methylcyclohexane	ND	U	0.000522	0.00324	mg/kg	1	5/18/23 16:55	
Methylene Chloride	ND	U	0.000975	0.00811	mg/kg	1	5/18/23 16:55	
o-Xylene	ND	U	0.000417	0.00324	mg/kg	1	5/18/23 16:55	
Styrene	ND	U	0.000464	0.00324	mg/kg	1	5/18/23 16:55	
tert-Butyl alcohol	ND	U	0.00681	0.0324	mg/kg	1	5/18/23 16:55	
Tetrachloroethene	ND	U	0.000321	0.00324	mg/kg	1	5/18/23 16:55	
Toluene	ND	U	0.000261	0.00324	mg/kg	1	5/18/23 16:55	
Total Xylenes	ND	U	0.000417	0.00324	mg/kg	1	5/18/23 16:55	
trans-1,2-Dichloroethene	ND	U	0.000440	0.00324	mg/kg	1	5/18/23 16:55	
trans-1,3-Dichloropropene	ND	U	0.000620	0.00324	mg/kg	1	5/18/23 16:55	
Trichloroethene	ND	U	0.000477	0.00324	mg/kg	1	5/18/23 16:55	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000373	0.00324	mg/kg	1	5/18/23 16:55	
Vinyl chloride	ND	U	0.000616	0.00324	mg/kg	1	5/18/23 16:55	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.0577	3.98	J	mg/kg	1	5/18/23 16:55
TIC Total	**0.058**					

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-04 (Soil) Sample Name: **OH-SB-33_3.5-4_20230513** Collected: **5/13/2023 12:15:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**77.1**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00856	0.0719	mg/kg	1	5/16/23 15:57

23E0721-05 (Ground Water) Sample Name: **FB_20230513** Collected: **5/13/2023 12:45:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/18/23 16:56
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/18/23 16:56
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/18/23 16:56
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/18/23 16:56
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/18/23 16:56
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/18/23 16:56
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/18/23 16:56
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/18/23 16:56
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/18/23 16:56
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/18/23 16:56

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/8/23 12:16
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/8/23 12:16
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/8/23 12:16

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/17/23 15:57

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/24/23 13:02
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/24/23 13:02
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/24/23 13:02
Barium	ND	U	0.000558	0.0200	mg/L	1	5/24/23 13:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-05 (Ground Water) Sample Name: **FB_20230513** Collected: **5/13/2023 12:45:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/24/23 13:02	
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/24/23 13:02	
Calcium	ND	U	0.256	1.00	mg/L	1	5/24/23 13:02	
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/24/23 13:02	
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/24/23 13:02	
Copper	ND	U	0.00177	0.0100	mg/L	1	5/24/23 13:02	
Iron	ND	U	0.0580	0.200	mg/L	1	5/24/23 13:02	
Lead	ND	U	0.00510	0.0500	mg/L	1	5/24/23 13:02	
Magnesium	ND	U	0.681	2.00	mg/L	1	5/24/23 13:02	
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/24/23 13:02	
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/24/23 13:02	
Potassium	ND	U	2.41	4.00	mg/L	1	5/24/23 13:02	
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/24/23 13:02	
Silver	ND	U	0.00465	0.0200	mg/L	1	5/24/23 13:02	UJ, RC:6L
Sodium	ND	U	0.205	2.00	mg/L	1	5/24/23 13:02	
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/24/23 13:02	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/24/23 13:02	
Zinc	**0.0308**		**0.00144**	**0.0300**	**mg/L**	**1**	**5/24/23 13:02**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/16/23 20:26	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/16/23 20:26	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/16/23 20:26	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/16/23 20:26	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/16/23 20:26	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/16/23 20:26	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/16/23 20:26	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/16/23 20:26	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/16/23 20:26	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/16/23 20:26	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/16/23 20:26	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/16/23 20:26	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/16/23 20:26	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/16/23 20:26	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/16/23 20:26	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/16/23 20:26	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/16/23 20:26	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/16/23 20:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-05 (Ground Water) Sample Name: **FB_20230513** Collected: **5/13/2023 12:45:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/16/23 20:26
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/16/23 20:26

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/22/23 19:29
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/22/23 19:29
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/22/23 19:29
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/22/23 19:29
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/22/23 19:29
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/22/23 19:29
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/22/23 19:29
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/22/23 19:29
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/22/23 19:29
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/22/23 19:29
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/22/23 19:29
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/22/23 19:29
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/22/23 19:29
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/22/23 19:29
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/22/23 19:29
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/22/23 19:29
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/22/23 19:29
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/22/23 19:29
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/22/23 19:29
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/22/23 19:29
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/22/23 19:29
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/22/23 19:29
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/22/23 19:29
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/22/23 19:29
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/22/23 19:29
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/22/23 19:29
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/22/23 19:29
Anthracene	ND	U	0.121	2.00	ug/L	1	5/22/23 19:29
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/22/23 19:29
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/22/23 19:29
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/22/23 19:29
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/22/23 19:29
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/22/23 19:29
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/22/23 19:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-05 (Ground Water) Sample Name: **FB_20230513** Collected: **5/13/2023 12:45:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/22/23 19:29
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/22/23 19:29
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/22/23 19:29
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/22/23 19:29
Carbazole	ND	U	0.188	2.00	ug/L	1	5/22/23 19:29
Chrysene	ND	U	0.129	2.00	ug/L	1	5/22/23 19:29
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/22/23 19:29
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/22/23 19:29
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/22/23 19:29
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/22/23 19:29
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/22/23 19:29
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/22/23 19:29
Fluorene	ND	U	0.109	2.00	ug/L	1	5/22/23 19:29
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/22/23 19:29
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/22/23 19:29
Isophorone	ND	U	0.111	2.00	ug/L	1	5/22/23 19:29
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/22/23 19:29
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/22/23 19:29
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/22/23 19:29
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/22/23 19:29
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/22/23 19:29
Phenol	ND	U	0.0973	2.00	ug/L	1	5/22/23 19:29
Pyrene	ND	U	0.115	2.00	ug/L	1	5/22/23 19:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 20:20
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 20:20
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 20:20
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 20:20
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 20:20
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 20:20
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 20:20
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 20:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-05 (Ground Water) Sample Name: **FB_20230513** Collected: **5/13/2023 12:45:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 20:20	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/17/23 20:20	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/17/23 20:20	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/17/23 20:20	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/17/23 20:20	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/17/23 20:20	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/17/23 20:20	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/17/23 20:20	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/17/23 20:20	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/17/23 20:20	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/17/23 20:20	
Acetone	ND	U	10.0	10.0	ug/L	1	5/17/23 20:20	
Benzene	ND	U	0.129	1.00	ug/L	1	5/17/23 20:20	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/17/23 20:20	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/17/23 20:20	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/17/23 20:20	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/17/23 20:20	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/17/23 20:20	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/17/23 20:20	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/17/23 20:20	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/17/23 20:20	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/17/23 20:20	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/17/23 20:20	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/17/23 20:20	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/17/23 20:20	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/17/23 20:20	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/17/23 20:20	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/17/23 20:20	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/17/23 20:20	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/17/23 20:20	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/17/23 20:20	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/17/23 20:20	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/17/23 20:20	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/17/23 20:20	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/17/23 20:20	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/17/23 20:20	
Styrene	ND	U	0.176	1.00	ug/L	1	5/17/23 20:20	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/17/23 20:20	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/17/23 20:20	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0721
Project: Owls Head Phase 2 **Date to Lab:** 5/15/2023 3:38:00PM

23E0721-05 (Ground Water) Sample Name: **FB_20230513** Collected: **5/13/2023 12:45:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Toluene	ND	U	0.205	1.00	ug/L	1	5/17/23 20:20	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/17/23 20:20	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/17/23 20:20	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/17/23 20:20	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/17/23 20:20	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/17/23 20:20	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/17/23 20:20	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/16/23 15:32

23E0721-06 (Ground Water) Sample Name: **TB_20230513** Collected: **5/13/2023 1:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 20:50
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 20:50
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 20:50
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 20:50
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 20:50
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 20:50
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 20:50
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 20:50
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 20:50
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/17/23 20:50
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/17/23 20:50
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/17/23 20:50
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/17/23 20:50
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/17/23 20:50
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/17/23 20:50
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/17/23 20:50
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/17/23 20:50
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/17/23 20:50

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-06 (Ground Water) Sample Name: **TB_20230513** Collected: **5/13/2023 1:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/17/23 20:50	
Acetone	ND	U	10.0	10.0	ug/L	1	5/17/23 20:50	
Benzene	ND	U	0.129	1.00	ug/L	1	5/17/23 20:50	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/17/23 20:50	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/17/23 20:50	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/17/23 20:50	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/17/23 20:50	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/17/23 20:50	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/17/23 20:50	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/17/23 20:50	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/17/23 20:50	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/17/23 20:50	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/17/23 20:50	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/17/23 20:50	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/17/23 20:50	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/17/23 20:50	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/17/23 20:50	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/17/23 20:50	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/17/23 20:50	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/17/23 20:50	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/17/23 20:50	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/17/23 20:50	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/17/23 20:50	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/17/23 20:50	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/17/23 20:50	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/17/23 20:50	
Styrene	ND	U	0.176	1.00	ug/L	1	5/17/23 20:50	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/17/23 20:50	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/17/23 20:50	
Toluene	ND	U	0.205	1.00	ug/L	1	5/17/23 20:50	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/17/23 20:50	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/17/23 20:50	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/17/23 20:50	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/17/23 20:50	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/17/23 20:50	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/17/23 20:50	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates **Work Order:** 23E0721
Project: Owls Head Phase 2 **Date to Lab:** 5/15/2023 3:38:00PM

23E0721-06 (Ground Water) Sample Name: **TB_20230513** Collected: **5/13/2023 1:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515** Collected: **5/15/2023 8:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00482	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1221	ND	U	0.00948	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1232	ND	U	0.0121	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1242	ND	U	0.00706	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1248	ND	U	0.00739	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1254	ND	U	0.00580	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1260	ND	U	0.00450	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1262	ND	U	0.00967	0.0359	mg/kg	1	5/20/23 14:59
Aroclor-1268	ND	U	0.00435	0.0359	mg/kg	1	5/20/23 14:59
Total PCBs	ND	U	0.00336	0.0359	mg/kg	1	5/20/23 14:59

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0107	0.109	mg/kg	1	5/27/23 12:44	UJ, RC:3L
2,4-D	ND	U	0.0181	0.109	mg/kg	1	5/27/23 12:44	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0578**		**0.00545**	**0.0218**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8890**		**0.164**	**2.76**	**mg/kg**	**1**	**5/30/23 9:58**
Antimony	ND	U	0.151	1.38	mg/kg	1	5/30/23 9:58
Arsenic	ND	U	0.0986	1.38	mg/kg	1	5/30/23 9:58
Barium	**45.4**		**0.0418**	**0.553**	**mg/kg**	**1**	**5/30/23 9:58**
Beryllium	**1.39**		**0.00320**	**0.0276**	**mg/kg**	**1**	**5/30/23 9:58**
Cadmium	**2.72**		**0.0539**	**0.276**	**mg/kg**	**1**	**5/30/23 9:58**
Calcium	**77500**	D	**31.1**	**276**	**mg/kg**	**10**	**5/30/23 13:06**
Chromium	**14.0**		**0.0312**	**0.276**	**mg/kg**	**1**	**5/30/23 9:58**
Cobalt	**3.48**		**0.0283**	**0.221**	**mg/kg**	**1**	**5/30/23 9:58**
Copper	**4890**	D	**7.73**	**27.6**	**mg/kg**	**100**	**5/30/23 13:06**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515** Collected: **5/15/2023 8:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Iron	**10400**		**0.783**	**5.53**	**mg/kg**	**1**	**5/30/23 9:58**	
Lead	**33.6**		**0.115**	**1.38**	**mg/kg**	**1**	**5/30/23 9:58**	
Magnesium	**11300**		**9.77**	**55.3**	**mg/kg**	**1**	**5/30/23 9:58**	
Manganese	**184**		**0.0344**	**0.276**	**mg/kg**	**1**	**5/30/23 9:58**	
Nickel	**32.1**		**0.0243**	**0.138**	**mg/kg**	**1**	**5/30/23 9:58**	
Potassium	**1460**		**32.9**	**111**	**mg/kg**	**1**	**5/30/23 9:58**	
Selenium	ND	U	0.265	1.38	mg/kg	1	5/30/23 9:58	
Silver	ND	U	0.0470	0.166	mg/kg	1	5/30/23 9:58	R, RC:6L
Sodium	**2230**		**5.27**	**55.3**	**mg/kg**	**1**	**5/30/23 9:58**	
Thallium	ND	U	0.0930	1.38	mg/kg	1	5/30/23 9:58	
Vanadium	**34.0**		**0.0636**	**0.553**	**mg/kg**	**1**	**5/30/23 9:58**	
Zinc	**71.0**		**0.0844**	**0.829**	**mg/kg**	**1**	**5/30/23 9:58**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000648	0.00142	mg/kg	1	5/18/23 22:50
4,4'-DDE [2C]	**0.00136**	J	**0.000774**	**0.00142**	**mg/kg**	**1**	**5/18/23 22:50**
4,4'-DDT	ND	U	0.00100	0.00142	mg/kg	1	5/18/23 22:50
Aldrin	ND	U	0.000671	0.00142	mg/kg	1	5/18/23 22:50
alpha-BHC	ND	U	0.000422	0.00142	mg/kg	1	5/18/23 22:50
beta-BHC	ND	U	0.000676	0.00142	mg/kg	1	5/18/23 22:50
Chlordane [2C]	**0.00535**		**0.000630**	**0.00142**	**mg/kg**	**1**	**5/18/23 22:50**
delta-BHC	ND	U	0.000658	0.00142	mg/kg	1	5/18/23 22:50
Dieldrin	ND	U	0.000741	0.00142	mg/kg	1	5/18/23 22:50
Endosulfan I	ND	U	0.000669	0.00142	mg/kg	1	5/18/23 22:50
Endosulfan II	ND	U	0.000644	0.00142	mg/kg	1	5/18/23 22:50
Endosulfan sulfate	ND	U	0.000533	0.00142	mg/kg	1	5/18/23 22:50
Endosulfans, Total (alpha and beta)	ND	U	0.000644	0.00142	mg/kg	1	5/18/23 22:50
Endrin	ND	U	0.000489	0.00142	mg/kg	1	5/18/23 22:50
Endrin aldehyde	ND	U	0.000564	0.00142	mg/kg	1	5/18/23 22:50
Endrin ketone	ND	U	0.000499	0.00142	mg/kg	1	5/18/23 22:50
gamma-BHC (Lindane)	ND	U	0.000449	0.00142	mg/kg	1	5/18/23 22:50
Heptachlor	ND	U	0.000379	0.00142	mg/kg	1	5/18/23 22:50
Heptachlor Epoxide	ND	U	0.000714	0.00142	mg/kg	1	5/18/23 22:50
Methoxychlor	ND	U	0.000415	0.00142	mg/kg	1	5/18/23 22:50
Toxaphene	ND	U	0.0682	0.0719	mg/kg	1	5/18/23 22:50

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E - Concentration exceeds highest calibration standard
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515** Collected: **5/15/2023 8:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00410	0.0363	mg/kg	1	5/19/23 21:37	
2,3,4,6-Tetrachlorophenol	ND	U	0.0223	0.145	mg/kg	1	5/19/23 21:37	
2,4,5-Trichlorophenol	ND	U	0.0197	0.145	mg/kg	1	5/19/23 21:37	
2,4,6-Trichlorophenol	ND	U	0.00907	0.145	mg/kg	1	5/19/23 21:37	
2,4-Dichlorophenol	ND	U	0.0146	0.145	mg/kg	1	5/19/23 21:37	
2,4-Dimethylphenol	ND	U	0.0143	0.145	mg/kg	1	5/19/23 21:37	
2,4-Dinitrophenol	ND	U	0.0209	0.726	mg/kg	1	5/19/23 21:37	
2,4-Dinitrotoluene	ND	U	0.0155	0.145	mg/kg	1	5/19/23 21:37	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0346	0.145	mg/kg	1	5/19/23 21:37	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0167	0.145	mg/kg	1	5/19/23 21:37	
2-Chlorophenol	ND	U	0.0192	0.145	mg/kg	1	5/19/23 21:37	
2-Methylnaphthalene	ND	U	0.0347	0.218	mg/kg	1	5/19/23 21:37	
2-Methylphenol	ND	U	0.0286	0.145	mg/kg	1	5/19/23 21:37	
2-Nitroaniline	ND	U	0.0117	0.145	mg/kg	1	5/19/23 21:37	
2-Nitrophenol	ND	U	0.0161	0.145	mg/kg	1	5/19/23 21:37	
3,3'-Dichlorobenzidine	ND	U	0.0152	0.145	mg/kg	1	5/19/23 21:37	
3+4-Methylphenol	ND	U	0.0266	0.145	mg/kg	1	5/19/23 21:37	
3-Nitroaniline	ND	U	0.0269	0.145	mg/kg	1	5/19/23 21:37	
4,6-Dinitro-2-methylphenol	ND	U	0.0273	0.363	mg/kg	1	5/19/23 21:37	
4-Bromophenyl-phenyl ether	ND	U	0.0207	0.145	mg/kg	1	5/19/23 21:37	
4-Chloro-3-methylphenol	ND	U	0.0229	0.145	mg/kg	1	5/19/23 21:37	
4-Chloroaniline	ND	U	0.00508	0.145	mg/kg	1	5/19/23 21:37	
4-Chlorophenyl phenyl ether	ND	U	0.00783	0.145	mg/kg	1	5/19/23 21:37	
4-Nitroaniline	ND	U	0.0725	0.145	mg/kg	1	5/19/23 21:37	
4-Nitrophenol	ND	U	0.00928	0.145	mg/kg	1	5/19/23 21:37	
Acenaphthene	ND	U	0.00827	0.145	mg/kg	1	5/19/23 21:37	
Acenaphthylene	**0.0516**	J	**0.00504**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Acetophenone	ND	U	0.0144	0.145	mg/kg	1	5/19/23 21:37	
Anthracene	**0.0704**	J	**0.0210**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Atrazine	ND	U	0.0136	0.145	mg/kg	1	5/19/23 21:37	
Benzaldehyde	ND	U	0.0445	0.145	mg/kg	1	5/19/23 21:37	
Benzo(a)anthracene	**0.234**		**0.0146**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Benzo(a)pyrene	**0.288**		**0.0253**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Benzo(b)fluoranthene	**0.256**		**0.0204**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Benzo(g,h,i)perylene	**0.263**		**0.0118**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Benzo(k)fluoranthene	**0.0859**	J	**0.0167**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**	
Biphenyl	ND	U	0.0127	0.145	mg/kg	1	5/19/23 21:37	
bis(2-chloroethoxy)methane	ND	U	0.0200	0.145	mg/kg	1	5/19/23 21:37	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515** Collected: **5/15/2023 8:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0159	0.145	mg/kg	1	5/19/23 21:37
bis(2-chloroisopropyl)ether	ND	U	0.0522	0.145	mg/kg	1	5/19/23 21:37
bis(2-ethylhexyl)phthalate	**0.530**		**0.0290**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**
Butylbenzylphthalate	ND	U	0.0132	0.145	mg/kg	1	5/19/23 21:37
Caprolactam	ND	U	0.0187	0.145	mg/kg	1	5/19/23 21:37
Carbazole	ND	U	0.0279	0.363	mg/kg	1	5/19/23 21:37
Chrysene	**0.278**		**0.00993**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**
Dibenzo(a,h)anthracene	ND	U	0.0144	0.145	mg/kg	1	5/19/23 21:37
Dibenzofuran	ND	U	0.00864	0.145	mg/kg	1	5/19/23 21:37
Diethylphthalate	ND	U	0.0281	0.145	mg/kg	1	5/19/23 21:37
Dimethylphthalate	ND	U	0.00900	0.145	mg/kg	1	5/19/23 21:37
Di-n-butylphthalate	ND	U	0.0593	0.145	mg/kg	1	5/19/23 21:37
Di-n-octylphthalate	ND	U	0.0297	0.145	mg/kg	1	5/19/23 21:37
Fluoranthene	**0.246**		**0.0136**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**
Fluorene	ND	U	0.0121	0.145	mg/kg	1	5/19/23 21:37
Hexachlorobenzene	ND	U	0.0190	0.145	mg/kg	1	5/19/23 21:37
Hexachlorobutadiene	ND	U	0.0696	0.145	mg/kg	1	5/19/23 21:37
Hexachlorocyclopentadiene	ND	U	0.0604	0.363	mg/kg	1	5/19/23 21:37
Hexachloroethane	ND	U	0.0159	0.145	mg/kg	1	5/19/23 21:37
Indeno(1,2,3-cd)pyrene	**0.173**		**0.0156**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**
Isophorone	ND	U	0.00950	0.145	mg/kg	1	5/19/23 21:37
Naphthalene	ND	U	0.0107	0.145	mg/kg	1	5/19/23 21:37
Nitrobenzene	ND	U	0.0246	0.145	mg/kg	1	5/19/23 21:37
n-Nitroso-di-n-propylamine	ND	U	0.00777	0.145	mg/kg	1	5/19/23 21:37
n-Nitrosodiphenylamine	ND	U	0.0309	0.145	mg/kg	1	5/19/23 21:37
Pentachlorophenol	ND	U	0.0199	0.363	mg/kg	1	5/19/23 21:37
Phenanthrene	**0.111**	J	**0.0191**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**
Phenol	ND	U	0.0118	0.145	mg/kg	1	5/19/23 21:37
Pyrene	**0.297**		**0.0107**	**0.145**	**mg/kg**	**1**	**5/19/23 21:37**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~5.09~~	11.80	J, B	mg/kg	1	5/19/23 21:37	R, RC:2
unknown	~~1.63~~	12.58	J, B	mg/kg	1	5/19/23 21:37	R, RC:2
TIC Total	6.72						

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515** Collected: **5/15/2023 8:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000398	0.00272	mg/kg	1	5/18/23 17:25	
1,1,2,2-Tetrachloroethane	ND	U	0.000376	0.00272	mg/kg	1	5/18/23 17:25	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00117	0.00272	mg/kg	1	5/18/23 17:25	
1,1,2-Trichloroethane	ND	U	0.000459	0.00272	mg/kg	1	5/18/23 17:25	
1,1-Dichloroethane	ND	U	0.000398	0.00272	mg/kg	1	5/18/23 17:25	
1,1-Dichloroethene	ND	U	0.000504	0.00272	mg/kg	1	5/18/23 17:25	
1,2,3-Trichlorobenzene	ND	U	0.000588	0.00272	mg/kg	1	5/18/23 17:25	
1,2,4-Trichlorobenzene	ND	U	0.000726	0.00272	mg/kg	1	5/18/23 17:25	
1,2,4-Trimethylbenzene	ND	U	0.000376	0.00272	mg/kg	1	5/18/23 17:25	
1,2-Dibromo-3-chloropropane	ND	U	0.000664	0.00681	mg/kg	1	5/18/23 17:25	
1,2-Dibromoethane	ND	U	0.000343	0.00272	mg/kg	1	5/18/23 17:25	
1,2-Dichlorobenzene	ND	U	0.000481	0.00272	mg/kg	1	5/18/23 17:25	
1,2-Dichloroethane	ND	U	0.000384	0.00272	mg/kg	1	5/18/23 17:25	
1,2-Dichloropropane	ND	U	0.000447	0.00272	mg/kg	1	5/18/23 17:25	
1,3-Dichlorobenzene	ND	U	0.000200	0.00272	mg/kg	1	5/18/23 17:25	
1,4-Dichlorobenzene	ND	U	0.000392	0.00272	mg/kg	1	5/18/23 17:25	
2-Butanone	ND	U	0.000444	0.0136	mg/kg	1	5/18/23 17:25	UJ, RC:SL
2-Hexanone	ND	U	0.000255	0.00272	mg/kg	1	5/18/23 17:25	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000340	0.00272	mg/kg	1	5/18/23 17:25	
Acetone	ND	U	0.000825	0.0681	mg/kg	1	5/18/23 17:25	UJ, RC:SL
Benzene	ND	U	0.000248	0.00272	mg/kg	1	5/18/23 17:25	
Bromochloromethane	ND	U	0.000502	0.00272	mg/kg	1	5/18/23 17:25	
Bromodichloromethane	ND	U	0.000342	0.00272	mg/kg	1	5/18/23 17:25	
Bromoform	ND	U	0.000478	0.00272	mg/kg	1	5/18/23 17:25	
Bromomethane	ND	U	0.000786	0.00272	mg/kg	1	5/18/23 17:25	
Carbon disulfide	ND	U	0.000391	0.00272	mg/kg	1	5/18/23 17:25	
Carbon Tetrachloride	ND	U	0.000410	0.00272	mg/kg	1	5/18/23 17:25	
Chlorobenzene	ND	U	0.000395	0.00272	mg/kg	1	5/18/23 17:25	
Chlorodibromomethane	ND	U	0.000335	0.00272	mg/kg	1	5/18/23 17:25	
Chloroethane	ND	U	0.000464	0.00272	mg/kg	1	5/18/23 17:25	
Chloroform	ND	U	0.000457	0.00272	mg/kg	1	5/18/23 17:25	
Chloromethane	**0.0512**		**0.00105**	**0.00272**	**mg/kg**	**1**	**5/18/23 17:25**	
cis-1,2-Dichloroethene	ND	U	0.000132	0.00272	mg/kg	1	5/18/23 17:25	
cis-1,3-Dichloropropene	ND	U	0.000344	0.00272	mg/kg	1	5/18/23 17:25	
Cyclohexane	ND	U	0.000603	0.00272	mg/kg	1	5/18/23 17:25	
Dichlorodifluoromethane	ND	U	0.000919	0.00272	mg/kg	1	5/18/23 17:25	
EthylBenzene	ND	U	0.000369	0.00272	mg/kg	1	5/18/23 17:25	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-07 (Soil) Sample Name: **OH-SB-20_1.0-2.0_20230515** Collected: **5/15/2023 8:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Isopropylbenzene	ND	U	0.000427	0.00272	mg/kg	1	5/18/23 17:25	
m+p-Xylenes	ND	U	0.000688	0.00545	mg/kg	1	5/18/23 17:25	
Methyl Acetate	ND	U	0.000361	0.00272	mg/kg	1	5/18/23 17:25	
Methyl tert-Butyl Ether	ND	U	0.000460	0.00272	mg/kg	1	5/18/23 17:25	
Methylcyclohexane	ND	U	0.000438	0.00272	mg/kg	1	5/18/23 17:25	
Methylene Chloride	ND	U	0.000818	0.00681	mg/kg	1	5/18/23 17:25	
o-Xylene	ND	U	0.000350	0.00272	mg/kg	1	5/18/23 17:25	
Styrene	ND	U	0.000389	0.00272	mg/kg	1	5/18/23 17:25	
tert-Butyl alcohol	ND	U	0.00572	0.0272	mg/kg	1	5/18/23 17:25	
Tetrachloroethene	ND	U	0.000270	0.00272	mg/kg	1	5/18/23 17:25	
Toluene	ND	U	0.000219	0.00272	mg/kg	1	5/18/23 17:25	
Total Xylenes	ND	U	0.000350	0.00272	mg/kg	1	5/18/23 17:25	
trans-1,2-Dichloroethene	ND	U	0.000369	0.00272	mg/kg	1	5/18/23 17:25	
trans-1,3-Dichloropropene	ND	U	0.000520	0.00272	mg/kg	1	5/18/23 17:25	
Trichloroethene	ND	U	0.000400	0.00272	mg/kg	1	5/18/23 17:25	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000313	0.00272	mg/kg	1	5/18/23 17:25	
Vinyl chloride	ND	U	0.000517	0.00272	mg/kg	1	5/18/23 17:25	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.0345	3.98	J	mg/kg	1	5/18/23 17:25
Heptane, 2,2,4,6,6-pentamethyl-	0.00766	16.65	J	mg/kg	1	5/18/23 17:25
TIC Total	**0.042**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.8**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00733	0.0615	mg/kg	1	5/16/23 15:57

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515** Collected: **5/15/2023 9:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00686	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1221	ND	U	0.0135	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1232	ND	U	0.0172	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1242	ND	U	0.0100	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1248	ND	U	0.0105	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1254	ND	U	0.00825	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1260	ND	U	0.00640	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1262	ND	U	0.0138	0.0511	mg/kg	1	5/20/23 15:21
Aroclor-1268	ND	U	0.00618	0.0511	mg/kg	1	5/20/23 15:21
Total PCBs	ND	U	0.00477	0.0511	mg/kg	1	5/20/23 15:21

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0152	0.155	mg/kg	1	5/27/23 13:07
2,4-D	ND	U	0.0257	0.155	mg/kg	1	5/27/23 13:07

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.150**		**0.00774**	**0.0310**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6260**		**0.227**	**3.82**	**mg/kg**	**1**	**5/30/23 10:00**
Antimony	ND	U	0.208	1.91	mg/kg	1	5/30/23 10:00
Arsenic	**4.69**		**0.136**	**1.91**	**mg/kg**	**1**	**5/30/23 10:00**
Barium	**46.3**		**0.0577**	**0.763**	**mg/kg**	**1**	**5/30/23 10:00**
Beryllium	**1.01**		**0.00442**	**0.0382**	**mg/kg**	**1**	**5/30/23 10:00**
Cadmium	**0.759**		**0.0744**	**0.382**	**mg/kg**	**1**	**5/30/23 10:00**
Calcium	**145000**	D	**42.9**	**382**	**mg/kg**	**10**	**5/30/23 13:08**
Chromium	**12.4**		**0.0431**	**0.382**	**mg/kg**	**1**	**5/30/23 10:00**
Cobalt	**3.10**		**0.0390**	**0.305**	**mg/kg**	**1**	**5/30/23 10:00**
Copper	**1290**	D	**1.07**	**3.82**	**mg/kg**	**10**	**5/30/23 13:08**
Iron	**12700**		**1.08**	**7.63**	**mg/kg**	**1**	**5/30/23 10:00**
Lead	**91.6**		**0.159**	**1.91**	**mg/kg**	**1**	**5/30/23 10:00**
Magnesium	**4520**		**13.5**	**76.3**	**mg/kg**	**1**	**5/30/23 10:00**
Manganese	**222**		**0.0475**	**0.382**	**mg/kg**	**1**	**5/30/23 10:00**
Nickel	**11.8**		**0.0335**	**0.191**	**mg/kg**	**1**	**5/30/23 10:00**
Potassium	**1410**		**45.4**	**153**	**mg/kg**	**1**	**5/30/23 10:00**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515** Collected: **5/15/2023 9:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.366	1.91	mg/kg	1	5/30/23 10:00	
Silver	ND	U	0.0649	0.229	mg/kg	1	5/30/23 10:00	R, RC:6L
Sodium	**3180**		**7.27**	**76.3**	**mg/kg**	**1**	**5/30/23 10:00**	
Thallium	ND	U	0.128	1.91	mg/kg	1	5/30/23 10:00	
Vanadium	**19.6**		**0.0877**	**0.763**	**mg/kg**	**1**	**5/30/23 10:00**	
Zinc	**36.8**		**0.117**	**1.14**	**mg/kg**	**1**	**5/30/23 10:00**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	ND	U	0.000922	0.00201	mg/kg	1	5/18/23 23:12
4,4'-DDE	ND	U	0.00110	0.00201	mg/kg	1	5/18/23 23:12
4,4'-DDT [2C]	ND	U	0.00142	0.00201	mg/kg	1	5/18/23 23:12
Aldrin	ND	U	0.000954	0.00201	mg/kg	1	5/18/23 23:12
alpha-BHC	ND	U	0.000599	0.00201	mg/kg	1	5/18/23 23:12
beta-BHC	ND	U	0.000962	0.00201	mg/kg	1	5/18/23 23:12
Chlordane [2C]	**0.00100**	J	**0.000895**	**0.00201**	**mg/kg**	**1**	**5/18/23 23:12**
delta-BHC	ND	U	0.000936	0.00201	mg/kg	1	5/18/23 23:12
Dieldrin	**0.00391**		**0.00105**	**0.00201**	**mg/kg**	**1**	**5/18/23 23:12**
Endosulfan I	ND	U	0.000951	0.00201	mg/kg	1	5/18/23 23:12
Endosulfan II	ND	U	0.000915	0.00201	mg/kg	1	5/18/23 23:12
Endosulfan sulfate	ND	U	0.000757	0.00201	mg/kg	1	5/18/23 23:12
Endosulfans, Total (alpha and beta)	ND	U	0.000915	0.00201	mg/kg	1	5/18/23 23:12
Endrin	ND	U	0.000695	0.00201	mg/kg	1	5/18/23 23:12
Endrin aldehyde	ND	U	0.000802	0.00201	mg/kg	1	5/18/23 23:12
Endrin ketone	ND	U	0.000709	0.00201	mg/kg	1	5/18/23 23:12
gamma-BHC (Lindane)	ND	U	0.000638	0.00201	mg/kg	1	5/18/23 23:12
Heptachlor	ND	U	0.000539	0.00201	mg/kg	1	5/18/23 23:12
Heptachlor Epoxide	ND	U	0.00102	0.00201	mg/kg	1	5/18/23 23:12
Methoxychlor	ND	U	0.000590	0.00201	mg/kg	1	5/18/23 23:12
Toxaphene	ND	U	0.0970	0.102	mg/kg	1	5/18/23 23:12

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0291	0.258	mg/kg	5	5/19/23 22:09
2,3,4,6-Tetrachlorophenol	ND	U	0.159	1.03	mg/kg	5	5/19/23 22:09
2,4,5-Trichlorophenol	ND	U	0.140	1.03	mg/kg	5	5/19/23 22:09
2,4,6-Trichlorophenol	ND	U	0.0645	1.03	mg/kg	5	5/19/23 22:09

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515** Collected: **5/15/2023 9:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.104	1.03	mg/kg	5	5/19/23 22:09	
2,4-Dimethylphenol	ND	U	0.101	1.03	mg/kg	5	5/19/23 22:09	
2,4-Dinitrophenol	ND	U	0.149	5.17	mg/kg	5	5/19/23 22:09	
2,4-Dinitrotoluene	ND	U	0.110	1.03	mg/kg	5	5/19/23 22:09	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.246	1.03	mg/kg	5	5/19/23 22:09	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.118	1.03	mg/kg	5	5/19/23 22:09	
2-Chlorophenol	ND	U	0.136	1.03	mg/kg	5	5/19/23 22:09	
2-Methylnaphthalene	ND	U	0.247	1.55	mg/kg	5	5/19/23 22:09	
2-Methylphenol	ND	U	0.204	1.03	mg/kg	5	5/19/23 22:09	
2-Nitroaniline	ND	U	0.0829	1.03	mg/kg	5	5/19/23 22:09	
2-Nitrophenol	ND	U	0.115	1.03	mg/kg	5	5/19/23 22:09	
3,3'-Dichlorobenzidine	ND	U	0.108	1.03	mg/kg	5	5/19/23 22:09	
3+4-Methylphenol	ND	U	0.189	1.03	mg/kg	5	5/19/23 22:09	
3-Nitroaniline	ND	U	0.191	1.03	mg/kg	5	5/19/23 22:09	
4,6-Dinitro-2-methylphenol	ND	U	0.194	2.58	mg/kg	5	5/19/23 22:09	
4-Bromophenyl-phenyl ether	ND	U	0.147	1.03	mg/kg	5	5/19/23 22:09	
4-Chloro-3-methylphenol	ND	U	0.163	1.03	mg/kg	5	5/19/23 22:09	
4-Chloroaniline	ND	U	0.0361	1.03	mg/kg	5	5/19/23 22:09	
4-Chlorophenyl phenyl ether	ND	U	0.0557	1.03	mg/kg	5	5/19/23 22:09	
4-Nitroaniline	ND	U	0.516	1.03	mg/kg	5	5/19/23 22:09	
4-Nitrophenol	ND	U	0.0660	1.03	mg/kg	5	5/19/23 22:09	
Acenaphthene	**38.7**	D	**0.0588**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**	
Acenaphthylene	**56.0**	D	**0.0359**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**	
Acetophenone	ND	U	0.102	1.03	mg/kg	5	5/19/23 22:09	
Anthracene	**88.9**	D	**0.299**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**	
Atrazine	ND	U	0.0968	1.03	mg/kg	5	5/19/23 22:09	
Benzaldehyde	ND	U	0.317	1.03	mg/kg	5	5/19/23 22:09	
Benzo(a)anthracene	**68.3**	D	**0.208**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**	
Benzo(a)pyrene	**102**	D	**0.359**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**	
Benzo(b)fluoranthene	**88.2**	D	**0.290**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**	
Benzo(g,h,i)perylene	**108**	D	**0.167**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**	
Benzo(k)fluoranthene	**19.1**	D	**0.118**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**	
Biphenyl	**17.6**	D	**0.0906**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**	
bis(2-chloroethoxy)methane	ND	U	0.143	1.03	mg/kg	5	5/19/23 22:09	
bis(2-chloroethyl)ether	ND	U	0.113	1.03	mg/kg	5	5/19/23 22:09	
bis(2-chloroisopropyl)ether	ND	U	0.371	1.03	mg/kg	5	5/19/23 22:09	
bis(2-ethylhexyl)phthalate	ND	U	0.206	1.03	mg/kg	5	5/19/23 22:09	
Butylbenzylphthalate	ND	U	0.0937	1.03	mg/kg	5	5/19/23 22:09	

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P - Greater than 25% diff. between 2 GC columns.
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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515** Collected: **5/15/2023 9:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.133	1.03	mg/kg	5	5/19/23 22:09
Carbazole	ND	U	0.198	2.58	mg/kg	5	5/19/23 22:09
Chrysene	**76.5**	D	**0.141**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**
Dibenzo(a,h)anthracene	**12.8**	D	**0.102**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**
Dibenzofuran	ND	U	0.0614	1.03	mg/kg	5	5/19/23 22:09
Diethylphthalate	ND	U	0.200	1.03	mg/kg	5	5/19/23 22:09
Dimethylphthalate	ND	U	0.0640	1.03	mg/kg	5	5/19/23 22:09
Di-n-butylphthalate	ND	U	0.421	1.03	mg/kg	5	5/19/23 22:09
Di-n-octylphthalate	ND	U	0.211	1.03	mg/kg	5	5/19/23 22:09
Fluoranthene	**119**	D	**0.194**	**2.06**	**mg/kg**	**10**	**5/23/23 20:15**
Fluorene	**34.3**	D	**0.0860**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**
Hexachlorobenzene	ND	U	0.135	1.03	mg/kg	5	5/19/23 22:09
Hexachlorobutadiene	ND	U	0.495	1.03	mg/kg	5	5/19/23 22:09
Hexachlorocyclopentadiene	ND	U	0.430	2.58	mg/kg	5	5/19/23 22:09
Hexachloroethane	ND	U	0.113	1.03	mg/kg	5	5/19/23 22:09
Indeno(1,2,3-cd)pyrene	**45.0**	D	**0.111**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**
Isophorone	ND	U	0.0675	1.03	mg/kg	5	5/19/23 22:09
Naphthalene	**13.7**	D	**0.0764**	**1.03**	**mg/kg**	**5**	**5/19/23 22:09**
Nitrobenzene	ND	U	0.175	1.03	mg/kg	5	5/19/23 22:09
n-Nitroso-di-n-propylamine	ND	U	0.0552	1.03	mg/kg	5	5/19/23 22:09
n-Nitrosodiphenylamine	ND	U	0.220	1.03	mg/kg	5	5/19/23 22:09
Pentachlorophenol	ND	U	0.142	2.58	mg/kg	5	5/19/23 22:09
Phenanthrene	**176**	D	**1.36**	**10.3**	**mg/kg**	**50**	**5/25/23 16:43**
Phenol	ND	U	0.0836	1.03	mg/kg	5	5/19/23 22:09
Pyrene	**435**	D	**0.758**	**10.3**	**mg/kg**	**50**	**5/25/23 16:43**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,2,4-trimethyl-	31.2	5.98	J, D	mg/kg	5	5/19/23 22:09
Benzene, 1,2-diethyl-	40.5	6.21	J, D	mg/kg	5	5/19/23 22:09
Benzene, 1-ethenyl-2-methyl-	85.7	5.75	J, D	mg/kg	5	5/19/23 22:09
Benzene, 1-ethenyl-3-methyl-	31.0	5.79	J, D	mg/kg	5	5/19/23 22:09
Benzene, 1-ethyl-4-methyl-	28.9	5.62	J, D	mg/kg	5	5/19/23 22:09
Benzene, 1-propynyl-	75.2	6.18	J, D	mg/kg	5	5/19/23 22:09
Cyclohexane, butyl-	36.9	6.06	J, D	mg/kg	5	5/19/23 22:09
Naphthalene, (1-methylethyl)-	29.9	9.05	J, D	mg/kg	5	5/19/23 22:09
Naphthalene, 1,3-dimethyl-	29.4	8.64	J, D	mg/kg	5	5/19/23 22:09
Naphthalene, 1,4-dimethyl-	39.4	8.73	J, D	mg/kg	5	5/19/23 22:09

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515** Collected: **5/15/2023 9:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1-methyl-	55.9	8.02	J, D	mg/kg	5	5/19/23 22:09
Naphthalene, 2,6-dimethyl-	60.3	8.61	J, D	mg/kg	5	5/19/23 22:09
unknown (01)	29.5	5.41	J, D	mg/kg	5	5/19/23 22:09
unknown (02)	28.0	6.94	J, D	mg/kg	5	5/19/23 22:09
unknown (03)	129	15.34	J, D	mg/kg	5	5/19/23 22:09
TIC Total	**731**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000565	0.00387	mg/kg	1	5/19/23 3:08	
1,1,2,2-Tetrachloroethane	ND	U	0.000534	0.00387	mg/kg	1	5/19/23 3:08	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00166	0.00387	mg/kg	1	5/19/23 3:08	
1,1,2-Trichloroethane	ND	U	0.000653	0.00387	mg/kg	1	5/19/23 3:08	
1,1-Dichloroethane	ND	U	0.000565	0.00387	mg/kg	1	5/19/23 3:08	
1,1-Dichloroethene	ND	U	0.000716	0.00387	mg/kg	1	5/19/23 3:08	
1,2,3-Trichlorobenzene	ND	U	0.000836	0.00387	mg/kg	1	5/19/23 3:08	
1,2,4-Trichlorobenzene	ND	U	0.00103	0.00387	mg/kg	1	5/19/23 3:08	
1,2,4-Trimethylbenzene	**0.00999**		**0.000534**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
1,2-Dibromo-3-chloropropane	ND	U	0.000945	0.00968	mg/kg	1	5/19/23 3:08	
1,2-Dibromoethane	ND	U	0.000488	0.00387	mg/kg	1	5/19/23 3:08	
1,2-Dichlorobenzene	ND	U	0.000683	0.00387	mg/kg	1	5/19/23 3:08	
1,2-Dichloroethane	ND	U	0.000546	0.00387	mg/kg	1	5/19/23 3:08	
1,2-Dichloropropane	ND	U	0.000635	0.00387	mg/kg	1	5/19/23 3:08	
1,3-Dichlorobenzene	ND	U	0.000285	0.00387	mg/kg	1	5/19/23 3:08	
1,4-Dichlorobenzene	ND	U	0.000558	0.00387	mg/kg	1	5/19/23 3:08	
2-Butanone	ND	U	0.000631	0.0194	mg/kg	1	5/19/23 3:08	UJ, RC:SL
2-Hexanone	ND	U	0.000362	0.00387	mg/kg	1	5/19/23 3:08	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000484	0.00387	mg/kg	1	5/19/23 3:08	
Acetone	ND	U	0.00117	0.0968	mg/kg	1	5/19/23 3:08	UJ, RC:SL
Benzene	**0.114**		**0.000352**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Bromochloromethane	ND	U	0.000714	0.00387	mg/kg	1	5/19/23 3:08	
Bromodichloromethane	ND	U	0.000486	0.00387	mg/kg	1	5/19/23 3:08	
Bromoform	ND	U	0.000680	0.00387	mg/kg	1	5/19/23 3:08	
Bromomethane	ND	U	0.00112	0.00387	mg/kg	1	5/19/23 3:08	
Carbon disulfide	**0.0373**		**0.000556**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Carbon Tetrachloride	ND	U	0.000583	0.00387	mg/kg	1	5/19/23 3:08	
Chlorobenzene	ND	U	0.000562	0.00387	mg/kg	1	5/19/23 3:08	

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MDL - Minimum detection limit, **RL** - Reporting limit
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: **OH-SB-20_4.0-5.0_20230515** Collected: **5/15/2023 9:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorodibromomethane	ND	U	0.000476	0.00387	mg/kg	1	5/19/23 3:08	
Chloroethane	ND	U	0.000660	0.00387	mg/kg	1	5/19/23 3:08	
Chloroform	ND	U	0.000651	0.00387	mg/kg	1	5/19/23 3:08	
Chloromethane	ND	U	0.00149	0.00387	mg/kg	1	5/19/23 3:08	
cis-1,2-Dichloroethene	ND	U	0.000187	0.00387	mg/kg	1	5/19/23 3:08	
cis-1,3-Dichloropropene	ND	U	0.000490	0.00387	mg/kg	1	5/19/23 3:08	
Cyclohexane	**0.0192**		**0.000858**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Dichlorodifluoromethane	ND	U	0.00131	0.00387	mg/kg	1	5/19/23 3:08	
EthylBenzene	**0.441**		**0.000525**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Isopropylbenzene	**0.0900**		**0.000608**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
m+p-Xylenes	**0.0282**		**0.000978**	**0.00774**	**mg/kg**	**1**	**5/19/23 3:08**	
Methyl Acetate	ND	U	0.000513	0.00387	mg/kg	1	5/19/23 3:08	
Methyl tert-Butyl Ether	ND	U	0.000654	0.00387	mg/kg	1	5/19/23 3:08	
Methylcyclohexane	**0.117**		**0.000623**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Methylene Chloride	ND	U	0.00116	0.00968	mg/kg	1	5/19/23 3:08	
o-Xylene	**0.0156**		**0.000498**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Styrene	ND	U	0.000554	0.00387	mg/kg	1	5/19/23 3:08	
tert-Butyl alcohol	ND	U	0.00813	0.0387	mg/kg	1	5/19/23 3:08	
Tetrachloroethene	ND	U	0.000383	0.00387	mg/kg	1	5/19/23 3:08	
Toluene	**0.0284**		**0.000312**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
Total Xylenes	**0.0439**		**0.000498**	**0.00387**	**mg/kg**	**1**	**5/19/23 3:08**	
trans-1,2-Dichloroethene	ND	U	0.000525	0.00387	mg/kg	1	5/19/23 3:08	
trans-1,3-Dichloropropene	ND	U	0.000740	0.00387	mg/kg	1	5/19/23 3:08	
Trichloroethene	ND	U	0.000569	0.00387	mg/kg	1	5/19/23 3:08	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000445	0.00387	mg/kg	1	5/19/23 3:08	
Vinyl chloride	ND	U	0.000736	0.00387	mg/kg	1	5/19/23 3:08	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Cyclohepten-1-one	0.111	13.43	J	mg/kg	1	5/19/23 3:08
2-Methylindene	0.139	20.75	J	mg/kg	1	5/19/23 3:08
3-Phenylbut-1-ene	0.245	19.17	J	mg/kg	1	5/19/23 3:08
4-Heptenal	0.111	12.78	J	mg/kg	1	5/19/23 3:08
Benzene, 1,2,4,5-tetramethyl-	0.102	19.67	J	mg/kg	1	5/19/23 3:08
Benzene, 1-methyl-2-(1-methylethyl)-	0.105	17.63	J	mg/kg	1	5/19/23 3:08
Benzene, 4-ethyl-1,2-dimethyl-	0.233	19.00	J	mg/kg	1	5/19/23 3:08
Benzene, methyl(1-methylethenyl)-	0.109	17.46	J	mg/kg	1	5/19/23 3:08

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0721
Project: Owls Head Phase 2 **Date to Lab:** 5/15/2023 3:38:00PM

23E0721-08 (Soil) Sample Name: OH-SB-20_4.0-5.0_20230515 Collected: 5/15/2023 9:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, propyl-	0.131	16.26	J	mg/kg	1	5/19/23 3:08
Cyclohexane, 1-ethyl-2-methyl-	0.0936	14.85	J	mg/kg	1	5/19/23 3:08
Cyclohexane, ethyl-	0.150	12.90	J	mg/kg	1	5/19/23 3:08
Cyclohexanone, 2,3-dimethyl-	0.110	15.39	J	mg/kg	1	5/19/23 3:08
Cyclohexene, 1-methyl-	0.142	11.04	J	mg/kg	1	5/19/23 3:08
Cyclopentene, 3-methyl-	0.180	6.78	J	mg/kg	1	5/19/23 3:08
Cycloprop[a]indene, 1,1a,6,6a-tetrahydro	0.103	20.55	J	mg/kg	1	5/19/23 3:08
TIC Total	**2.06**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**64.6**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0106	0.0892	mg/kg	1	5/16/23 15:57

23E0721-09 (Soil) Sample Name: OH-SB-15_3.5-4.5_20230515 Collected: 5/15/2023 11:15:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00542	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1221	ND	U	0.0107	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1232	ND	U	0.0136	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1242	ND	U	0.00794	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1248	ND	U	0.00830	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1254	ND	U	0.00652	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1260	ND	U	0.00506	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1262	ND	U	0.0109	0.0404	mg/kg	1	5/20/23 15:43
Aroclor-1268	ND	U	0.00489	0.0404	mg/kg	1	5/20/23 15:43
Total PCBs	ND	U	0.00377	0.0404	mg/kg	1	5/20/23 15:43

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515** Collected: **5/15/2023 11:15:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0120	0.122	mg/kg	1	5/27/23 13:31
2,4-D	ND	U	0.0203	0.122	mg/kg	1	5/27/23 13:31

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0963**		**0.00612**	**0.0245**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8260**		**0.184**	**3.09**	**mg/kg**	**1**	**5/30/23 10:02**	
Antimony	ND	U	0.168	1.55	mg/kg	1	5/30/23 10:02	
Arsenic	**10.4**		**0.110**	**1.55**	**mg/kg**	**1**	**5/30/23 10:02**	
Barium	**71.7**		**0.0467**	**0.618**	**mg/kg**	**1**	**5/30/23 10:02**	
Beryllium	**1.59**		**0.00358**	**0.0309**	**mg/kg**	**1**	**5/30/23 10:02**	
Cadmium	ND	U	0.0603	0.309	mg/kg	1	5/30/23 10:02	
Calcium	**48700**	D	**34.8**	**309**	**mg/kg**	**10**	**5/30/23 13:10**	
Chromium	**14.4**		**0.0349**	**0.309**	**mg/kg**	**1**	**5/30/23 10:02**	
Cobalt	**8.01**		**0.0316**	**0.247**	**mg/kg**	**1**	**5/30/23 10:02**	
Copper	**120**		**0.0865**	**0.309**	**mg/kg**	**1**	**5/30/23 10:02**	
Iron	**62400**	D	**8.76**	**61.8**	**mg/kg**	**10**	**5/30/23 13:10**	
Lead	**64.2**		**0.129**	**1.55**	**mg/kg**	**1**	**5/30/23 10:02**	
Magnesium	**2680**		**10.9**	**61.8**	**mg/kg**	**1**	**5/30/23 10:02**	
Manganese	**215**		**0.0385**	**0.309**	**mg/kg**	**1**	**5/30/23 10:02**	
Nickel	**128**		**0.0272**	**0.155**	**mg/kg**	**1**	**5/30/23 10:02**	
Potassium	**1140**		**36.8**	**124**	**mg/kg**	**1**	**5/30/23 10:02**	
Selenium	ND	U	0.297	1.55	mg/kg	1	5/30/23 10:02	
Silver	ND	U	0.0526	0.185	mg/kg	1	5/30/23 10:02	R, RC:6L
Sodium	**1810**		**5.89**	**61.8**	**mg/kg**	**1**	**5/30/23 10:02**	
Thallium	ND	U	0.104	1.55	mg/kg	1	5/30/23 10:02	
Vanadium	**31.5**		**0.0711**	**0.618**	**mg/kg**	**1**	**5/30/23 10:02**	
Zinc	**65.8**		**0.0944**	**0.927**	**mg/kg**	**1**	**5/30/23 10:02**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000728	0.00159	mg/kg	1	5/18/23 23:34
4,4'-DDE	**0.00135**	J	**0.000870**	**0.00159**	**mg/kg**	**1**	**5/18/23 23:34**
4,4'-DDT	ND	U	0.00112	0.00159	mg/kg	1	5/18/23 23:34
Aldrin	ND	U	0.000754	0.00159	mg/kg	1	5/18/23 23:34

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515** Collected: **5/15/2023 11:15:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
alpha-BHC	ND	U	0.000474	0.00159	mg/kg	1	5/18/23 23:34
beta-BHC	ND	U	0.000760	0.00159	mg/kg	1	5/18/23 23:34
Chlordane	ND	U	0.000708	0.00159	mg/kg	1	5/18/23 23:34
delta-BHC	ND	U	0.000739	0.00159	mg/kg	1	5/18/23 23:34
Dieldrin [2C]	ND	U	0.000832	0.00159	mg/kg	1	5/18/23 23:34
Endosulfan I	ND	U	0.000752	0.00159	mg/kg	1	5/18/23 23:34
Endosulfan II	ND	U	0.000723	0.00159	mg/kg	1	5/18/23 23:34
Endosulfan sulfate	ND	U	0.000599	0.00159	mg/kg	1	5/18/23 23:34
Endosulfans, Total (alpha and beta)	ND	U	0.000723	0.00159	mg/kg	1	5/18/23 23:34
Endrin	ND	U	0.000550	0.00159	mg/kg	1	5/18/23 23:34
Endrin aldehyde	ND	U	0.000634	0.00159	mg/kg	1	5/18/23 23:34
Endrin ketone	ND	U	0.000561	0.00159	mg/kg	1	5/18/23 23:34
gamma-BHC (Lindane)	ND	U	0.000504	0.00159	mg/kg	1	5/18/23 23:34
Heptachlor	ND	U	0.000426	0.00159	mg/kg	1	5/18/23 23:34
Heptachlor Epoxide	ND	U	0.000803	0.00159	mg/kg	1	5/18/23 23:34
Methoxychlor	ND	U	0.000466	0.00159	mg/kg	1	5/18/23 23:34
Toxaphene	ND	U	0.0767	0.0808	mg/kg	1	5/18/23 23:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00460	0.0408	mg/kg	1	5/19/23 22:41	
2,3,4,6-Tetrachlorophenol	ND	U	0.0251	0.163	mg/kg	1	5/19/23 22:41	
2,4,5-Trichlorophenol	ND	U	0.0222	0.163	mg/kg	1	5/19/23 22:41	
2,4,6-Trichlorophenol	ND	U	0.0102	0.163	mg/kg	1	5/19/23 22:41	
2,4-Dichlorophenol	ND	U	0.0164	0.163	mg/kg	1	5/19/23 22:41	
2,4-Dimethylphenol	ND	U	0.0160	0.163	mg/kg	1	5/19/23 22:41	
2,4-Dinitrophenol	ND	U	0.0235	0.817	mg/kg	1	5/19/23 22:41	
2,4-Dinitrotoluene	ND	U	0.0174	0.163	mg/kg	1	5/19/23 22:41	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0389	0.163	mg/kg	1	5/19/23 22:41	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0187	0.163	mg/kg	1	5/19/23 22:41	
2-Chlorophenol	ND	U	0.0215	0.163	mg/kg	1	5/19/23 22:41	
2-Methylnaphthalene	**0.221**	J	**0.0391**	**0.245**	**mg/kg**	**1**	**5/19/23 22:41**	
2-Methylphenol	ND	U	0.0322	0.163	mg/kg	1	5/19/23 22:41	
2-Nitroaniline	ND	U	0.0131	0.163	mg/kg	1	5/19/23 22:41	
2-Nitrophenol	ND	U	0.0181	0.163	mg/kg	1	5/19/23 22:41	
3,3'-Dichlorobenzidine	ND	U	0.0171	0.163	mg/kg	1	5/19/23 22:41	
3+4-Methylphenol	ND	U	0.0299	0.163	mg/kg	1	5/19/23 22:41	

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Date to Lab: 5/15/2023 3:38:00PM

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515** Collected: **5/15/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3-Nitroaniline	ND	U	0.0302	0.163	mg/kg	1	5/19/23 22:41
4,6-Dinitro-2-methylphenol	ND	U	0.0307	0.408	mg/kg	1	5/19/23 22:41
4-Bromophenyl-phenyl ether	ND	U	0.0233	0.163	mg/kg	1	5/19/23 22:41
4-Chloro-3-methylphenol	ND	U	0.0257	0.163	mg/kg	1	5/19/23 22:41
4-Chloroaniline	ND	U	0.00570	0.163	mg/kg	1	5/19/23 22:41
4-Chlorophenyl phenyl ether	ND	U	0.00880	0.163	mg/kg	1	5/19/23 22:41
4-Nitroaniline	ND	U	0.0815	0.163	mg/kg	1	5/19/23 22:41
4-Nitrophenol	ND	U	0.0104	0.163	mg/kg	1	5/19/23 22:41
Acenaphthene	**0.263**		**0.00929**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Acenaphthylene	**0.148**	J	**0.00567**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Acetophenone	ND	U	0.0162	0.163	mg/kg	1	5/19/23 22:41
Anthracene	**0.534**		**0.0236**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Atrazine	ND	U	0.0153	0.163	mg/kg	1	5/19/23 22:41
Benzaldehyde	ND	U	0.0501	0.163	mg/kg	1	5/19/23 22:41
Benzo(a)anthracene	**1.44**		**0.0164**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Benzo(a)pyrene	**1.74**		**0.0284**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Benzo(b)fluoranthene	**1.43**		**0.0229**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Benzo(g,h,i)perylene	**1.16**		**0.0132**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Benzo(k)fluoranthene	**0.546**		**0.0187**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Biphenyl	ND	U	0.0143	0.163	mg/kg	1	5/19/23 22:41
bis(2-chloroethoxy)methane	ND	U	0.0225	0.163	mg/kg	1	5/19/23 22:41
bis(2-chloroethyl)ether	ND	U	0.0179	0.163	mg/kg	1	5/19/23 22:41
bis(2-chloroisopropyl)ether	ND	U	0.0586	0.163	mg/kg	1	5/19/23 22:41
bis(2-ethylhexyl)phthalate	ND	U	0.0326	0.163	mg/kg	1	5/19/23 22:41
Butylbenzylphthalate	ND	U	0.0148	0.163	mg/kg	1	5/19/23 22:41
Caprolactam	ND	U	0.0211	0.163	mg/kg	1	5/19/23 22:41
Carbazole	**0.217**	J	**0.0313**	**0.408**	**mg/kg**	**1**	**5/19/23 22:41**
Chrysene	**1.63**		**0.0112**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Dibenzo(a,h)anthracene	**0.237**		**0.0162**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Dibenzofuran	**0.164**		**0.00971**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Diethylphthalate	ND	U	0.0316	0.163	mg/kg	1	5/19/23 22:41
Dimethylphthalate	ND	U	0.0101	0.163	mg/kg	1	5/19/23 22:41
Di-n-butylphthalate	ND	U	0.0666	0.163	mg/kg	1	5/19/23 22:41
Di-n-octylphthalate	ND	U	0.0334	0.163	mg/kg	1	5/19/23 22:41
Fluoranthene	**2.53**		**0.0153**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Fluorene	**0.321**		**0.0136**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Hexachlorobenzene	ND	U	0.0213	0.163	mg/kg	1	5/19/23 22:41
Hexachlorobutadiene	ND	U	0.0782	0.163	mg/kg	1	5/19/23 22:41

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Date to Lab: 5/15/2023 3:38:00PM

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515** Collected: **5/15/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorocyclopentadiene	ND	U	0.0679	0.408	mg/kg	1	5/19/23 22:41
Hexachloroethane	ND	U	0.0179	0.163	mg/kg	1	5/19/23 22:41
Indeno(1,2,3-cd)pyrene	**0.797**		**0.0175**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Isophorone	ND	U	0.0107	0.163	mg/kg	1	5/19/23 22:41
Naphthalene	**0.369**		**0.0121**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Nitrobenzene	ND	U	0.0277	0.163	mg/kg	1	5/19/23 22:41
n-Nitroso-di-n-propylamine	ND	U	0.00873	0.163	mg/kg	1	5/19/23 22:41
n-Nitrosodiphenylamine	ND	U	0.0348	0.163	mg/kg	1	5/19/23 22:41
Pentachlorophenol	ND	U	0.0224	0.408	mg/kg	1	5/19/23 22:41
Phenanthrene	**2.43**		**0.0214**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**
Phenol	ND	U	0.0132	0.163	mg/kg	1	5/19/23 22:41
Pyrene	**2.48**		**0.0120**	**0.163**	**mg/kg**	**1**	**5/19/23 22:41**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
9,10-Dimethylanthracene	0.773	11.52	J	mg/kg	1	5/19/23 22:41
Aldrin-R	0.537	11.47	J	mg/kg	1	5/19/23 22:41
Aminopyrine	0.912	12.59	J	mg/kg	1	5/19/23 22:41
Benzene, 1,3-cyclohexadien-1-yl-	0.437	8.61	J	mg/kg	1	5/19/23 22:41
Benzene, 1-ethyl-4-methyl-	0.424	5.75	J	mg/kg	1	5/19/23 22:41
Benzene, 2-butyl-1,3,4-trifluoro-	1.43	9.37	J	mg/kg	1	5/19/23 22:41
Carbamic acid, tricyclo[2.2.1.0(2,6)]hep	0.594	10.37	J	mg/kg	1	5/19/23 22:41
Oxirane, 2,3-bis(1-methylethyl)-, trans-	2.01	11.80	J	mg/kg	1	5/19/23 22:41
unknown (01)	0.503	5.62	J	mg/kg	1	5/19/23 22:41
unknown (02)	0.408	9.82	J	mg/kg	1	5/19/23 22:41
unknown (03)	0.613	10.61	J	mg/kg	1	5/19/23 22:41
unknown (04)	0.817	10.96	J	mg/kg	1	5/19/23 22:41
unknown (05)	0.761	10.99	J	mg/kg	1	5/19/23 22:41
unknown (06)	0.884	11.09	J	mg/kg	1	5/19/23 22:41
unknown (07)	0.391	11.25	J	mg/kg	1	5/19/23 22:41
TIC Total	**11.5**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515** Collected: **5/15/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000350	0.00240	mg/kg	1	5/19/23 3:38	
1,1,2,2-Tetrachloroethane	ND	U	0.000331	0.00240	mg/kg	1	5/19/23 3:38	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00103	0.00240	mg/kg	1	5/19/23 3:38	
1,1,2-Trichloroethane	ND	U	0.000404	0.00240	mg/kg	1	5/19/23 3:38	
1,1-Dichloroethane	ND	U	0.000350	0.00240	mg/kg	1	5/19/23 3:38	
1,1-Dichloroethene	ND	U	0.000444	0.00240	mg/kg	1	5/19/23 3:38	
1,2,3-Trichlorobenzene	ND	U	0.000518	0.00240	mg/kg	1	5/19/23 3:38	
1,2,4-Trichlorobenzene	ND	U	0.000640	0.00240	mg/kg	1	5/19/23 3:38	
1,2,4-Trimethylbenzene	ND	U	0.000331	0.00240	mg/kg	1	5/19/23 3:38	
1,2-Dibromo-3-chloropropane	ND	U	0.000586	0.00600	mg/kg	1	5/19/23 3:38	
1,2-Dibromoethane	ND	U	0.000302	0.00240	mg/kg	1	5/19/23 3:38	
1,2-Dichlorobenzene	ND	U	0.000424	0.00240	mg/kg	1	5/19/23 3:38	
1,2-Dichloroethane	ND	U	0.000338	0.00240	mg/kg	1	5/19/23 3:38	
1,2-Dichloropropane	ND	U	0.000394	0.00240	mg/kg	1	5/19/23 3:38	
1,3-Dichlorobenzene	ND	U	0.000176	0.00240	mg/kg	1	5/19/23 3:38	
1,4-Dichlorobenzene	ND	U	0.000346	0.00240	mg/kg	1	5/19/23 3:38	
2-Butanone	ND	U	0.000391	0.0120	mg/kg	1	5/19/23 3:38	UJ, RC:SL
2-Hexanone	ND	U	0.000224	0.00240	mg/kg	1	5/19/23 3:38	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000300	0.00240	mg/kg	1	5/19/23 3:38	
Acetone	ND	U	0.000727	0.0600	mg/kg	1	5/19/23 3:38	UJ, RC:SL
Benzene	ND	U	0.000218	0.00240	mg/kg	1	5/19/23 3:38	
Bromochloromethane	ND	U	0.000443	0.00240	mg/kg	1	5/19/23 3:38	
Bromodichloromethane	ND	U	0.000301	0.00240	mg/kg	1	5/19/23 3:38	
Bromoform	ND	U	0.000421	0.00240	mg/kg	1	5/19/23 3:38	
Bromomethane	ND	U	0.000692	0.00240	mg/kg	1	5/19/23 3:38	
Carbon disulfide	ND	U	0.000344	0.00240	mg/kg	1	5/19/23 3:38	
Carbon Tetrachloride	ND	U	0.000361	0.00240	mg/kg	1	5/19/23 3:38	
Chlorobenzene	ND	U	0.000348	0.00240	mg/kg	1	5/19/23 3:38	
Chlorodibromomethane	ND	U	0.000295	0.00240	mg/kg	1	5/19/23 3:38	
Chloroethane	ND	U	0.000409	0.00240	mg/kg	1	5/19/23 3:38	
Chloroform	ND	U	0.000403	0.00240	mg/kg	1	5/19/23 3:38	
Chloromethane	ND	U	0.000924	0.00240	mg/kg	1	5/19/23 3:38	
cis-1,2-Dichloroethene	ND	U	0.000116	0.00240	mg/kg	1	5/19/23 3:38	
cis-1,3-Dichloropropene	ND	U	0.000304	0.00240	mg/kg	1	5/19/23 3:38	
Cyclohexane	ND	U	0.000532	0.00240	mg/kg	1	5/19/23 3:38	
Dichlorodifluoromethane	ND	U	0.000810	0.00240	mg/kg	1	5/19/23 3:38	
EthylBenzene	**0.000650**	J	**0.000325**	**0.00240**	**mg/kg**	**1**	**5/19/23 3:38**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-09 (Soil) Sample Name: **OH-SB-15_3.5-4.5_20230515** Collected: **5/15/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Isopropylbenzene	ND	U	0.000377	0.00240	mg/kg	1	5/19/23 3:38	
m+p-Xylenes	ND	U	0.000606	0.00480	mg/kg	1	5/19/23 3:38	
Methyl Acetate	ND	U	0.000318	0.00240	mg/kg	1	5/19/23 3:38	
Methyl tert-Butyl Ether	ND	U	0.000406	0.00240	mg/kg	1	5/19/23 3:38	
Methylcyclohexane	ND	U	0.000386	0.00240	mg/kg	1	5/19/23 3:38	
Methylene Chloride	ND	U	0.000721	0.00600	mg/kg	1	5/19/23 3:38	
o-Xylene	ND	U	0.000308	0.00240	mg/kg	1	5/19/23 3:38	
Styrene	ND	U	0.000343	0.00240	mg/kg	1	5/19/23 3:38	
tert-Butyl alcohol	ND	U	0.00504	0.0240	mg/kg	1	5/19/23 3:38	
Tetrachloroethene	ND	U	0.000238	0.00240	mg/kg	1	5/19/23 3:38	
Toluene	ND	U	0.000193	0.00240	mg/kg	1	5/19/23 3:38	
Total Xylenes	ND	U	0.000308	0.00240	mg/kg	1	5/19/23 3:38	
trans-1,2-Dichloroethene	ND	U	0.000325	0.00240	mg/kg	1	5/19/23 3:38	
trans-1,3-Dichloropropene	ND	U	0.000458	0.00240	mg/kg	1	5/19/23 3:38	
Trichloroethene	ND	U	0.000353	0.00240	mg/kg	1	5/19/23 3:38	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000276	0.00240	mg/kg	1	5/19/23 3:38	
Vinyl chloride	ND	U	0.000456	0.00240	mg/kg	1	5/19/23 3:38	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 2-methyl-	0.00644	23.46	J	mg/kg	1	5/19/23 3:38
Pentane, 2-methyl-	0.00676	3.92	J	mg/kg	1	5/19/23 3:38
TIC Total	**0.013**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.7**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00875	0.0734	mg/kg	1	5/16/23 15:57

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515** Collected: **5/15/2023 11:40:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00551	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1221	ND	U	0.0108	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1232	ND	U	0.0138	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1242	ND	U	0.00807	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1248	ND	U	0.00844	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1254	ND	U	0.00663	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1260	ND	U	0.00514	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1262	ND	U	0.0111	0.0411	mg/kg	1	5/20/23 16:05
Aroclor-1268	ND	U	0.00497	0.0411	mg/kg	1	5/20/23 16:05
Total PCBs	ND	U	0.00384	0.0411	mg/kg	1	5/20/23 16:05

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.125	mg/kg	1	5/27/23 13:54
2,4-D	ND	U	0.0207	0.125	mg/kg	1	5/27/23 13:54

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.364**		**0.00623**	**0.0249**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2470**		**0.188**	**3.16**	**mg/kg**	**1**	**5/30/23 10:05**
Antimony	**1.60**		**0.172**	**1.58**	**mg/kg**	**1**	**5/30/23 10:05**
Arsenic	**3.28**		**0.113**	**1.58**	**mg/kg**	**1**	**5/30/23 10:05**
Barium	**147**		**0.0478**	**0.632**	**mg/kg**	**1**	**5/30/23 10:05**
Beryllium	**0.819**		**0.00366**	**0.0316**	**mg/kg**	**1**	**5/30/23 10:05**
Cadmium	ND	U	0.0616	0.316	mg/kg	1	5/30/23 10:05
Calcium	**13500**		**3.55**	**31.6**	**mg/kg**	**1**	**5/30/23 10:05**
Chromium	**29.4**		**0.0357**	**0.316**	**mg/kg**	**1**	**5/30/23 10:05**
Cobalt	**3.89**		**0.0323**	**0.253**	**mg/kg**	**1**	**5/30/23 10:05**
Copper	**26.3**		**0.0884**	**0.316**	**mg/kg**	**1**	**5/30/23 10:05**
Iron	**6730**		**0.895**	**6.32**	**mg/kg**	**1**	**5/30/23 10:05**
Lead	**522**		**0.132**	**1.58**	**mg/kg**	**1**	**5/30/23 10:05**
Magnesium	**402**		**11.2**	**63.2**	**mg/kg**	**1**	**5/30/23 10:05**
Manganese	**70.2**		**0.0393**	**0.316**	**mg/kg**	**1**	**5/30/23 10:05**
Nickel	**100**		**0.0278**	**0.158**	**mg/kg**	**1**	**5/30/23 10:05**
Potassium	**451**		**37.6**	**126**	**mg/kg**	**1**	**5/30/23 10:05**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515** Collected: **5/15/2023 11:40:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.303	1.58	mg/kg	1	5/30/23 10:05	
Silver	ND	U	0.0537	0.190	mg/kg	1	5/30/23 10:05	R, RC:6L
Sodium	**854**		**6.03**	**63.2**	**mg/kg**	**1**	**5/30/23 10:05**	
Thallium	ND	U	0.106	1.58	mg/kg	1	5/30/23 10:05	
Vanadium	**12.0**		**0.0727**	**0.632**	**mg/kg**	**1**	**5/30/23 10:05**	
Zinc	**72.0**		**0.0965**	**0.948**	**mg/kg**	**1**	**5/30/23 10:05**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000741	0.00162	mg/kg	1	5/18/23 23:56
4,4'-DDE [2C]	ND	U	0.000885	0.00162	mg/kg	1	5/18/23 23:56
4,4'-DDT	ND	U	0.00114	0.00162	mg/kg	1	5/18/23 23:56
Aldrin	ND	U	0.000767	0.00162	mg/kg	1	5/18/23 23:56
alpha-BHC	ND	U	0.000482	0.00162	mg/kg	1	5/18/23 23:56
beta-BHC	ND	U	0.000773	0.00162	mg/kg	1	5/18/23 23:56
Chlordane	ND	U	0.000720	0.00162	mg/kg	1	5/18/23 23:56
delta-BHC	ND	U	0.000752	0.00162	mg/kg	1	5/18/23 23:56
Dieldrin	ND	U	0.000847	0.00162	mg/kg	1	5/18/23 23:56
Endosulfan I	ND	U	0.000764	0.00162	mg/kg	1	5/18/23 23:56
Endosulfan II	ND	U	0.000736	0.00162	mg/kg	1	5/18/23 23:56
Endosulfan sulfate	ND	U	0.000609	0.00162	mg/kg	1	5/18/23 23:56
Endosulfans, Total (alpha and beta)	ND	U	0.000736	0.00162	mg/kg	1	5/18/23 23:56
Endrin	ND	U	0.000559	0.00162	mg/kg	1	5/18/23 23:56
Endrin aldehyde	ND	U	0.000645	0.00162	mg/kg	1	5/18/23 23:56
Endrin ketone	ND	U	0.000570	0.00162	mg/kg	1	5/18/23 23:56
gamma-BHC (Lindane)	ND	U	0.000513	0.00162	mg/kg	1	5/18/23 23:56
Heptachlor	ND	U	0.000433	0.00162	mg/kg	1	5/18/23 23:56
Heptachlor Epoxide [2C]	ND	U	0.000817	0.00162	mg/kg	1	5/18/23 23:56
Methoxychlor	ND	U	0.000474	0.00162	mg/kg	1	5/18/23 23:56
Toxaphene	ND	U	0.0780	0.0822	mg/kg	1	5/18/23 23:56

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00468	0.0415	mg/kg	1	5/19/23 23:12
2,3,4,6-Tetrachlorophenol	ND	U	0.0255	0.166	mg/kg	1	5/19/23 23:12
2,4,5-Trichlorophenol	ND	U	0.0225	0.166	mg/kg	1	5/19/23 23:12
2,4,6-Trichlorophenol	ND	U	0.0104	0.166	mg/kg	1	5/19/23 23:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515** Collected: **5/15/2023 11:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0167	0.166	mg/kg	1	5/19/23 23:12	
2,4-Dimethylphenol	ND	U	0.0163	0.166	mg/kg	1	5/19/23 23:12	
2,4-Dinitrophenol	ND	U	0.0239	0.830	mg/kg	1	5/19/23 23:12	
2,4-Dinitrotoluene	ND	U	0.0177	0.166	mg/kg	1	5/19/23 23:12	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.0396	0.166	mg/kg	1	5/19/23 23:12	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.0190	0.166	mg/kg	1	5/19/23 23:12	
2-Chlorophenol	ND	U	0.0219	0.166	mg/kg	1	5/19/23 23:12	
2-Methylnaphthalene	**1.21**		**0.0397**	**0.249**	**mg/kg**	**1**	**5/19/23 23:12**	
2-Methylphenol	ND	U	0.0327	0.166	mg/kg	1	5/19/23 23:12	
2-Nitroaniline	ND	U	0.0133	0.166	mg/kg	1	5/19/23 23:12	
2-Nitrophenol	ND	U	0.0184	0.166	mg/kg	1	5/19/23 23:12	
3,3'-Dichlorobenzidine	ND	U	0.0174	0.166	mg/kg	1	5/19/23 23:12	
3+4-Methylphenol	ND	U	0.0304	0.166	mg/kg	1	5/19/23 23:12	
3-Nitroaniline	ND	U	0.0308	0.166	mg/kg	1	5/19/23 23:12	
4,6-Dinitro-2-methylphenol	ND	U	0.0312	0.415	mg/kg	1	5/19/23 23:12	
4-Bromophenyl-phenyl ether	ND	U	0.0237	0.166	mg/kg	1	5/19/23 23:12	
4-Chloro-3-methylphenol	ND	U	0.0261	0.166	mg/kg	1	5/19/23 23:12	
4-Chloroaniline	ND	U	0.00580	0.166	mg/kg	1	5/19/23 23:12	
4-Chlorophenyl phenyl ether	ND	U	0.00895	0.166	mg/kg	1	5/19/23 23:12	
4-Nitroaniline	ND	U	0.0829	0.166	mg/kg	1	5/19/23 23:12	
4-Nitrophenol	ND	U	0.0106	0.166	mg/kg	1	5/19/23 23:12	
Acenaphthene	**5.44**		**0.00945**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**	
Acenaphthylene	**5.81**		**0.00576**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**	
Acetophenone	ND	U	0.0164	0.166	mg/kg	1	5/19/23 23:12	
Anthracene	**9.70**		**0.0240**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**	
Atrazine	ND	U	0.0156	0.166	mg/kg	1	5/19/23 23:12	
Benzaldehyde	ND	U	0.0509	0.166	mg/kg	1	5/19/23 23:12	
Benzo(a)anthracene	**15.8**	D	**0.167**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**	
Benzo(a)pyrene	**17.9**	D	**0.289**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**	
Benzo(b)fluoranthene	**16.6**	D	**0.233**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**	
Benzo(g,h,i)perylene	**9.99**		**0.0134**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**	
Benzo(k)fluoranthene	**5.29**		**0.0190**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**	
Biphenyl	**0.583**		**0.0146**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**	
bis(2-chloroethoxy)methane	ND	U	0.0229	0.166	mg/kg	1	5/19/23 23:12	
bis(2-chloroethyl)ether	ND	U	0.0182	0.166	mg/kg	1	5/19/23 23:12	
bis(2-chloroisopropyl)ether	ND	U	0.0596	0.166	mg/kg	1	5/19/23 23:12	
bis(2-ethylhexyl)phthalate	ND	U	0.0331	0.166	mg/kg	1	5/19/23 23:12	
Butylbenzylphthalate	ND	U	0.0151	0.166	mg/kg	1	5/19/23 23:12	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515** Collected: **5/15/2023 11:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0214	0.166	mg/kg	1	5/19/23 23:12
Carbazole	**1.20**		**0.0319**	**0.415**	**mg/kg**	**1**	**5/19/23 23:12**
Chrysene	**15.6**	D	**0.114**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**
Dibenzo(a,h)anthracene	**2.15**		**0.0164**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**
Dibenzofuran	**1.76**		**0.00987**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**
Diethylphthalate	ND	U	0.0321	0.166	mg/kg	1	5/19/23 23:12
Dimethylphthalate	ND	U	0.0103	0.166	mg/kg	1	5/19/23 23:12
Di-n-butylphthalate	ND	U	0.0677	0.166	mg/kg	1	5/19/23 23:12
Di-n-octylphthalate	ND	U	0.0340	0.166	mg/kg	1	5/19/23 23:12
Fluoranthene	**36.5**	D	**0.156**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**
Fluorene	**2.88**		**0.0138**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**
Hexachlorobenzene	ND	U	0.0217	0.166	mg/kg	1	5/19/23 23:12
Hexachlorobutadiene	ND	U	0.0796	0.166	mg/kg	1	5/19/23 23:12
Hexachlorocyclopentadiene	ND	U	0.0691	0.415	mg/kg	1	5/19/23 23:12
Hexachloroethane	ND	U	0.0182	0.166	mg/kg	1	5/19/23 23:12
Indeno(1,2,3-cd)pyrene	**6.83**		**0.0178**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**
Isophorone	ND	U	0.0109	0.166	mg/kg	1	5/19/23 23:12
Naphthalene	**4.69**		**0.0123**	**0.166**	**mg/kg**	**1**	**5/19/23 23:12**
Nitrobenzene	ND	U	0.0281	0.166	mg/kg	1	5/19/23 23:12
n-Nitroso-di-n-propylamine	ND	U	0.00888	0.166	mg/kg	1	5/19/23 23:12
n-Nitrosodiphenylamine	ND	U	0.0354	0.166	mg/kg	1	5/19/23 23:12
Pentachlorophenol	ND	U	0.0228	0.415	mg/kg	1	5/19/23 23:12
Phenanthrene	**17.2**	D	**0.218**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**
Phenol	ND	U	0.0134	0.166	mg/kg	1	5/19/23 23:12
Pyrene	**40.8**	D	**0.122**	**1.66**	**mg/kg**	**10**	**5/23/23 20:46**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Acenaphthenone	3.22	9.89	J	mg/kg	1	5/19/23 23:12	
Benzene, 2-propenyl-	4.13	5.76	J	mg/kg	1	5/19/23 23:12	
Dibenzothiophene	3.63	10.37	J	mg/kg	1	5/19/23 23:12	
Ethanone, 1-(3-butyl-2-hydroxy-5-methylp	3.34	11.42	J	mg/kg	1	5/19/23 23:12	
Hexadecanoic acid, butyl ester	~~9.65~~	11.80	J, B	mg/kg	1	5/19/23 23:12	R, RC:2
Naphthalene, 2-phenyl-	6.04	11.26	J	mg/kg	1	5/19/23 23:12	
unknown (01)	5.26	10.97	J	mg/kg	1	5/19/23 23:12	
unknown (02)	4.19	11.00	J	mg/kg	1	5/19/23 23:12	
unknown (03)	4.47	11.05	J	mg/kg	1	5/19/23 23:12	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515** Collected: **5/15/2023 11:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (04)	18.1	11.10	J	mg/kg	1	5/19/23 23:12
unknown (05)	6.94	11.53	J	mg/kg	1	5/19/23 23:12
unknown (06)	3.89	15.01	J	mg/kg	1	5/19/23 23:12
unknown (07)	15.2	15.33	J	mg/kg	1	5/19/23 23:12
unknown (08)	6.72	15.56	J	mg/kg	1	5/19/23 23:12
unknown (09)	3.23	16.39	J	mg/kg	1	5/19/23 23:12
TIC Total	~~98.0~~	88.35				

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000284	0.00195	mg/kg	1	5/19/23 4:07	
1,1,2,2-Tetrachloroethane	ND	U	0.000268	0.00195	mg/kg	1	5/19/23 4:07	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000833	0.00195	mg/kg	1	5/19/23 4:07	
1,1,2-Trichloroethane	ND	U	0.000328	0.00195	mg/kg	1	5/19/23 4:07	
1,1-Dichloroethane	ND	U	0.000284	0.00195	mg/kg	1	5/19/23 4:07	
1,1-Dichloroethene	ND	U	0.000360	0.00195	mg/kg	1	5/19/23 4:07	
1,2,3-Trichlorobenzene	ND	U	0.000420	0.00195	mg/kg	1	5/19/23 4:07	
1,2,4-Trichlorobenzene	ND	U	0.000518	0.00195	mg/kg	1	5/19/23 4:07	
1,2,4-Trimethylbenzene	**0.00646**		**0.000268**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
1,2-Dibromo-3-chloropropane	ND	U	0.000475	0.00486	mg/kg	1	5/19/23 4:07	
1,2-Dibromoethane	ND	U	0.000245	0.00195	mg/kg	1	5/19/23 4:07	
1,2-Dichlorobenzene	ND	U	0.000343	0.00195	mg/kg	1	5/19/23 4:07	
1,2-Dichloroethane	ND	U	0.000274	0.00195	mg/kg	1	5/19/23 4:07	
1,2-Dichloropropane	ND	U	0.000319	0.00195	mg/kg	1	5/19/23 4:07	
1,3-Dichlorobenzene	ND	U	0.000143	0.00195	mg/kg	1	5/19/23 4:07	
1,4-Dichlorobenzene	ND	U	0.000280	0.00195	mg/kg	1	5/19/23 4:07	
2-Butanone	ND	U	0.000317	0.00973	mg/kg	1	5/19/23 4:07	UJ, RC:SL
2-Hexanone	ND	U	0.000182	0.00195	mg/kg	1	5/19/23 4:07	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000243	0.00195	mg/kg	1	5/19/23 4:07	
Acetone	ND	U	0.000589	0.0486	mg/kg	1	5/19/23 4:07	UJ, RC:SL
Benzene	**0.0231**		**0.000177**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
Bromochloromethane	ND	U	0.000359	0.00195	mg/kg	1	5/19/23 4:07	
Bromodichloromethane	ND	U	0.000244	0.00195	mg/kg	1	5/19/23 4:07	
Bromoform	ND	U	0.000341	0.00195	mg/kg	1	5/19/23 4:07	
Bromomethane	ND	U	0.000561	0.00195	mg/kg	1	5/19/23 4:07	
Carbon disulfide	ND	U	0.000279	0.00195	mg/kg	1	5/19/23 4:07	
Carbon Tetrachloride	ND	U	0.000293	0.00195	mg/kg	1	5/19/23 4:07	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil) Sample Name: **OH-SB-15_6.0-7.0_20230515** Collected: **5/15/2023 11:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.000282	0.00195	mg/kg	1	5/19/23 4:07	
Chlorodibromomethane	ND	U	0.000239	0.00195	mg/kg	1	5/19/23 4:07	
Chloroethane	ND	U	0.000332	0.00195	mg/kg	1	5/19/23 4:07	
Chloroform	ND	U	0.000327	0.00195	mg/kg	1	5/19/23 4:07	
Chloromethane	ND	U	0.000749	0.00195	mg/kg	1	5/19/23 4:07	
cis-1,2-Dichloroethene	ND	U	0.0000941	0.00195	mg/kg	1	5/19/23 4:07	
cis-1,3-Dichloropropene	ND	U	0.000246	0.00195	mg/kg	1	5/19/23 4:07	
Cyclohexane	ND	U	0.000431	0.00195	mg/kg	1	5/19/23 4:07	
Dichlorodifluoromethane	ND	U	0.000657	0.00195	mg/kg	1	5/19/23 4:07	
EthylBenzene	**0.0754**		**0.000264**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
Isopropylbenzene	**0.0135**		**0.000305**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
m+p-Xylenes	**0.00791**		**0.000491**	**0.00389**	**mg/kg**	**1**	**5/19/23 4:07**	
Methyl Acetate	ND	U	0.000258	0.00195	mg/kg	1	5/19/23 4:07	
Methyl tert-Butyl Ether	ND	U	0.000329	0.00195	mg/kg	1	5/19/23 4:07	
Methylcyclohexane	**0.00102**	J	**0.000313**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
Methylene Chloride	ND	U	0.000585	0.00486	mg/kg	1	5/19/23 4:07	
o-Xylene	**0.00417**		**0.000250**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
Styrene	ND	U	0.000278	0.00195	mg/kg	1	5/19/23 4:07	
tert-Butyl alcohol	ND	U	0.00409	0.0195	mg/kg	1	5/19/23 4:07	
Tetrachloroethene	ND	U	0.000193	0.00195	mg/kg	1	5/19/23 4:07	
Toluene	**0.00475**		**0.000157**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
Total Xylenes	**0.0121**		**0.000250**	**0.00195**	**mg/kg**	**1**	**5/19/23 4:07**	
trans-1,2-Dichloroethene	ND	U	0.000264	0.00195	mg/kg	1	5/19/23 4:07	
trans-1,3-Dichloropropene	ND	U	0.000372	0.00195	mg/kg	1	5/19/23 4:07	
Trichloroethene	ND	U	0.000286	0.00195	mg/kg	1	5/19/23 4:07	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000224	0.00195	mg/kg	1	5/19/23 4:07	
Vinyl chloride	ND	U	0.000370	0.00195	mg/kg	1	5/19/23 4:07	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethyl-2-methyl-	0.0544	16.88	J	mg/kg	1	5/19/23 4:07
Benzene, 2-ethyl-1,4-dimethyl-	0.0515	18.99	J	mg/kg	1	5/19/23 4:07
Benzeneacetaldehyde, .alpha.-methyl-	0.0353	18.66	J	mg/kg	1	5/19/23 4:07
Cyclohexane, (1-methylethyl)-	0.0440	15.39	J	mg/kg	1	5/19/23 4:07
Cyclohexane, (1-methylpropyl)-	0.0540	17.63	J	mg/kg	1	5/19/23 4:07
Cyclohexane, 1,1-dimethyl-	0.0355	14.85	J	mg/kg	1	5/19/23 4:07
Cyclohexane, 1,4-dimethyl-	0.0464	17.44	J	mg/kg	1	5/19/23 4:07

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-10 (Soil)

Sample Name: **OH-SB-15_6.0-7.0_20230515**
Collected: **5/15/2023 11:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, 1,4-dimethyl-, trans-	0.0347	18.92	J	mg/kg	1	5/19/23 4:07
Decane, 2,5-dimethyl-	0.102	19.66	J	mg/kg	1	5/19/23 4:07
Decane, 4-methyl-	0.0325	17.14	J	mg/kg	1	5/19/23 4:07
Dodecane, 2,6,10-trimethyl-	0.0372	17.26	J	mg/kg	1	5/19/23 4:07
Dodecane, 6-methyl-	0.0594	20.72	J	mg/kg	1	5/19/23 4:07
Indan, 1-methyl-	0.0538	19.18	J	mg/kg	1	5/19/23 4:07
Naphthalene, decahydro-, cis-	0.0471	18.42	J	mg/kg	1	5/19/23 4:07
Octane, 2,6-dimethyl-	0.0420	15.22	J	mg/kg	1	5/19/23 4:07
TIC Total	**0.730**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.3**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00909	0.0763	mg/kg	1	5/16/23 15:57

23E0721-11 (Ground Water)

Sample Name: **FB_20230515**
Collected: **5/15/2023 12:40:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/18/23 17:18
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/18/23 17:18
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/18/23 17:18
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/18/23 17:18
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/18/23 17:18
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/18/23 17:18
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/18/23 17:18
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/18/23 17:18
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/18/23 17:18
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/18/23 17:18

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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-11 (Ground Water) Sample Name: **FB_20230515** Collected: **5/15/2023 12:40:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/8/23 12:57
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/8/23 12:57
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/8/23 12:57

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/17/23 15:59

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/24/23 13:05	
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/24/23 13:05	
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/24/23 13:05	
Barium	ND	U	0.000558	0.0200	mg/L	1	5/24/23 13:05	
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/24/23 13:05	
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/24/23 13:05	
Calcium	ND	U	0.256	1.00	mg/L	1	5/24/23 13:05	
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/24/23 13:05	
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/24/23 13:05	
Copper	ND	U	0.00177	0.0100	mg/L	1	5/24/23 13:05	
Iron	ND	U	0.0580	0.200	mg/L	1	5/24/23 13:05	
Lead	ND	U	0.00510	0.0500	mg/L	1	5/24/23 13:05	
Magnesium	ND	U	0.681	2.00	mg/L	1	5/24/23 13:05	
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/24/23 13:05	
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/24/23 13:05	
Potassium	ND	U	2.41	4.00	mg/L	1	5/24/23 13:05	
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/24/23 13:05	
Silver	ND	U	0.00465	0.0200	mg/L	1	5/24/23 13:05	UJ, RC:6L
Sodium	ND	U	0.205	2.00	mg/L	1	5/24/23 13:05	
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/24/23 13:05	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/24/23 13:05	
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/24/23 13:05	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/17/23 16:40
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/17/23 16:40
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/17/23 16:40
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/17/23 16:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-11 (Ground Water) Sample Name: **FB_20230515** Collected: **5/15/2023 12:40:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/17/23 16:40	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/17/23 16:40	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/17/23 16:40	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/17/23 16:40	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/17/23 16:40	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/17/23 16:40	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/17/23 16:40	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/17/23 16:40	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/17/23 16:40	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/17/23 16:40	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/17/23 16:40	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/17/23 16:40	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/17/23 16:40	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/17/23 16:40	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/17/23 16:40	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/17/23 16:40	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/22/23 17:03
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/22/23 17:03
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/22/23 17:03
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/22/23 17:03
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/22/23 17:03
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/22/23 17:03
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/22/23 17:03
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/22/23 17:03
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/22/23 17:03
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/22/23 17:03
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/22/23 17:03
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/22/23 17:03
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/22/23 17:03
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/22/23 17:03
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/22/23 17:03
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/22/23 17:03
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/22/23 17:03
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/22/23 17:03
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/22/23 17:03
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/22/23 17:03

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-11 (Ground Water) Sample Name: **FB_20230515** Collected: **5/15/2023 12:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/22/23 17:03
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/22/23 17:03
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/22/23 17:03
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/22/23 17:03
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/22/23 17:03
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/22/23 17:03
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/22/23 17:03
Anthracene	ND	U	0.121	2.00	ug/L	1	5/22/23 17:03
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/22/23 17:03
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/22/23 17:03
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/22/23 17:03
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/22/23 17:03
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/22/23 17:03
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/22/23 17:03
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/22/23 17:03
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/22/23 17:03
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/22/23 17:03
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/22/23 17:03
Carbazole	ND	U	0.188	2.00	ug/L	1	5/22/23 17:03
Chrysene	ND	U	0.129	2.00	ug/L	1	5/22/23 17:03
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/22/23 17:03
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/22/23 17:03
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/22/23 17:03
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/22/23 17:03
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/22/23 17:03
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/22/23 17:03
Fluorene	ND	U	0.109	2.00	ug/L	1	5/22/23 17:03
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/22/23 17:03
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/22/23 17:03
Isophorone	ND	U	0.111	2.00	ug/L	1	5/22/23 17:03
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/22/23 17:03
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/22/23 17:03
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/22/23 17:03
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/22/23 17:03
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/22/23 17:03
Phenol	ND	U	0.0973	2.00	ug/L	1	5/22/23 17:03
Pyrene	ND	U	0.115	2.00	ug/L	1	5/22/23 17:03

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-11 (Ground Water) Sample Name: **FB_20230515** Collected: **5/15/2023 12:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 21:19	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 21:19	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 21:19	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 21:19	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 21:19	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 21:19	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 21:19	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 21:19	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 21:19	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/17/23 21:19	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/17/23 21:19	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/17/23 21:19	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/17/23 21:19	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/17/23 21:19	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/17/23 21:19	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/17/23 21:19	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/17/23 21:19	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/17/23 21:19	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/17/23 21:19	
Acetone	ND	U	10.0	10.0	ug/L	1	5/17/23 21:19	
Benzene	ND	U	0.129	1.00	ug/L	1	5/17/23 21:19	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/17/23 21:19	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/17/23 21:19	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/17/23 21:19	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/17/23 21:19	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/17/23 21:19	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/17/23 21:19	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/17/23 21:19	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/17/23 21:19	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/17/23 21:19	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/17/23 21:19	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/17/23 21:19	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/17/23 21:19	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/17/23 21:19	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-11 (Ground Water) Sample Name: **FB_20230515** Collected: **5/15/2023 12:40:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/17/23 21:19	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/17/23 21:19	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/17/23 21:19	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/17/23 21:19	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/17/23 21:19	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/17/23 21:19	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/17/23 21:19	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/17/23 21:19	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/17/23 21:19	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/17/23 21:19	
Styrene	ND	U	0.176	1.00	ug/L	1	5/17/23 21:19	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/17/23 21:19	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/17/23 21:19	
Toluene	ND	U	0.205	1.00	ug/L	1	5/17/23 21:19	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/17/23 21:19	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/17/23 21:19	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/17/23 21:19	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/17/23 21:19	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/17/23 21:19	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/17/23 21:19	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/16/23 15:32

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515** Collected: **5/15/2023 1:20:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00466	0.0348	mg/kg	1	5/20/23 16:27	UJ, RC:3L
Aroclor-1221	ND	U	0.00917	0.0348	mg/kg	1	5/20/23 16:27	
Aroclor-1232	ND	U	0.0117	0.0348	mg/kg	1	5/20/23 16:27	
Aroclor-1242	ND	U	0.00683	0.0348	mg/kg	1	5/20/23 16:27	
Aroclor-1248	ND	U	0.00714	0.0348	mg/kg	1	5/20/23 16:27	
Aroclor-1254	ND	U	0.00561	0.0348	mg/kg	1	5/20/23 16:27	
Aroclor-1260	**0.288**		**0.00435**	**0.0348**	**mg/kg**	**1**	**5/20/23 16:27**	J, RC:3L
Aroclor-1262	ND	U	0.00935	0.0348	mg/kg	1	5/20/23 16:27	UJ, RC:3L
Aroclor-1268	ND	U	0.00420	0.0348	mg/kg	1	5/20/23 16:27	UJ, RC:3L
Total PCBs	**0.288**		**0.00324**	**0.0348**	**mg/kg**	**1**	**5/20/23 16:27**	J, RC:3L

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0103	0.105	mg/kg	1	6/7/23 15:28
2,4-D	ND	U	0.0175	0.105	mg/kg	1	6/7/23 15:28

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0775**		**0.00527**	**0.0211**	**mg/kg**	**1**	**5/16/23 9:53**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4560**		**0.153**	**2.57**	**mg/kg**	**1**	**5/30/23 10:07**
Antimony	ND	U	0.140	1.28	mg/kg	1	5/30/23 10:07
Arsenic	**2.14**		**0.0916**	**1.28**	**mg/kg**	**1**	**5/30/23 10:07**
Barium	**31.6**		**0.0388**	**0.514**	**mg/kg**	**1**	**5/30/23 10:07**
Beryllium	**0.845**		**0.00297**	**0.0257**	**mg/kg**	**1**	**5/30/23 10:07**
Cadmium	**0.321**		**0.0501**	**0.257**	**mg/kg**	**1**	**5/30/23 10:07**
Calcium	**91500**	D	**28.9**	**257**	**mg/kg**	**10**	**5/30/23 13:12**
Chromium	**9.76**		**0.0290**	**0.257**	**mg/kg**	**1**	**5/30/23 10:07**
Cobalt	**3.06**		**0.0263**	**0.205**	**mg/kg**	**1**	**5/30/23 10:07**
Copper	**39.8**		**0.0719**	**0.257**	**mg/kg**	**1**	**5/30/23 10:07**
Iron	**10100**		**0.728**	**5.14**	**mg/kg**	**1**	**5/30/23 10:07**
Lead	**42.2**		**0.107**	**1.28**	**mg/kg**	**1**	**5/30/23 10:07**
Magnesium	**43100**	D	**90.7**	**514**	**mg/kg**	**10**	**5/30/23 13:12**
Manganese	**131**		**0.0320**	**0.257**	**mg/kg**	**1**	**5/30/23 10:07**
Nickel	**24.7**		**0.0226**	**0.128**	**mg/kg**	**1**	**5/30/23 10:07**
Potassium	**967**		**30.5**	**103**	**mg/kg**	**1**	**5/30/23 10:07**

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515** Collected: **5/15/2023 1:20:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.247	1.28	mg/kg	1	5/30/23 10:07	
Silver	ND	U	0.0437	0.154	mg/kg	1	5/30/23 10:07	R, RC:6L
Sodium	**471**		**4.90**	**51.4**	**mg/kg**	**1**	**5/30/23 10:07**	
Thallium	ND	U	0.0864	1.28	mg/kg	1	5/30/23 10:07	
Vanadium	**40.1**		**0.0591**	**0.514**	**mg/kg**	**1**	**5/30/23 10:07**	
Zinc	**989**	D	**0.785**	**7.71**	**mg/kg**	**10**	**5/30/23 13:12**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000627	0.00137	mg/kg	1	5/19/23 0:40
4,4'-DDE	ND	U	0.000749	0.00137	mg/kg	1	5/19/23 0:40
4,4'-DDT	ND	U	0.000967	0.00137	mg/kg	1	5/19/23 0:40
Aldrin	ND	U	0.000649	0.00137	mg/kg	1	5/19/23 0:40
alpha-BHC	ND	U	0.000408	0.00137	mg/kg	1	5/19/23 0:40
beta-BHC	ND	U	0.000654	0.00137	mg/kg	1	5/19/23 0:40
Chlordane	ND	U	0.000609	0.00137	mg/kg	1	5/19/23 0:40
delta-BHC	ND	U	0.000636	0.00137	mg/kg	1	5/19/23 0:40
Dieldrin	ND	U	0.000716	0.00137	mg/kg	1	5/19/23 0:40
Endosulfan I	ND	U	0.000647	0.00137	mg/kg	1	5/19/23 0:40
Endosulfan II	ND	U	0.000622	0.00137	mg/kg	1	5/19/23 0:40
Endosulfan sulfate	ND	U	0.000515	0.00137	mg/kg	1	5/19/23 0:40
Endosulfans, Total (alpha and beta)	ND	U	0.000622	0.00137	mg/kg	1	5/19/23 0:40
Endrin	ND	U	0.000473	0.00137	mg/kg	1	5/19/23 0:40
Endrin aldehyde	ND	U	0.000546	0.00137	mg/kg	1	5/19/23 0:40
Endrin ketone	ND	U	0.000482	0.00137	mg/kg	1	5/19/23 0:40
gamma-BHC (Lindane)	ND	U	0.000434	0.00137	mg/kg	1	5/19/23 0:40
Heptachlor	ND	U	0.000367	0.00137	mg/kg	1	5/19/23 0:40
Heptachlor Epoxide	ND	U	0.000691	0.00137	mg/kg	1	5/19/23 0:40
Methoxychlor	ND	U	0.000401	0.00137	mg/kg	1	5/19/23 0:40
Toxaphene	ND	U	0.0660	0.0695	mg/kg	1	5/19/23 0:40

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0396	0.351	mg/kg	1	5/22/23 15:36
2,3,4,6-Tetrachlorophenol	ND	U	0.216	1.40	mg/kg	1	5/22/23 15:36
2,4,5-Trichlorophenol	ND	U	0.191	1.40	mg/kg	1	5/22/23 15:36
2,4,6-Trichlorophenol	ND	U	0.0877	1.40	mg/kg	1	5/22/23 15:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515** Collected: **5/15/2023 1:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.141	1.40	mg/kg	1	5/22/23 15:36	
2,4-Dimethylphenol	ND	U	0.138	1.40	mg/kg	1	5/22/23 15:36	
2,4-Dinitrophenol	ND	U	0.202	7.02	mg/kg	1	5/22/23 15:36	
2,4-Dinitrotoluene	ND	U	0.150	1.40	mg/kg	1	5/22/23 15:36	UJ, RC:6L
2,6-Dinitrotoluene	ND	U	0.335	1.40	mg/kg	1	5/22/23 15:36	UJ, RC:6L
2-Chloronaphthalene	ND	U	0.161	1.40	mg/kg	1	5/22/23 15:36	
2-Chlorophenol	ND	U	0.185	1.40	mg/kg	1	5/22/23 15:36	
2-Methylnaphthalene	ND	U	0.336	2.11	mg/kg	1	5/22/23 15:36	
2-Methylphenol	ND	U	0.277	1.40	mg/kg	1	5/22/23 15:36	
2-Nitroaniline	ND	U	0.113	1.40	mg/kg	1	5/22/23 15:36	
2-Nitrophenol	ND	U	0.156	1.40	mg/kg	1	5/22/23 15:36	
3,3'-Dichlorobenzidine	ND	U	0.147	1.40	mg/kg	1	5/22/23 15:36	
3+4-Methylphenol	ND	U	0.257	1.40	mg/kg	1	5/22/23 15:36	
3-Nitroaniline	ND	U	0.260	1.40	mg/kg	1	5/22/23 15:36	
4,6-Dinitro-2-methylphenol	ND	U	0.264	3.51	mg/kg	1	5/22/23 15:36	
4-Bromophenyl-phenyl ether	ND	U	0.200	1.40	mg/kg	1	5/22/23 15:36	
4-Chloro-3-methylphenol	ND	U	0.221	1.40	mg/kg	1	5/22/23 15:36	
4-Chloroaniline	ND	U	0.0491	1.40	mg/kg	1	5/22/23 15:36	
4-Chlorophenyl phenyl ether	ND	U	0.0757	1.40	mg/kg	1	5/22/23 15:36	
4-Nitroaniline	ND	U	0.701	1.40	mg/kg	1	5/22/23 15:36	
4-Nitrophenol	ND	U	0.0897	1.40	mg/kg	1	5/22/23 15:36	
Acenaphthene	ND	U	0.0799	1.40	mg/kg	1	5/22/23 15:36	
Acenaphthylene	ND	U	0.0488	1.40	mg/kg	1	5/22/23 15:36	
Acetophenone	ND	U	0.139	1.40	mg/kg	1	5/22/23 15:36	
Anthracene	ND	U	0.203	1.40	mg/kg	1	5/22/23 15:36	
Atrazine	ND	U	0.132	1.40	mg/kg	1	5/22/23 15:36	
Benzaldehyde	ND	U	0.431	1.40	mg/kg	1	5/22/23 15:36	
Benzo(a)anthracene	**0.798**	J	**0.141**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**	
Benzo(a)pyrene	**1.42**		**0.244**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**	
Benzo(b)fluoranthene	**1.59**		**0.197**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**	
Benzo(g,h,i)perylene	**1.21**	J	**0.114**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**	
Benzo(k)fluoranthene	**0.946**	J	**0.161**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**	
Biphenyl	ND	U	0.123	1.40	mg/kg	1	5/22/23 15:36	
bis(2-chloroethoxy)methane	ND	U	0.194	1.40	mg/kg	1	5/22/23 15:36	
bis(2-chloroethyl)ether	ND	U	0.154	1.40	mg/kg	1	5/22/23 15:36	
bis(2-chloroisopropyl)ether	ND	U	0.504	1.40	mg/kg	1	5/22/23 15:36	
bis(2-ethylhexyl)phthalate	**2.19**		**0.280**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**	
Butylbenzylphthalate	ND	U	0.127	1.40	mg/kg	1	5/22/23 15:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515** Collected: **5/15/2023 1:20:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.181	1.40	mg/kg	1	5/22/23 15:36
Carbazole	ND	U	0.270	3.51	mg/kg	1	5/22/23 15:36
Chrysene	**0.830**	J	**0.0960**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**
Dibenzo(a,h)anthracene	ND	U	0.139	1.40	mg/kg	1	5/22/23 15:36
Dibenzofuran	ND	U	0.0835	1.40	mg/kg	1	5/22/23 15:36
Diethylphthalate	ND	U	0.272	1.40	mg/kg	1	5/22/23 15:36
Dimethylphthalate	ND	U	0.0870	1.40	mg/kg	1	5/22/23 15:36
Di-n-butylphthalate	ND	U	0.573	1.40	mg/kg	1	5/22/23 15:36
Di-n-octylphthalate	ND	U	0.288	1.40	mg/kg	1	5/22/23 15:36
Fluoranthene	**0.931**	J	**0.132**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**
Fluorene	ND	U	0.117	1.40	mg/kg	1	5/22/23 15:36
Hexachlorobenzene	ND	U	0.183	1.40	mg/kg	1	5/22/23 15:36
Hexachlorobutadiene	ND	U	0.673	1.40	mg/kg	1	5/22/23 15:36
Hexachlorocyclopentadiene	ND	U	0.585	3.51	mg/kg	1	5/22/23 15:36
Hexachloroethane	ND	U	0.154	1.40	mg/kg	1	5/22/23 15:36
Indeno(1,2,3-cd)pyrene	**0.929**	J	**0.151**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**
Isophorone	ND	U	0.0918	1.40	mg/kg	1	5/22/23 15:36
Naphthalene	ND	U	0.104	1.40	mg/kg	1	5/22/23 15:36
Nitrobenzene	ND	U	0.238	1.40	mg/kg	1	5/22/23 15:36
n-Nitroso-di-n-propylamine	ND	U	0.0751	1.40	mg/kg	1	5/22/23 15:36
n-Nitrosodiphenylamine	ND	U	0.299	1.40	mg/kg	1	5/22/23 15:36
Pentachlorophenol	ND	U	0.193	3.51	mg/kg	1	5/22/23 15:36
Phenanthrene	ND	U	0.184	1.40	mg/kg	1	5/22/23 15:36
Phenol	ND	U	0.114	1.40	mg/kg	1	5/22/23 15:36
Pyrene	**1.33**	J	**0.103**	**1.40**	**mg/kg**	**1**	**5/22/23 15:36**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~9.72~~	11.80	J, B	mg/kg	1	5/22/23 15:36	R, RC:2
Octadecanoic acid, butyl ester	~~4.54~~	12.58	J, B	mg/kg	1	5/22/23 15:36	R, RC:2
unknown (01)	14.3	12.25	J	mg/kg	1	5/22/23 15:36	
unknown (02)	14.1	12.76	J	mg/kg	1	5/22/23 15:36	
unknown (03)	13.0	13.06	J	mg/kg	1	5/22/23 15:36	
unknown (04)	10.3	15.19	J	mg/kg	1	5/22/23 15:36	
Z-9-Hexadecenal	146	12.98	J	mg/kg	1	5/22/23 15:36	
TIC Total	~~212~~ 198						

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515** Collected: **5/15/2023 1:20:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000375	0.00257	mg/kg	1	5/19/23 4:36	
1,1,2,2-Tetrachloroethane	ND	U	0.000354	0.00257	mg/kg	1	5/19/23 4:36	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00110	0.00257	mg/kg	1	5/19/23 4:36	
1,1,2-Trichloroethane	ND	U	0.000433	0.00257	mg/kg	1	5/19/23 4:36	
1,1-Dichloroethane	ND	U	0.000375	0.00257	mg/kg	1	5/19/23 4:36	
1,1-Dichloroethene	ND	U	0.000475	0.00257	mg/kg	1	5/19/23 4:36	
1,2,3-Trichlorobenzene	ND	U	0.000555	0.00257	mg/kg	1	5/19/23 4:36	
1,2,4-Trichlorobenzene	ND	U	0.000685	0.00257	mg/kg	1	5/19/23 4:36	
1,2,4-Trimethylbenzene	ND	U	0.000354	0.00257	mg/kg	1	5/19/23 4:36	
1,2-Dibromo-3-chloropropane	ND	U	0.000627	0.00642	mg/kg	1	5/19/23 4:36	
1,2-Dibromoethane	ND	U	0.000324	0.00257	mg/kg	1	5/19/23 4:36	
1,2-Dichlorobenzene	ND	U	0.000453	0.00257	mg/kg	1	5/19/23 4:36	
1,2-Dichloroethane	ND	U	0.000362	0.00257	mg/kg	1	5/19/23 4:36	
1,2-Dichloropropane	ND	U	0.000421	0.00257	mg/kg	1	5/19/23 4:36	
1,3-Dichlorobenzene	ND	U	0.000189	0.00257	mg/kg	1	5/19/23 4:36	
1,4-Dichlorobenzene	ND	U	0.000370	0.00257	mg/kg	1	5/19/23 4:36	
2-Butanone	ND	U	0.000419	0.0128	mg/kg	1	5/19/23 4:36	UJ, RC:SL
2-Hexanone	ND	U	0.000240	0.00257	mg/kg	1	5/19/23 4:36	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.000321	0.00257	mg/kg	1	5/19/23 4:36	
Acetone	ND	U	0.000778	0.0642	mg/kg	1	5/19/23 4:36	UJ, RC:SL
Benzene	ND	U	0.000234	0.00257	mg/kg	1	5/19/23 4:36	
Bromochloromethane	ND	U	0.000474	0.00257	mg/kg	1	5/19/23 4:36	
Bromodichloromethane	ND	U	0.000322	0.00257	mg/kg	1	5/19/23 4:36	
Bromoform	ND	U	0.000451	0.00257	mg/kg	1	5/19/23 4:36	
Bromomethane	ND	U	0.000741	0.00257	mg/kg	1	5/19/23 4:36	
Carbon disulfide	ND	U	0.000369	0.00257	mg/kg	1	5/19/23 4:36	
Carbon Tetrachloride	ND	U	0.000387	0.00257	mg/kg	1	5/19/23 4:36	
Chlorobenzene	ND	U	0.000372	0.00257	mg/kg	1	5/19/23 4:36	
Chlorodibromomethane	ND	U	0.000316	0.00257	mg/kg	1	5/19/23 4:36	
Chloroethane	ND	U	0.000438	0.00257	mg/kg	1	5/19/23 4:36	
Chloroform	ND	U	0.000432	0.00257	mg/kg	1	5/19/23 4:36	
Chloromethane	ND	U	0.000989	0.00257	mg/kg	1	5/19/23 4:36	
cis-1,2-Dichloroethene	ND	U	0.000124	0.00257	mg/kg	1	5/19/23 4:36	
cis-1,3-Dichloropropene	ND	U	0.000325	0.00257	mg/kg	1	5/19/23 4:36	
Cyclohexane	ND	U	0.000569	0.00257	mg/kg	1	5/19/23 4:36	
Dichlorodifluoromethane	ND	U	0.000867	0.00257	mg/kg	1	5/19/23 4:36	
EthylBenzene	ND	U	0.000348	0.00257	mg/kg	1	5/19/23 4:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0721
Date to Lab: 5/15/2023 3:38:00PM

23E0721-12 (Soil) Sample Name: **OH-SB-66-1.0-2.0_20230515** Collected: **5/15/2023 1:20:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Isopropylbenzene	ND	U	0.000403	0.00257	mg/kg	1	5/19/23 4:36	
m+p-Xylenes	ND	U	0.000649	0.00514	mg/kg	1	5/19/23 4:36	
Methyl Acetate	ND	U	0.000340	0.00257	mg/kg	1	5/19/23 4:36	
Methyl tert-Butyl Ether	ND	U	0.000434	0.00257	mg/kg	1	5/19/23 4:36	
Methylcyclohexane	ND	U	0.000414	0.00257	mg/kg	1	5/19/23 4:36	
Methylene Chloride	ND	U	0.000772	0.00642	mg/kg	1	5/19/23 4:36	
o-Xylene	ND	U	0.000330	0.00257	mg/kg	1	5/19/23 4:36	
Styrene	ND	U	0.000367	0.00257	mg/kg	1	5/19/23 4:36	
tert-Butyl alcohol	ND	U	0.00539	0.0257	mg/kg	1	5/19/23 4:36	
Tetrachloroethene	ND	U	0.000254	0.00257	mg/kg	1	5/19/23 4:36	
Toluene	ND	U	0.000207	0.00257	mg/kg	1	5/19/23 4:36	
Total Xylenes	ND	U	0.000330	0.00257	mg/kg	1	5/19/23 4:36	
trans-1,2-Dichloroethene	ND	U	0.000348	0.00257	mg/kg	1	5/19/23 4:36	
trans-1,3-Dichloropropene	ND	U	0.000491	0.00257	mg/kg	1	5/19/23 4:36	
Trichloroethene	ND	U	0.000378	0.00257	mg/kg	1	5/19/23 4:36	UJ, RC:SL
Trichlorofluoromethane	ND	U	0.000295	0.00257	mg/kg	1	5/19/23 4:36	
Vinyl chloride	ND	U	0.000488	0.00257	mg/kg	1	5/19/23 4:36	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.00755	3.98	J	mg/kg	1	5/19/23 4:36
TIC Total	**0.008**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**95.0**				**%**	**1**	**5/16/23 10:58**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00695	0.0583	mg/kg	1	5/16/23 15:57

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-01	**Date Collected**	: 05/13/23 10:55
Client ID	: OH-SB-34-1.0-2.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 09:12
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052310	**Analyst**	: CNC
Sample Amount	: 10.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	127	3.70	1.06	
91-20-3C1	C1-Naphthalenes	77.9	3.70	1.06	
91-20-3C2	C2-Naphthalenes	134	3.70	1.06	
91-20-3C3	C3-Naphthalenes	141	3.70	1.06	
91-20-3C4	C4-Naphthalenes	88.2	3.70	1.06	
208-96-8	Acenaphthylene	865	3.70	0.705	
83-32-9	Acenaphthene	55.4	3.70	0.651	
86-73-7	Fluorene	54.3	3.70	0.986	
86-73-7C1	C1-Fluorenes	76.1	3.70	0.986	
86-73-7C2	C2-Fluorenes	194	3.70	0.986	
86-73-7C3	C3-Fluorenes	292	3.70	0.986	
85-01-8	Phenanthrene	1010	3.70	1.22	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	815	3.70	1.22	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	757	3.70	1.22	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	382	3.70	1.22	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	197	3.70	1.22	
120-12-7	Anthracene	518	3.70	0.762	
206-44-0	Fluoranthene	2990	3.70	1.17	
129-00-0	Pyrene	2840	3.70	0.972	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1790	3.70	0.972	
56-55-3	Benz(a)anthracene	2190	3.70	0.753	
218-01-9	Chrysene	2220	3.70	0.747	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-01	**Date Collected**	: 05/13/23 10:55
Client ID	: OH-SB-34-1.0-2.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 09:12
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052310	**Analyst**	: CNC
Sample Amount	: 10.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1220	3.70	0.747	
218-01-9C2	C2-Chrysenes BS	702	3.70	0.747	
218-01-9C3	C3-Chrysenes	605	3.70	0.747	
218-01-9C4	C4-Chrysenes	305	3.70	0.747	
205-99-2	Benzo(b)fluoranthene	2970	3.70	0.961	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1940	3.70	0.733	
192-97-2	Benzo(e)pyrene	1950	3.70	0.762	
50-32-8	Benzo(a)pyrene	2870	3.70	1.05	
198-55-0	Perylene	875	3.70	0.713	
193-39-5	Indeno(1,2,3-cd)pyrene	2230	3.70	1.00	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	682	3.70	0.998	
191-24-2	Benzo(g,h,i)perylene	2140	3.70	0.982	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-02	**Date Collected**	: 05/13/23 11:15
Client ID	: OH-SB-34-2.0-3.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 10:39
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052311	**Analyst**	: CNC
Sample Amount	: 10.02 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	80.2	3.68	1.06	
91-20-3C1	C1-Naphthalenes	52.4	3.68	1.06	
91-20-3C2	C2-Naphthalenes	115	3.68	1.06	
91-20-3C3	C3-Naphthalenes	157	3.68	1.06	
91-20-3C4	C4-Naphthalenes	101	3.68	1.06	
208-96-8	Acenaphthylene	299	3.68	0.702	
83-32-9	Acenaphthene	120	3.68	0.648	
86-73-7	Fluorene	119	3.68	0.981	
86-73-7C1	C1-Fluorenes	103	3.68	0.981	
86-73-7C2	C2-Fluorenes	230	3.68	0.981	
86-73-7C3	C3-Fluorenes	344	3.68	0.981	
85-01-8	Phenanthrene	1740	3.68	1.22	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1200	3.68	1.22	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1010	3.68	1.22	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	466	3.68	1.22	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	168	3.68	1.22	
120-12-7	Anthracene	490	3.68	0.758	
206-44-0	Fluoranthene	3140	3.68	1.17	
129-00-0	Pyrene	3240	3.68	0.967	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1810	3.68	0.967	
56-55-3	Benz(a)anthracene	2050	3.68	0.750	
218-01-9	Chrysene	2090	3.68	0.743	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-02	**Date Collected**	: 05/13/23 11:15
Client ID	: OH-SB-34-2.0-3.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 10:39
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052311	**Analyst**	: CNC
Sample Amount	: 10.02 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1220	3.68	0.743	
218-01-9C2	C2-Chrysenes BS	623	3.68	0.743	
218-01-9C3	C3-Chrysenes	391	3.68	0.743	
218-01-9C4	C4-Chrysenes	188	3.68	0.743	
205-99-2	Benzo(b)fluoranthene	2010	3.68	0.956	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1660	3.68	0.730	
192-97-2	Benzo(e)pyrene	1600	3.68	0.759	
50-32-8	Benzo(a)pyrene	2270	3.68	1.05	
198-55-0	Perylene	624	3.68	0.710	
193-39-5	Indeno(1,2,3-cd)pyrene	1550	3.68	0.998	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	473	3.68	0.994	
191-24-2	Benzo(g,h,i)perylene	1600	3.68	0.977	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-03	**Date Collected**	: 05/13/23 11:55
Client ID	: OH-SB-33-1.0-2.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 12:06
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052312	**Analyst**	: CNC
Sample Amount	: 15.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	18.1	2.32	0.666	
91-20-3C1	C1-Naphthalenes	12.7	2.32	0.666	
91-20-3C2	C2-Naphthalenes	25.5	2.32	0.666	
91-20-3C3	C3-Naphthalenes	39.6	2.32	0.666	
91-20-3C4	C4-Naphthalenes	30.4	2.32	0.666	
208-96-8	Acenaphthylene	33.6	2.32	0.442	
83-32-9	Acenaphthene	29.8	2.32	0.408	
86-73-7	Fluorene	30.4	2.32	0.618	
86-73-7C1	C1-Fluorenes	24.0	2.32	0.618	
86-73-7C2	C2-Fluorenes	55.0	2.32	0.618	
86-73-7C3	C3-Fluorenes	101	2.32	0.618	
85-01-8	Phenanthrene	505	2.32	0.767	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	388	2.32	0.767	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	326	2.32	0.767	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	151	2.32	0.767	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	55.2	2.32	0.767	
120-12-7	Anthracene	113	2.32	0.477	
206-44-0	Fluoranthene	770	2.32	0.736	
129-00-0	Pyrene	885	2.32	0.609	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	466	2.32	0.609	
56-55-3	Benz(a)anthracene	472	2.32	0.472	
218-01-9	Chrysene	507	2.32	0.468	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-03	**Date Collected**	: 05/13/23 11:55
Client ID	: OH-SB-33-1.0-2.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 12:06
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052312	**Analyst**	: CNC
Sample Amount	: 15.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	319	2.32	0.468	
218-01-9C2	C2-Chrysenes BS	163	2.32	0.468	
218-01-9C3	C3-Chrysenes	89.5	2.32	0.468	
218-01-9C4	C4-Chrysenes	40.9	2.32	0.468	
205-99-2	Benzo(b)fluoranthene	438	2.32	0.602	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	356	2.32	0.460	
192-97-2	Benzo(e)pyrene	365	2.32	0.478	
50-32-8	Benzo(a)pyrene	507	2.32	0.661	
198-55-0	Perylene	132	2.32	0.447	
193-39-5	Indeno(1,2,3-cd)pyrene	315	2.32	0.629	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	79.9	2.32	0.626	
191-24-2	Benzo(g,h,i)perylene	334	2.32	0.615	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-04D	**Date Collected**	: 05/13/23 12:15
Client ID	: OH-SB-33-3.5-4-202230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 19:24
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F206052317	**Analyst**	: CNC
Sample Amount	: 10.11 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	551	63.9	18.4	
91-20-3C1	C1-Naphthalenes	619	63.9	18.4	
91-20-3C2	C2-Naphthalenes	1470	63.9	18.4	
91-20-3C3	C3-Naphthalenes	2380	63.9	18.4	
91-20-3C4	C4-Naphthalenes	2300	63.9	18.4	
208-96-8	Acenaphthylene	1740	63.9	12.2	
83-32-9	Acenaphthene	1070	63.9	11.3	
86-73-7	Fluorene	682	63.9	17.0	
86-73-7C1	C1-Fluorenes	1130	63.9	17.0	
86-73-7C2	C2-Fluorenes	3200	63.9	17.0	
86-73-7C3	C3-Fluorenes	7700	63.9	17.0	
85-01-8	Phenanthrene	21700	63.9	21.2	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	29800	63.9	21.2	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	29200	63.9	21.2	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	13600	63.9	21.2	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	4910	63.9	21.2	
120-12-7	Anthracene	3290	63.9	13.2	
206-44-0	Fluoranthene	34000	63.9	20.3	
129-00-0	Pyrene	52600	63.9	16.8	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	36800	63.9	16.8	
56-55-3	Benz(a)anthracene	30600	63.9	13.0	
218-01-9	Chrysene	31700	63.9	12.9	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-04D	**Date Collected**	: 05/13/23 12:15
Client ID	: OH-SB-33-3.5-4-202230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 19:24
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F206052317	**Analyst**	: CNC
Sample Amount	: 10.11 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	24700	63.9	12.9	
218-01-9C2	C2-Chrysenes BS	10900	63.9	12.9	
218-01-9C3	C3-Chrysenes	4560	63.9	12.9	
218-01-9C4	C4-Chrysenes	2150	63.9	12.9	
205-99-2	Benzo(b)fluoranthene	16000	63.9	16.6	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	17100	63.9	12.7	
192-97-2	Benzo(e)pyrene	17900	63.9	13.2	
50-32-8	Benzo(a)pyrene	22800	63.9	18.2	
198-55-0	Perylene	4560	63.9	12.3	
193-39-5	Indeno(1,2,3-cd)pyrene	12100	63.9	17.3	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	4270	63.9	17.3	
191-24-2	Benzo(g,h,i)perylene	14100	63.9	17.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326891
Project Name	: 23E0721	Project Number	: 23E0721
Lab ID	: L2326891-05	Date Collected	: 05/15/23 08:15
Client ID	: OH-SB-20-1.0-2.0-20230515	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/06/23 18:21
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206052306	Analyst	: CNC
Sample Amount	: 10.32 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	19.6	37.0	10.6	J J, RC:SL
91-20-3C1	C1-Naphthalenes	17.7	37.0	10.6	J
91-20-3C2	C2-Naphthalenes	38.0	37.0	10.6	
91-20-3C3	C3-Naphthalenes	56.7	37.0	10.6	
91-20-3C4	C4-Naphthalenes	94.5	37.0	10.6	
208-96-8	Acenaphthylene	26.0	37.0	7.06	J
83-32-9	Acenaphthene	7.13	37.0	6.52	J
86-73-7	Fluorene	ND	37.0	9.87	U
86-73-7C1	C1-Fluorenes	14.8	37.0	9.87	J
86-73-7C2	C2-Fluorenes	51.1	37.0	9.87	
86-73-7C3	C3-Fluorenes	109	37.0	9.87	
85-01-8	Phenanthrene	68.2	37.0	12.2	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	102	37.0	12.2	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	156	37.0	12.2	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	155	37.0	12.2	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	143	37.0	12.2	
120-12-7	Anthracene	26.1	37.0	7.63	J
206-44-0	Fluoranthene	139	37.0	11.8	
129-00-0	Pyrene	189	37.0	9.73	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	168	37.0	9.73	
56-55-3	Benz(a)anthracene	94.2	37.0	7.54	
218-01-9	Chrysene	147	37.0	7.48	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-05	**Date Collected**	: 05/15/23 08:15
Client ID	: OH-SB-20-1.0-2.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/06/23 18:21
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052306	**Analyst**	: CNC
Sample Amount	: 10.32 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	163	37.0	7.48	
218-01-9C2	C2-Chrysenes BS	301	37.0	7.48	
218-01-9C3	C3-Chrysenes	708	37.0	7.48	
218-01-9C4	C4-Chrysenes	742	37.0	7.48	
205-99-2	Benzo(b)fluoranthene	148	37.0	9.62	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	102	37.0	7.34	
192-97-2	Benzo(e)pyrene	196	37.0	7.63	
50-32-8	Benzo(a)pyrene	134	37.0	10.6	
198-55-0	Perylene	69.3	37.0	7.14	
193-39-5	Indeno(1,2,3-cd)pyrene	129	37.0	10.0	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	41.1	37.0	9.99	
191-24-2	Benzo(g,h,i)perylene	187	37.0	9.83	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326891
Project Name	: 23E0721	Project Number	: 23E0721
Lab ID	: L2326891-06D	Date Collected	: 05/15/23 09:00
Client ID	: OH-SB-20-4.0-5.0-20230515	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/08/23 09:11
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 5
Lab File ID	: F206052323	Analyst	: CNC
Sample Amount	: 5.39 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 62
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	3420	895	257.	J, RC:SL
91-20-3C1	C1-Naphthalenes	71000	895	257.	
91-20-3C2	C2-Naphthalenes	67600	895	257.	
91-20-3C3	C3-Naphthalenes	41500	895	257.	
91-20-3C4	C4-Naphthalenes	27400	895	257.	
208-96-8	Acenaphthylene	29100	895	171.	
83-32-9	Acenaphthene	17100	895	158.	J, RC:SL
86-73-7	Fluorene	6570	895	239.	
86-73-7C1	C1-Fluorenes	21500	895	239.	
86-73-7C2	C2-Fluorenes	52200	895	239.	
86-73-7C3	C3-Fluorenes	63600	895	239.	
85-01-8	Phenanthrene	62800	895	296.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	97500	895	296.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	120000	895	296.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	89400	895	296.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	52200	895	296.	
120-12-7	Anthracene	49100	895	184.	
206-44-0	Fluoranthene	86700	895	284.	
129-00-0	Pyrene	465000	895	235.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	293000	895	235.	
56-55-3	Benz(a)anthracene	59700	895	182.	
218-01-9	Chrysene	82500	895	181.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-06D	**Date Collected**	: 05/15/23 09:00
Client ID	: OH-SB-20-4.0-5.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/08/23 09:11
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F206052323	**Analyst**	: CNC
Sample Amount	: 5.39 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 62
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	120000	895	181.	
218-01-9C2	C2-Chrysenes BS	91900	895	181.	
218-01-9C3	C3-Chrysenes	51800	895	181.	
218-01-9C4	C4-Chrysenes	20500	895	181.	
205-99-2	Benzo(b)fluoranthene	73500	895	233.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	76300	895	178.	
192-97-2	Benzo(e)pyrene	129000	895	185.	
50-32-8	Benzo(a)pyrene	126000	895	255.	
198-55-0	Perylene	25000	895	173.	
193-39-5	Indeno(1,2,3-cd)pyrene	82900	895	243.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	19300	895	242.	
191-24-2	Benzo(g,h,i)perylene	132000	895	238.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-07	**Date Collected**	: 05/15/23 11:15
Client ID	: OH-SB-15-3.5-4.5-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 16:28
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052315	**Analyst**	: CNC
Sample Amount	: 10.1 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	168	17.6	5.08	
91-20-3C1	C1-Naphthalenes	206	17.6	5.08	
91-20-3C2	C2-Naphthalenes	533	17.6	5.08	
91-20-3C3	C3-Naphthalenes	928	17.6	5.08	
91-20-3C4	C4-Naphthalenes	717	17.6	5.08	
208-96-8	Acenaphthylene	82.2	17.6	3.37	
83-32-9	Acenaphthene	79.8	17.6	3.11	
86-73-7	Fluorene	79.5	17.6	4.71	
86-73-7C1	C1-Fluorenes	202	17.6	4.71	
86-73-7C2	C2-Fluorenes	867	17.6	4.71	
86-73-7C3	C3-Fluorenes	1150	17.6	4.71	
85-01-8	Phenanthrene	1100	17.6	5.85	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1980	17.6	5.85	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	2540	17.6	5.85	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1340	17.6	5.85	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	551	17.6	5.85	
120-12-7	Anthracene	196	17.6	3.64	
206-44-0	Fluoranthene	984	17.6	5.61	
129-00-0	Pyrene	1250	17.6	4.64	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1440	17.6	4.64	
56-55-3	Benz(a)anthracene	785	17.6	3.60	
218-01-9	Chrysene	1130	17.6	3.57	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-07	**Date Collected**	: 05/15/23 11:15
Client ID	: OH-SB-15-3.5-4.5-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 16:28
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052315	**Analyst**	: CNC
Sample Amount	: 10.1 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1570	17.6	3.57	
218-01-9C2	C2-Chrysenes BS	1460	17.6	3.57	
218-01-9C3	C3-Chrysenes	1280	17.6	3.57	
218-01-9C4	C4-Chrysenes	775	17.6	3.57	
205-99-2	Benzo(b)fluoranthene	710	17.6	4.59	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	458	17.6	3.50	
192-97-2	Benzo(e)pyrene	862	17.6	3.64	
50-32-8	Benzo(a)pyrene	970	17.6	5.04	
198-55-0	Perylene	225	17.6	3.41	
193-39-5	Indeno(1,2,3-cd)pyrene	635	17.6	4.79	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	212	17.6	4.77	
191-24-2	Benzo(g,h,i)perylene	967	17.6	4.69	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-08D	**Date Collected**	: 05/15/23 11:40
Client ID	: OH-SB-15-6.0-7.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 20:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F206052318	**Analyst**	: CNC
Sample Amount	: 15.04 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2430	30.4	8.75	
91-20-3C1	C1-Naphthalenes	1060	30.4	8.75	
91-20-3C2	C2-Naphthalenes	1990	30.4	8.75	
91-20-3C3	C3-Naphthalenes	3630	30.4	8.75	
91-20-3C4	C4-Naphthalenes	2050	30.4	8.75	
208-96-8	Acenaphthylene	2020	30.4	5.81	
83-32-9	Acenaphthene	2300	30.4	5.37	
86-73-7	Fluorene	1130	30.4	8.12	
86-73-7C1	C1-Fluorenes	1990	30.4	8.12	
86-73-7C2	C2-Fluorenes	3240	30.4	8.12	
86-73-7C3	C3-Fluorenes	3060	30.4	8.12	
85-01-8	Phenanthrene	7760	30.4	10.1	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	7840	30.4	10.1	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	8180	30.4	10.1	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	4540	30.4	10.1	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1820	30.4	10.1	
120-12-7	Anthracene	4370	30.4	6.28	
206-44-0	Fluoranthene	17000	30.4	9.67	
129-00-0	Pyrene	22600	30.4	8.01	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	13600	30.4	8.01	
56-55-3	Benz(a)anthracene	7970	30.4	6.21	
218-01-9	Chrysene	8440	30.4	6.15	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-08D	**Date Collected**	: 05/15/23 11:40
Client ID	: OH-SB-15-6.0-7.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/07/23 20:51
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F206052318	**Analyst**	: CNC
Sample Amount	: 15.04 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	6190	30.4	6.15	
218-01-9C2	C2-Chrysenes BS	3760	30.4	6.15	
218-01-9C3	C3-Chrysenes	2160	30.4	6.15	
218-01-9C4	C4-Chrysenes	862	30.4	6.15	
205-99-2	Benzo(b)fluoranthene	6930	30.4	7.92	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	6540	30.4	6.04	
192-97-2	Benzo(e)pyrene	7200	30.4	6.28	
50-32-8	Benzo(a)pyrene	9800	30.4	8.69	
198-55-0	Perylene	2250	30.4	5.88	
193-39-5	Indeno(1,2,3-cd)pyrene	6020	30.4	8.26	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1650	30.4	8.22	
191-24-2	Benzo(g,h,i)perylene	7710	30.4	8.09	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2326891
Project Name	: 23E0721	Project Number	: 23E0721
Lab ID	: L2326891-09	Date Collected	: 05/15/23 13:20
Client ID	: OH-SB-66-1.0-2.0-20230515	Date Received	: 05/15/23
Sample Location	:	Date Analyzed	: 06/06/23 19:45
Sample Matrix	: SOIL	Date Extracted	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206052307	Analyst	: CNC
Sample Amount	: 2.53 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 95
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	35.9	83.1	23.9	J J, RC:SL
91-20-3C1	C1-Naphthalenes	38.8	83.1	23.9	J
91-20-3C2	C2-Naphthalenes	85.2	83.1	23.9	
91-20-3C3	C3-Naphthalenes	104	83.1	23.9	
91-20-3C4	C4-Naphthalenes	150	83.1	23.9	
208-96-8	Acenaphthylene	46.9	83.1	15.9	J
83-32-9	Acenaphthene	30.4	83.1	14.6	J
86-73-7	Fluorene	34.0	83.1	22.2	J
86-73-7C1	C1-Fluorenes	33.5	83.1	22.2	J
86-73-7C2	C2-Fluorenes	133	83.1	22.2	
86-73-7C3	C3-Fluorenes	345	83.1	22.2	
85-01-8	Phenanthrene	207	83.1	27.5	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	223	83.1	27.5	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	326	83.1	27.5	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	455	83.1	27.5	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	451	83.1	27.5	
120-12-7	Anthracene	83.4	83.1	17.1	
206-44-0	Fluoranthene	536	83.1	26.4	
129-00-0	Pyrene	925	83.1	21.9	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	605	83.1	21.9	
56-55-3	Benz(a)anthracene	295	83.1	16.9	
218-01-9	Chrysene	532	83.1	16.8	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-09	**Date Collected**	: 05/15/23 13:20
Client ID	: OH-SB-66-1.0-2.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 06/06/23 19:45
Sample Matrix	: SOIL	**Date Extracted**	: 05/17/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206052307	**Analyst**	: CNC
Sample Amount	: 2.53 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 95
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	461	83.1	16.8	
218-01-9C2	C2-Chrysenes BS	702	83.1	16.8	
218-01-9C3	C3-Chrysenes	1400	83.1	16.8	
218-01-9C4	C4-Chrysenes	1330	83.1	16.8	
205-99-2	Benzo(b)fluoranthene	776	83.1	21.6	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	601	83.1	16.5	
192-97-2	Benzo(e)pyrene	827	83.1	17.2	
50-32-8	Benzo(a)pyrene	628	83.1	23.7	
198-55-0	Perylene	271	83.1	16.0	
193-39-5	Indeno(1,2,3-cd)pyrene	660	83.1	22.6	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	184	83.1	22.4	
191-24-2	Benzo(g,h,i)perylene	800	83.1	22.1	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-01	**Date Collected**	: 05/13/23 10:55
Client ID	: OH-SB-34-1.0-2.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-02	**Date Collected**	: 05/13/23 11:15
Client ID	: OH-SB-34-2.0-3.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-03	**Date Collected**	: 05/13/23 11:55
Client ID	: OH-SB-33-1.0-2.0-20230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-04	**Date Collected**	: 05/13/23 12:15
Client ID	: OH-SB-33-3.5-4-202230513	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 77
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-05	**Date Collected**	: 05/15/23 08:15
Client ID	: OH-SB-20-1.0-2.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-06	**Date Collected**	: 05/15/23 09:00
Client ID	: OH-SB-20-4.0-5.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 62
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-07	**Date Collected**	: 05/15/23 11:15
Client ID	: OH-SB-15-3.5-4.5-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-08	**Date Collected**	: 05/15/23 11:40
Client ID	: OH-SB-15-6.0-7.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2326891
Project Name	: 23E0721	**Project Number**	: 23E0721
Lab ID	: L2326891-09	**Date Collected**	: 05/15/23 13:20
Client ID	: OH-SB-66-1.0-2.0-20230515	**Date Received**	: 05/15/23
Sample Location	:	**Date Analyzed**	: 05/25/23 10:10
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1783323_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 95
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2327919 and 23E0803
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: December 27, 2023

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-66-6.0-7.0-20230515	23E0803-01	5/15/2023	Soil
OH-SB-30-3.0-4.0-20230516	23E0803-02	5/16/2023	Soil
OH-SB-30-6.5-7.5-20230516	23E0803-03	5/16/2023	Soil
FB-20230516	23E0803-04	5/16/2023	Water
OH-SB-13-3.0-4.0-20230516	23E0803-05	5/16/2023	Soil
OH-SB-13-5-6-20230516	23E0803-06	5/16/2023	Soil
OH-SB-13-15-16-20230516	23E0803-07	5/16/2023	Soil
TB-20230516	23E0803-08	5/16/2023	Water

Data validation was performed on the analytical data for eight (8) samples collected May 15 through May 16, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020

- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Certain poor responding SVOC results were rejected due to major recovery issues associated with matrix spike/matrix spike duplicates samples. Additionally, silver results were rejected due to major recovery issues associated with laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, surrogates, laboratory control samples, matrix spike samples, laboratory duplicates and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample FB-20230516 was listed for Alkylated PAH analysis but was not performed on this sample.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230516	Bromomethane	10%< %R < CL	UJ (NDs) J (Detects)	6L
	OH-SB-66-6.0-7.0-20230515 OH-SB-30-3.0-4.0-20230516 OH-SB-30-6.5-7.5-20230516 OH-SB-13-3.0-4.0-20230516 OH-SB-13-15-16-20230516	2-Butanone Acetone Bromomethane Chloromethane cis-1,3-Dichloropropene Tetrachloroethene trans-1,2-Dichloroethene trans-1,3-Dichloropropene	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analytes	Exceedance	Qualification	Reason Code
8260D	0H-SB-13-3.0-4.0-20230516	1,1,2,2-Tetrachloroethane 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Chlorobenzene EthylBenzene Isopropylbenzene m+p-Xylenes Methylcyclohexane o-Xylene Styrene Tetrachloroethene	10% < %R < CL	UJ (NDs) J (Detects)	4L
		2-Butanone 2-Hexanone 4-Methyl-2-pentanone Acetone tert-Butyl alcohol Trichloroethene	%R > CL	J (Detects) No action (NDs)	4H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative

response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230516 TB-20230516	Bromomethane Chloromethane Dichlorodifluoromethane trans-1,3-Dichloropropene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	0H-SB-66-6.0-7.0-20230515 0H-SB-30-3.0-4.0-20230516 0H-SB-30-6.5-7.5-20230516 0H-SB-13-3.0-4.0-20230516 0H-SB-13-15-16-20230516	1,2-Dibromo-3-chloropropane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	0H-SB-66-6.0-7.0-20230515 0H-SB-30-3.0-4.0-20230516 0H-SB-30-6.5-7.5-20230516 0H-SB-13-3.0-4.0-20230516 0H-SB-13-15-16-20230516	2-Butanone 2-Hexanone Acetone Bromomethane Chloromethane Cyclohexane trans-1,2-Dichloroethene Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester and 4-hydroxy-4-methyl-2-Pentanone,. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The field blank FB_20230513 had a detection for bis(2-Ethylhexyl)phthalate. Associated sample analytes less than five times the field blank detection are qualified as follows: detections below the RL are qualified as estimated, UJ, at the RL; detections above the RL are qualified as estimated, UJ, at the sample concentration, reason code 7. Non-detections are not qualified.
- The 8270E-SIM method blank had low-level detections for PAHs naphthalene and C1-Naphthalenes; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	0H-SB-30-3.0-4.0-20230516 0H-SB-30-6.5-7.5-20230516 0H-SB-13-3.0-4.0-20230516 0H-SB-13-5-6-20230516 0H-SB-13-15-16-20230516	2-Methylphenol	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS and/or MSD analysis exhibited acceptable recoveries and RPDs except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	0H-SB-13-3.0-4.0-20230516	4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene 2,4-Dinitrophenol	10% > %R < CL	J (Detects) R (NDs)	4L
		bis(2-ethylhexyl)phthalate Butylbenzylphthalate	%R > CL	J (Detects) No action (NDs)	4H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	OH-SB-30-6.5-7.5-20230516 OH-SB-13-3.0-4.0-20230516	Acenaphthene Acenaphthylene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	FB-20230516	4-Nitrophenol Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	OH-SB-66-6.0-7.0-20230515 OH-SB-30-3.0-4.0-20230516 OH-SB-30-6.5-7.5-20230516 OH-SB-13-3.0-4.0-20230516 OH-SB-13-5-6-20230516 OH-SB-13-15-16-20230516	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Dibenz(a,h,)anthracene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8151A	OH-SB-30-6.5-7.5-20230516 OH-SB-13-3.0-4.0-20230516	2,4-DCAA	10% < %R < CL	J (Detects) UJ (NDs)	3L
8082A	OH-SB-30-3.0-4.0-20230516 OH-SB-13-15-16-20230516	DCB	10% < %R < CL	J (Detects) UJ (NDs)	3L
	FB-20230516	TCMX	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-66-6.0-7.0-20230515	TCMX (Column 1)	10% < %R < CL	J (Detects) UJ (NDs)	3L
		DCB (Column 2)	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-13-5-6-20230516	TCMX	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230516	4,4'-DDT	10% < %R < CL	J (Detects) UJ (NDs)	6L
	0H-SB-66-6.0-7.0-20230515 0H-SB-30-3.0-4.0-20230516 0H-SB-30-6.5-7.5-20230516 0H-SB-13-3.0-4.0-20230516 0H-SB-13-5-6-20230516	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
	0H-SB-13-15-16-20230516	4,4'-DDD 4,4'-DDE alpha-BHC beta-BHC Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS and/or MSD analysis exhibited acceptable recoveries and RPDs except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8082A	0H-SB-13-3.0-4.0-20230516	Aroclor 1260	%R > CL	J (Detects) No action (NDs)	3H
8081B	0H-SB-13-3.0-4.0-20230516	Multiple Analytes	%R > CL	J (Detects) No action (NDs)	3H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230516	Silver	20% < %R < CL	J (Detects) UJ (NDs)	6L
6010D	OH-SB-66-6.0-7.0-20230515 OH-SB-30-3.0-4.0-20230516 OH-SB-30-6.5-7.5-20230516 OH-SB-13-3.0-4.0-20230516 OH-SB-13-5-6-20230516 OH-SB-13-15-16-20230516	Silver	20% > %R < CL	J (Detects) R (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis performed for mercury exhibited acceptable recoveries and RPDs.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-66-6.0-7.0-20230515	Aluminum Silver	%R > CL	J (Detects) No action (NDs)	4L
6010D	OH-SB-66-6.0-7.0-20230515	Antimony Selenium	30% < %R < CL	J (Detects) UJ (NDs)	4L

- Spike recovery requirement not applicable when the sample concentration exceeds the spike concentration by a factor of four or more.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate RPDs for sample OH-SB-66-6.0-7.0-20230515 exceeded control limits for the following metals: aluminum, barium, beryllium, calcium, cobalt, iron, lead, magnesium, nickel, potassium and vanadium. Associated sample detections are qualified as estimated, J, reason code D.
- Mercury concentrations for the sample OH-SB-66-6.0-7.0-20230515 and/or duplicate were less than five times the RL and the difference between results was greater than the control limit. Associated sample detections are qualified as estimated, J, reason code D.
- Arsenic concentrations for the sample OH-SB-66-6.0-7.0-20230515 and/or duplicate were less than five times the RL but the difference between results was less than the control limit. No qualification was required.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Dated: December 27, 2023 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0803

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 14, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E0803

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-66-6.0-7.0-20230515	23E0803-01	Soil	05/15/2023 14:05	05/16/2023 16:59
OH-SB-30-3.0-4.0-20230516	23E0803-02	Soil	05/16/2023 09:40	05/16/2023 16:59
OH-SB-30-6.5-7.5-20230516	23E0803-03	Soil	05/16/2023 10:05	05/16/2023 16:59
FB-20230516	23E0803-04	Ground Water	05/16/2023 11:20	05/16/2023 16:59
OH-SB-13-3.0-4.0-20230516	23E0803-05	Soil	05/16/2023 12:55	05/16/2023 16:59
OH-SB-13-5-6-20230516	23E0803-06	Soil	05/16/2023 13:40	05/16/2023 16:59
OH-SB-13-15-16-20230516	23E0803-07	Soil	05/16/2023 14:00	05/16/2023 16:59
TB-20230516	23E0803-08	Ground Water	05/16/2023 00:00	05/16/2023 16:59

PN: 23E0803

APL 23E0803

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: Yu & Associates	SEND REPORT TO: 〃
ADDRESS: 611 River Drive	ADDRESS: 〃
3rd floor, Elmwood Park, NJ 07407	
PHONE: 201-773-9621	PHONE: 〃
E-MAIL: Swang@yu-associates.com	FAX:
PROJECT NAME: Govanus OU-001	SEND INVOICE TO: 〃
PROJECT MGR: Sixuan Wang	ADDRESS: 〃
PROJECT or PO #: 156854	SAMPLED BY: MLM

TURN-AROUND TIME

- ☑ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required
  - ☐ 48 hr. date & time required
  - ☐ 72 hr. date & time required
  - ☐ 1 week

REPORT FORMAT

- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP#____

PWSID#____

✓ NY State category B

CONTAMINATION LEVEL

☐ HIGH ☐ MEDIUM ☑ LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0803 -01	OU-SB-66-6.0-7.0-20230515	05/15/23	1405	✓			5		VOCs, SVOCs, PCBs, Pesticides, Herbicides, Tal Metals TCN; FCN (Amended); Alkylated PAH by 8270
-02	OU-SB-30-3.0-4.0 2023 0516	05/16/23	0940	✓			5		〃 〃
-03	OU-SB-30-6.5-7.5-20230516		1005	✓			5		〃 〃
-04	FB-20230516		1120				5		〃 〃
-05	OU-SB-13-5.0-4.0 (MS/MSD)-20230516		1255				15		〃 〃
-06	OU-SB-13-5.6-2023 0516		1340				5		〃 〃
-07	OU-SB-13-15-16-2023 0516		1400				5		〃 〃
-08	TB-20230516		LAB				2		VOCs

RELINQUISHED BY (Print) MAX MARQUEZ	DATE 05/16/23	RECEIVED BY (Print) MSM for UPS	5/16/23 14:13
Signature	Time 1413	Signature	
RELINQUISHED BY (Print) MSM for UPS	DATE 5/16 1457	RECEIVED BY (Print) Rosa Nap	5/16/23 1659
Signature	Time	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.8

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low and high).

Method 200.7
The percent recovery for Silver was outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Samples 23E0803-01, -02, -03, -05, -06 and 23E0803-07 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PCBs [8082A]
Samples 23E0803-02 and 23E0803-07 have one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E0803-01, -02, -03, -05, -06 and -07 have surrogates outside of the QC limits (low and high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).
The percent recoveries for several compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

Batch BAE0901:
The percent recovery for 3,3'-Dichlorobenzidine was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Batch BAE0918:
The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Reviewed By: _____ (SK) 8/16/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-20230515**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.144		0.00634	0.0254	mg/kg dry	1	5/17/23 12:26

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6460		0.190	3.20	mg/kg dry	1	5/30/23 11:14
Arsenic	21.4		0.114	1.60	mg/kg dry	1	5/30/23 11:14
Barium	177		0.0484	0.640	mg/kg dry	1	5/30/23 11:14
Beryllium	0.811		0.00371	0.0320	mg/kg dry	1	5/30/23 11:14
Cadmium	1.00		0.0624	0.320	mg/kg dry	1	5/30/23 11:14
Calcium	64000	D	36.0	320	mg/kg dry	10	5/30/23 13:15
Chromium	45.2		0.0362	0.320	mg/kg dry	1	5/30/23 11:14
Cobalt	6.12		0.0327	0.256	mg/kg dry	1	5/30/23 11:14
Copper	54.1		0.0896	0.320	mg/kg dry	1	5/30/23 11:14
Iron	79700	D	9.07	64.0	mg/kg dry	10	5/30/23 13:15
Lead	588		0.134	1.60	mg/kg dry	1	5/30/23 11:14
Magnesium	1610		11.3	64.0	mg/kg dry	1	5/30/23 11:14
Manganese	230		0.0398	0.320	mg/kg dry	1	5/30/23 11:14
Nickel	21.9		0.0281	0.160	mg/kg dry	1	5/30/23 11:14
Potassium	1470		38.1	128	mg/kg dry	1	5/30/23 11:14
Sodium	1700		6.11	64.0	mg/kg dry	1	5/30/23 11:14
Vanadium	35.9		0.0737	0.640	mg/kg dry	1	5/30/23 11:14
Zinc	727	D	0.978	9.61	mg/kg dry	10	5/30/23 13:15

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00389		0.000755	0.00165	mg/kg dry	1	5/24/23 21:34
4,4'-DDE [2C]	0.00665		0.000902	0.00165	mg/kg dry	1	5/24/23 21:34
4,4'-DDT [2C]	0.00826		0.00116	0.00165	mg/kg dry	1	5/24/23 21:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.377		0.0405	0.254	mg/kg dry	1	5/24/23 19:32
3+4-Methylphenol	0.0889	J	0.0309	0.169	mg/kg dry	1	5/24/23 19:32
Acenaphthene	1.56		0.00963	0.169	mg/kg dry	1	5/24/23 19:32
Acenaphthylene	0.424		0.00587	0.169	mg/kg dry	1	5/24/23 19:32
Anthracene	2.04		0.0245	0.169	mg/kg dry	1	5/24/23 19:32
Benzo(a)anthracene	4.81		0.0170	0.169	mg/kg dry	1	5/24/23 19:32
Benzo(a)pyrene	5.42		0.0294	0.169	mg/kg dry	1	5/24/23 19:32
Benzo(b)fluoranthene	5.69		0.0237	0.169	mg/kg dry	1	5/24/23 19:32
Benzo(g,h,i)perylene	3.52		0.0137	0.169	mg/kg dry	1	5/24/23 19:32
Benzo(k)fluoranthene	2.22		0.0194	0.169	mg/kg dry	1	5/24/23 19:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-20230515**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Biphenyl	0.113	J	0.0148	0.169	mg/kg dry	1	5/24/23 19:32
Carbazole	0.629		0.0325	0.422	mg/kg dry	1	5/24/23 19:32
Chrysene	4.74		0.0116	0.169	mg/kg dry	1	5/24/23 19:32
Dibenzo(a,h)anthracene	0.855		0.0167	0.169	mg/kg dry	1	5/24/23 19:32
Dibenzofuran	0.774		0.0101	0.169	mg/kg dry	1	5/24/23 19:32
Fluoranthene	10.5		0.0159	0.169	mg/kg dry	1	5/24/23 19:32
Fluorene	1.23		0.0141	0.169	mg/kg dry	1	5/24/23 19:32
Indeno(1,2,3-cd)pyrene	2.82		0.0181	0.169	mg/kg dry	1	5/24/23 19:32
Naphthalene	0.974		0.0125	0.169	mg/kg dry	1	5/24/23 19:32
Phenanthrene	7.98		0.0222	0.169	mg/kg dry	1	5/24/23 19:32
Pyrene	8.56		0.0124	0.169	mg/kg dry	1	5/24/23 19:32
TIC_1-Octadecanethiol	0.579	J			mg/kg dry	1	5/24/23 19:32
TIC_2-Pentanone, 4-hydroxy-4-methyl-	7.28	J, B			mg/kg dry	1	5/24/23 19:32
TIC_Dibenzothiophene	0.976	J			mg/kg dry	1	5/24/23 19:32
TIC_Hexadecanoic acid, butyl ester	20.4	J, B			mg/kg dry	1	5/24/23 19:32
TIC_Naphthalene, 1-methyl-	0.357	J			mg/kg dry	1	5/24/23 19:32
TIC_Octadecanoic acid, butyl ester	4.82	J, B			mg/kg dry	1	5/24/23 19:32
TIC_unknown (01)	0.824	J			mg/kg dry	1	5/24/23 19:32
TIC_unknown (02)	1.28	J			mg/kg dry	1	5/24/23 19:32

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Butanone	0.0606		0.000405	0.00622	mg/kg dry	1	5/19/23 17:51
Acetone	0.310		0.000753	0.00622	mg/kg dry	1	5/19/23 17:51
Methylcyclohexane	0.00565		0.000400	0.00249	mg/kg dry	1	5/19/23 17:51
Toluene	0.00113	J	0.000200	0.00249	mg/kg dry	1	5/19/23 17:51
TIC_Butane	0.0152	J			mg/kg dry	1	5/19/23 17:51
TIC_Monoethyl carbonotrithioate	0.00736	J			mg/kg dry	1	5/19/23 17:51
TIC_Propane, 2-methyl-1-nitro-	0.0125	J			mg/kg dry	1	5/19/23 17:51

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.152		0.00967	0.0812	mg/kg dry	1	5/17/23 17:15

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-20230516**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-20230516**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	3.78		0.00605	0.0242	mg/kg dry	1	5/17/23 12:27

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8770		0.172	2.90	mg/kg dry	1	5/30/23 11:17
Antimony	2.21		0.158	1.45	mg/kg dry	1	5/30/23 11:17
Arsenic	9.13		0.103	1.45	mg/kg dry	1	5/30/23 11:17
Barium	151		0.0438	0.579	mg/kg dry	1	5/30/23 11:17
Beryllium	1.30		0.00335	0.0290	mg/kg dry	1	5/30/23 11:17
Cadmium	0.365		0.0565	0.290	mg/kg dry	1	5/30/23 11:17
Calcium	25400		3.26	29.0	mg/kg dry	1	5/30/23 11:17
Chromium	38.8		0.0327	0.290	mg/kg dry	1	5/30/23 11:17
Cobalt	7.01		0.0296	0.232	mg/kg dry	1	5/30/23 11:17
Copper	59.1		0.0810	0.290	mg/kg dry	1	5/30/23 11:17
Iron	20200		0.820	5.79	mg/kg dry	1	5/30/23 11:17
Lead	501		0.121	1.45	mg/kg dry	1	5/30/23 11:17
Magnesium	5250		10.2	57.9	mg/kg dry	1	5/30/23 11:17
Manganese	213		0.0360	0.290	mg/kg dry	1	5/30/23 11:17
Nickel	30.7		0.0254	0.145	mg/kg dry	1	5/30/23 11:17
Potassium	2260		34.4	116	mg/kg dry	1	5/30/23 11:17
Sodium	709		5.52	57.9	mg/kg dry	1	5/30/23 11:17
Vanadium	40.0		0.0666	0.579	mg/kg dry	1	5/30/23 11:17
Zinc	180		0.0885	0.869	mg/kg dry	1	5/30/23 11:17

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.00466		0.000861	0.00157	mg/kg dry	1	5/24/23 21:56

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.128	J, D	0.0317	0.322	mg/kg dry	2	5/24/23 20:35
2-Methylnaphthalene	0.549	D	0.0772	0.484	mg/kg dry	2	5/24/23 20:35
3+4-Methylphenol	0.374	D	0.0591	0.322	mg/kg dry	2	5/24/23 20:35
Acenaphthene	2.28	D	0.0184	0.322	mg/kg dry	2	5/24/23 20:35
Acenaphthylene	0.908	D	0.0112	0.322	mg/kg dry	2	5/24/23 20:35
Anthracene	3.23	D	0.0467	0.322	mg/kg dry	2	5/24/23 20:35
Benzaldehyde	0.164	J, D	0.0990	0.322	mg/kg dry	2	5/24/23 20:35
Benzo(a)anthracene	7.90	D	0.0324	0.322	mg/kg dry	2	5/24/23 20:35
Benzo(a)pyrene	8.38	D	0.0562	0.322	mg/kg dry	2	5/24/23 20:35
Benzo(b)fluoranthene	9.55	D	0.0453	0.322	mg/kg dry	2	5/24/23 20:35
Benzo(g,h,i)perylene	5.54	D	0.0261	0.322	mg/kg dry	2	5/24/23 20:35

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-20230516**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(k)fluoranthene	3.15	D	0.0370	0.322	mg/kg dry	2	5/24/23 20:35
Biphenyl	0.215	J, D	0.0283	0.322	mg/kg dry	2	5/24/23 20:35
Carbazole	1.07	D	0.0620	0.806	mg/kg dry	2	5/24/23 20:35
Chrysene	8.10	D	0.0221	0.322	mg/kg dry	2	5/24/23 20:35
Dibenzo(a,h)anthracene	1.32	D	0.0320	0.322	mg/kg dry	2	5/24/23 20:35
Dibenzofuran	1.11	D	0.0192	0.322	mg/kg dry	2	5/24/23 20:35
Fluoranthene	19.3	D	0.0303	0.322	mg/kg dry	2	5/24/23 20:35
Fluorene	1.90	D	0.0269	0.322	mg/kg dry	2	5/24/23 20:35
Indeno(1,2,3-cd)pyrene	4.22	D	0.0346	0.322	mg/kg dry	2	5/24/23 20:35
Naphthalene	0.959	D	0.0239	0.322	mg/kg dry	2	5/24/23 20:35
Phenanthrene	15.5	D	0.0424	0.322	mg/kg dry	2	5/24/23 20:35
Pyrene	16.5	D	0.0237	0.322	mg/kg dry	2	5/24/23 20:35
TIC_2-Pentanone, 4-hydroxy-4-methyl-	11.6	J, D			mg/kg dry	2	5/24/23 20:35
TIC_Dibenzothiophene	1.41	J, D			mg/kg dry	2	5/24/23 20:35
TIC_Hexadecanoic acid, butyl ester	11.3	J, D, B			mg/kg dry	2	5/24/23 20:35
TIC_Naphthalene, 2-phenyl-	1.56	J, D			mg/kg dry	2	5/24/23 20:35
TIC_Octadecanoic acid, butyl ester	3.54	J, D, B			mg/kg dry	2	5/24/23 20:35
TIC_unknown (01)	1.85	J, D			mg/kg dry	2	5/24/23 20:35
TIC_unknown (02)	2.44	J, D			mg/kg dry	2	5/24/23 20:35
TIC_unknown (03)	3.67	J, D			mg/kg dry	2	5/24/23 20:35

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	2.88		0.00591	0.0236	mg/kg dry	1	5/17/23 15:28

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8660		0.173	2.91	mg/kg dry	1	5/30/23 11:19
Arsenic	5.58		0.104	1.46	mg/kg dry	1	5/30/23 11:19
Barium	55.7		0.0440	0.582	mg/kg dry	1	5/30/23 11:19
Beryllium	0.904		0.00337	0.0291	mg/kg dry	1	5/30/23 11:19
Calcium	37200	D	32.7	291	mg/kg dry	10	5/30/23 13:17
Chromium	61.4		0.0329	0.291	mg/kg dry	1	5/30/23 11:19
Cobalt	6.64		0.0297	0.233	mg/kg dry	1	5/30/23 11:19
Copper	70.7		0.0814	0.291	mg/kg dry	1	5/30/23 11:19
Iron	21200		0.824	5.82	mg/kg dry	1	5/30/23 11:19

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Lead	103		0.121	1.46	mg/kg dry	1	5/30/23 11:19
Magnesium	2970		10.3	58.2	mg/kg dry	1	5/30/23 11:19
Manganese	124		0.0362	0.291	mg/kg dry	1	5/30/23 11:19
Nickel	16.3		0.0256	0.146	mg/kg dry	1	5/30/23 11:19
Potassium	2190		34.6	116	mg/kg dry	1	5/30/23 11:19
Sodium	578		5.55	58.2	mg/kg dry	1	5/30/23 11:19
Vanadium	26.3		0.0669	0.582	mg/kg dry	1	5/30/23 11:19
Zinc	116		0.0889	0.873	mg/kg dry	1	5/30/23 11:19

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.0735	J	0.0155	0.157	mg/kg dry	1	5/24/23 21:07
2-Methylnaphthalene	0.108	J	0.0377	0.236	mg/kg dry	1	5/24/23 21:07
3+4-Methylphenol	0.180		0.0288	0.157	mg/kg dry	1	5/24/23 21:07
Acenaphthene	0.136	J	0.00897	0.157	mg/kg dry	1	5/24/23 21:07
Acenaphthylene	0.170		0.00547	0.157	mg/kg dry	1	5/24/23 21:07
Anthracene	0.280		0.0228	0.157	mg/kg dry	1	5/24/23 21:07
Benzo(a)anthracene	1.41		0.0158	0.157	mg/kg dry	1	5/24/23 21:07
Benzo(a)pyrene	1.99		0.0274	0.157	mg/kg dry	1	5/24/23 21:07
Benzo(b)fluoranthene	2.41		0.0221	0.157	mg/kg dry	1	5/24/23 21:07
Benzo(g,h,i)perylene	1.52		0.0128	0.157	mg/kg dry	1	5/24/23 21:07
Benzo(k)fluoranthene	0.855		0.0181	0.157	mg/kg dry	1	5/24/23 21:07
Biphenyl	0.0437	J	0.0138	0.157	mg/kg dry	1	5/24/23 21:07
Carbazole	0.127	J	0.0302	0.393	mg/kg dry	1	5/24/23 21:07
Chrysene	1.67		0.0108	0.157	mg/kg dry	1	5/24/23 21:07
Dibenzo(a,h)anthracene	0.375		0.0156	0.157	mg/kg dry	1	5/24/23 21:07
Dibenzofuran	0.119	J	0.00937	0.157	mg/kg dry	1	5/24/23 21:07
Fluoranthene	2.42		0.0148	0.157	mg/kg dry	1	5/24/23 21:07
Fluorene	0.0944	J	0.0131	0.157	mg/kg dry	1	5/24/23 21:07
Indeno(1,2,3-cd)pyrene	1.22		0.0169	0.157	mg/kg dry	1	5/24/23 21:07
Naphthalene	0.264		0.0116	0.157	mg/kg dry	1	5/24/23 21:07
Phenanthrene	1.09		0.0207	0.157	mg/kg dry	1	5/24/23 21:07
Pyrene	2.19		0.0116	0.157	mg/kg dry	1	5/24/23 21:07
TIC_1-Docosene	0.616	J			mg/kg dry	1	5/24/23 21:07
TIC_2-Pentanone, 4-hydroxy-4-methyl-	9.17	J			mg/kg dry	1	5/24/23 21:07
TIC_Hexadecanoic acid, butyl ester	9.50	J, B			mg/kg dry	1	5/24/23 21:07
TIC_Octadecanoic acid, butyl ester	4.09	J, B			mg/kg dry	1	5/24/23 21:07
TIC_Toluene	0.365	J			mg/kg dry	1	5/24/23 21:07

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown	1.33	J, B			mg/kg dry	1	5/24/23 21:07

23E0803-04 (Ground Water) Sample Name: **FB-20230516**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-ethylhexyl)phthalate	0.568	J	0.183	2.00	ug/L	1	5/22/23 15:54
TIC_unknown (01)	4.57	J			ug/L	1	5/22/23 15:54
TIC_unknown (02)	4.50	J			ug/L	1	5/22/23 15:54

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-20230516**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.185		0.00555	0.0222	mg/kg dry	1	5/17/23 12:27

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8980		0.169	2.85	mg/kg dry	1	5/30/23 11:23
Arsenic	2.67		0.102	1.42	mg/kg dry	1	5/30/23 11:23
Barium	75.5		0.0431	0.570	mg/kg dry	1	5/30/23 11:23
Beryllium	1.56		0.00330	0.0285	mg/kg dry	1	5/30/23 11:23
Cadmium	0.456		0.0555	0.285	mg/kg dry	1	5/30/23 11:23
Calcium	68500	D	32.0	285	mg/kg dry	10	5/30/23 13:19
Chromium	15.9		0.0322	0.285	mg/kg dry	1	5/30/23 11:23
Cobalt	4.81		0.0291	0.228	mg/kg dry	1	5/30/23 11:23
Copper	81.4		0.0797	0.285	mg/kg dry	1	5/30/23 11:23
Iron	17500		0.807	5.70	mg/kg dry	1	5/30/23 11:23
Lead	92.4		0.119	1.42	mg/kg dry	1	5/30/23 11:23
Magnesium	21000		10.1	57.0	mg/kg dry	1	5/30/23 11:23
Manganese	200		0.0354	0.285	mg/kg dry	1	5/30/23 11:23
Nickel	13.9		0.0250	0.142	mg/kg dry	1	5/30/23 11:23
Potassium	1800		33.9	114	mg/kg dry	1	5/30/23 11:23
Sodium	886		5.43	57.0	mg/kg dry	1	5/30/23 11:23
Vanadium	62.9		0.0655	0.570	mg/kg dry	1	5/30/23 11:23
Zinc	86.3		0.0870	0.854	mg/kg dry	1	5/30/23 11:23

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.198	D, J	0.0709	0.444	mg/kg dry	2	5/24/23 21:38

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-20230516**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.313	D	0.0169	0.295	mg/kg dry	2	5/24/23 21:38
Acenaphthylene	0.299	D	0.0103	0.295	mg/kg dry	2	5/24/23 21:38
Anthracene	1.10	D	0.0429	0.295	mg/kg dry	2	5/24/23 21:38
Benzo(a)anthracene	3.29	D	0.0298	0.295	mg/kg dry	2	5/24/23 21:38
Benzo(a)pyrene	3.75	D	0.0515	0.295	mg/kg dry	2	5/24/23 21:38
Benzo(b)fluoranthene	4.81	D	0.0415	0.295	mg/kg dry	2	5/24/23 21:38
Benzo(g,h,i)perylene	2.45	D	0.0240	0.295	mg/kg dry	2	5/24/23 21:38
Benzo(k)fluoranthene	1.66	D	0.0340	0.295	mg/kg dry	2	5/24/23 21:38
Biphenyl	0.0582	J, D	0.0260	0.295	mg/kg dry	2	5/24/23 21:38
bis(2-ethylhexyl)phthalate	6.22	D	0.0591	0.295	mg/kg dry	2	5/24/23 21:38
Carbazole	0.351	J, D	0.0569	0.740	mg/kg dry	2	5/24/23 21:38
Chrysene	3.55	D	0.0203	0.295	mg/kg dry	2	5/24/23 21:38
Dibenzo(a,h)anthracene	0.661	D	0.0293	0.295	mg/kg dry	2	5/24/23 21:38
Dibenzofuran	0.291	D, J	0.0176	0.295	mg/kg dry	2	5/24/23 21:38
Dimethylphthalate	0.191	J, D	0.0183	0.295	mg/kg dry	2	5/24/23 21:38
Fluoranthene	7.11	D	0.0278	0.295	mg/kg dry	2	5/24/23 21:38
Fluorene	0.569	D	0.0247	0.295	mg/kg dry	2	5/24/23 21:38
Indeno(1,2,3-cd)pyrene	2.07	D	0.0318	0.295	mg/kg dry	2	5/24/23 21:38
Naphthalene	0.241	J, D	0.0219	0.295	mg/kg dry	2	5/24/23 21:38
Phenanthrene	3.95	D	0.0389	0.295	mg/kg dry	2	5/24/23 21:38
Pyrene	6.09	D	0.0217	0.295	mg/kg dry	2	5/24/23 21:38
TIC_2-Pentanone, 4-hydroxy-4-methyl-	9.11	J, D			mg/kg dry	2	5/24/23 21:38
TIC_Decane, 2-methyl-	0.937	J, D			mg/kg dry	2	5/24/23 21:38
TIC_Hexadecanoic acid, butyl ester	12.6	J, D, B			mg/kg dry	2	5/24/23 21:38
TIC_Octadecanoic acid, butyl ester	9.36	J, D, B			mg/kg dry	2	5/24/23 21:38

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.24		0.00778	0.0653	mg/kg dry	1	5/17/23 17:15

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-20230516**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	2.84		0.00914	0.0366	mg/kg dry	1	5/17/23 12:27

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-20230516**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6220		0.276	4.64	mg/kg dry	1	5/30/23 11:25
Arsenic	4.70		0.165	2.32	mg/kg dry	1	5/30/23 11:25
Barium	118		0.0701	0.928	mg/kg dry	1	5/30/23 11:25
Beryllium	1.11		0.00537	0.0464	mg/kg dry	1	5/30/23 11:25
Calcium	29200		5.22	46.4	mg/kg dry	1	5/30/23 11:25
Chromium	19.9		0.0524	0.464	mg/kg dry	1	5/30/23 11:25
Cobalt	4.23		0.0474	0.371	mg/kg dry	1	5/30/23 11:25
Copper	30.4		0.130	0.464	mg/kg dry	1	5/30/23 11:25
Iron	11800		1.31	9.28	mg/kg dry	1	5/30/23 11:25
Lead	430		0.194	2.32	mg/kg dry	1	5/30/23 11:25
Magnesium	3080		16.4	92.8	mg/kg dry	1	5/30/23 11:25
Manganese	154		0.0577	0.464	mg/kg dry	1	5/30/23 11:25
Nickel	11.1		0.0407	0.232	mg/kg dry	1	5/30/23 11:25
Potassium	2110		55.2	186	mg/kg dry	1	5/30/23 11:25
Sodium	1720		8.84	92.8	mg/kg dry	1	5/30/23 11:25
Vanadium	15.1		0.107	0.928	mg/kg dry	1	5/30/23 11:25
Zinc	62.2		0.142	1.39	mg/kg dry	1	5/30/23 11:25

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.0142		0.00109	0.00238	mg/kg dry	1	5/24/23 23:02
4,4'-DDE [2C]	0.0118		0.00130	0.00238	mg/kg dry	1	5/24/23 23:02

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.646	D	0.0479	0.486	mg/kg dry	2	5/24/23 22:09
2-Methylnaphthalene	2.25	D	0.117	0.731	mg/kg dry	2	5/24/23 22:09
3+4-Methylphenol	1.14	D	0.0892	0.486	mg/kg dry	2	5/24/23 22:09
Acenaphthene	12.8	D	0.0277	0.486	mg/kg dry	2	5/24/23 22:09
Acenaphthylene	16.6	D	0.0169	0.486	mg/kg dry	2	5/24/23 22:09
Anthracene	13.8	D	0.0705	0.486	mg/kg dry	2	5/24/23 22:09
Benzo(a)anthracene	12.2	D	0.0490	0.486	mg/kg dry	2	5/24/23 22:09
Benzo(a)pyrene	32.4	D	0.848	4.86	mg/kg dry	20	5/26/23 20:04
Benzo(b)fluoranthene	33.9	D	0.684	4.86	mg/kg dry	20	5/26/23 20:04
Benzo(g,h,i)perylene	49.0	D	0.395	4.86	mg/kg dry	20	5/26/23 20:04
Benzo(k)fluoranthene	9.05	D	0.0559	0.486	mg/kg dry	2	5/24/23 22:09
Carbazole	1.25	D	0.0936	1.22	mg/kg dry	2	5/24/23 22:09
Chrysene	16.9	D	0.0333	0.486	mg/kg dry	2	5/24/23 22:09
Dibenzo(a,h)anthracene	6.50	D	0.0482	0.486	mg/kg dry	2	5/24/23 22:09
Dibenzofuran	5.44	D	0.0290	0.486	mg/kg dry	2	5/24/23 22:09

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-20230516**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluoranthene	21.1	D	0.0457	0.486	mg/kg dry	2	5/24/23 22:09
Fluorene	3.77	D	0.0406	0.486	mg/kg dry	2	5/24/23 22:09
Indeno(1,2,3-cd)pyrene	25.5	D	0.0523	0.486	mg/kg dry	2	5/24/23 22:09
Naphthalene	8.18	D	0.0360	0.486	mg/kg dry	2	5/24/23 22:09
Phenanthrene	10.6	D	0.0640	0.486	mg/kg dry	2	5/24/23 22:09
Phenol	0.711	D	0.0395	0.486	mg/kg dry	2	5/24/23 22:09
Pyrene	50.1	D	0.358	4.86	mg/kg dry	20	5/26/23 20:04
TIC_1,3,5,7-Cyclooctatetraene	8.02	J, D			mg/kg dry	2	5/24/23 22:09
TIC_2-Pentanone, 4-hydroxy-4-methyl-	18.5	J, D			mg/kg dry	2	5/24/23 22:09
TIC_Acenaphthenone	6.09	J, D			mg/kg dry	2	5/24/23 22:09
TIC_Benzene, 1-ethenyl-4-methyl-	8.22	J, D			mg/kg dry	2	5/24/23 22:09
TIC_Hexadecanoic acid, butyl ester	12.6	J, D, B			mg/kg dry	2	5/24/23 22:09
TIC_Lenthionine	11.0	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (01)	23.7	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (02)	17.5	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (03)	11.7	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (04)	13.4	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (05)	9.53	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (06)	6.70	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (07)	7.08	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (08)	16.4	J, D			mg/kg dry	2	5/24/23 22:09
TIC_unknown (09)	8.45	J, D			mg/kg dry	2	5/24/23 22:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2,3-Dihydro-1-methylindene	0.0107	J			mg/kg dry	1	5/25/23 16:45
TIC_Benzene, 1-ethyl-2-methyl-	0.0395	J			mg/kg dry	1	5/25/23 16:45
TIC_Benzene, 1-ethyl-4-methyl-	0.0204	J			mg/kg dry	1	5/25/23 16:45

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	3.08		0.0131	0.110	mg/kg dry	1	5/17/23 17:15

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-20230516**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-20230516**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	2.79		0.00736	0.0294	mg/kg dry	1	5/17/23 12:27

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	18600		0.213	3.59	mg/kg dry	1	5/30/23 11:28
Arsenic	7.33		0.128	1.79	mg/kg dry	1	5/30/23 11:28
Barium	64.5		0.0543	0.718	mg/kg dry	1	5/30/23 11:28
Beryllium	1.81		0.00416	0.0359	mg/kg dry	1	5/30/23 11:28
Calcium	6430		4.04	35.9	mg/kg dry	1	5/30/23 11:28
Chromium	28.7		0.0405	0.359	mg/kg dry	1	5/30/23 11:28
Cobalt	7.86		0.0367	0.287	mg/kg dry	1	5/30/23 11:28
Copper	21.0		0.100	0.359	mg/kg dry	1	5/30/23 11:28
Iron	31700		1.02	7.18	mg/kg dry	1	5/30/23 11:28
Lead	61.1		0.150	1.79	mg/kg dry	1	5/30/23 11:28
Magnesium	7140		12.7	71.8	mg/kg dry	1	5/30/23 11:28
Manganese	269		0.0447	0.359	mg/kg dry	1	5/30/23 11:28
Nickel	22.9		0.0315	0.179	mg/kg dry	1	5/30/23 11:28
Potassium	4390		42.7	144	mg/kg dry	1	5/30/23 11:28
Sodium	2680		6.84	71.8	mg/kg dry	1	5/30/23 11:28
Vanadium	38.4		0.0826	0.718	mg/kg dry	1	5/30/23 11:28
Zinc	76.1		0.110	1.08	mg/kg dry	1	5/30/23 11:28

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	13.1		0.0469	0.294	mg/kg dry	1	5/24/23 22:40
3+4-Methylphenol	0.560		0.0359	0.196	mg/kg dry	1	5/24/23 22:40
Acenaphthene	11.9		0.0112	0.196	mg/kg dry	1	5/24/23 22:40
Acenaphthylene	0.987		0.00681	0.196	mg/kg dry	1	5/24/23 22:40
Anthracene	7.70		0.0284	0.196	mg/kg dry	1	5/24/23 22:40
Benzo(a)anthracene	5.27		0.0197	0.196	mg/kg dry	1	5/24/23 22:40
Benzo(a)pyrene	4.64		0.0341	0.196	mg/kg dry	1	5/24/23 22:40
Benzo(b)fluoranthene	4.65		0.0275	0.196	mg/kg dry	1	5/24/23 22:40
Benzo(g,h,i)perylene	2.25		0.0159	0.196	mg/kg dry	1	5/24/23 22:40
Benzo(k)fluoranthene	1.90		0.0225	0.196	mg/kg dry	1	5/24/23 22:40
Biphenyl	2.76		0.0172	0.196	mg/kg dry	1	5/24/23 22:40
bis(2-ethylhexyl)phthalate	0.0923	J	0.0391	0.196	mg/kg dry	1	5/24/23 22:40
Carbazole	4.18		0.0377	0.490	mg/kg dry	1	5/24/23 22:40
Chrysene	4.86		0.0134	0.196	mg/kg dry	1	5/24/23 22:40
Dibenzo(a,h)anthracene	0.635		0.0194	0.196	mg/kg dry	1	5/24/23 22:40
Dibenzofuran	6.69		0.0117	0.196	mg/kg dry	1	5/24/23 22:40

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-20230516**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluoranthene	12.9	D	0.184	1.96	mg/kg dry	10	5/26/23 20:34
Fluorene	8.85		0.0163	0.196	mg/kg dry	1	5/24/23 22:40
Indeno(1,2,3-cd)pyrene	1.95		0.0210	0.196	mg/kg dry	1	5/24/23 22:40
Naphthalene	49.5	D	0.145	1.96	mg/kg dry	10	5/26/23 20:34
Phenanthrene	25.1	D	0.258	1.96	mg/kg dry	10	5/26/23 20:34
Pyrene	10.8		0.0144	0.196	mg/kg dry	1	5/24/23 22:40
TIC_2-Pentanone, 4-hydroxy-4-methyl-	13.6	J			mg/kg dry	1	5/24/23 22:40
TIC_4b,8-Dimethyl-2-isopropylphenanthrene, 4	3.50	J			mg/kg dry	1	5/24/23 22:40
TIC_Dibenzothiophene	7.09	J			mg/kg dry	1	5/24/23 22:40
TIC_Eicosane	1.57	J			mg/kg dry	1	5/24/23 22:40
TIC_Ethyl Acetate	2.70	J			mg/kg dry	1	5/24/23 22:40
TIC_Ethylbenzene	2.41	J			mg/kg dry	1	5/24/23 22:40
TIC_Hexadecanoic acid, butyl ester	22.5	J, B			mg/kg dry	1	5/24/23 22:40
TIC_Indene	4.90	J			mg/kg dry	1	5/24/23 22:40
TIC_Lenthionine	4.69	J			mg/kg dry	1	5/24/23 22:40
TIC_Octadecanoic acid, butyl ester	5.07	J, B			mg/kg dry	1	5/24/23 22:40
TIC_Toluene	2.19	J			mg/kg dry	1	5/24/23 22:40
TIC_unknown (01)	2.46	J			mg/kg dry	1	5/24/23 22:40
TIC_unknown (02)	2.03	J			mg/kg dry	1	5/24/23 22:40
TIC_unknown (03)	3.25	J			mg/kg dry	1	5/24/23 22:40
TIC_unknown (04)	5.31	J			mg/kg dry	1	5/24/23 22:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.162		0.000391	0.00283	mg/kg dry	1	5/19/23 20:29
Benzene	0.448		0.000258	0.00283	mg/kg dry	1	5/19/23 20:29
EthylBenzene	0.456		0.000384	0.00283	mg/kg dry	1	5/19/23 20:29
Isopropylbenzene	0.0564		0.000444	0.00283	mg/kg dry	1	5/19/23 20:29
m+p-Xylenes	0.625		0.000715	0.00566	mg/kg dry	1	5/19/23 20:29
Methylcyclohexane	0.00366		0.000456	0.00283	mg/kg dry	1	5/19/23 20:29
o-Xylene	0.358		0.000364	0.00283	mg/kg dry	1	5/19/23 20:29
Toluene	0.0719		0.000228	0.00283	mg/kg dry	1	5/19/23 20:29
Total Xylenes	0.983		0.000364	0.00283	mg/kg dry	1	5/19/23 20:29
TIC_Benzene, (1-methyl-1-propenyl)-, (Z)-	0.0374	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0568	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzene, 1,2,3-trimethyl-	0.0658	J			mg/kg dry	1	5/19/23 20:29

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-20230516**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1,3,5-trimethyl-	0.261	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzene, 1-ethenyl-2-methyl-	0.560	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzene, 1-ethyl-2-methyl-	0.180	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzene, 1-ethyl-4-methyl-	0.0330	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzene, 1-propynyl-	0.298	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzo[b]thiophene	0.148	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzofuran, 2-methyl-	0.148	J			mg/kg dry	1	5/19/23 20:29
TIC_Benzofuran, 7-methyl-	0.0508	J			mg/kg dry	1	5/19/23 20:29
TIC_Cycloprop[a]indene, 1,1a,6,6a-tetrahydro	0.0853	J			mg/kg dry	1	5/19/23 20:29
TIC_TIC:Naphthalene	3.13	J			mg/kg dry	1	5/19/23 20:29

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-20230515** Collected: **5/15/2023 2:05:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00561	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1221	ND	U	0.0110	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1232	ND	U	0.0140	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1242	ND	U	0.00822	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1248	ND	U	0.00860	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1254	ND	U	0.00675	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1260	ND	U	0.00524	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1262	ND	U	0.0113	0.0418	mg/kg	1	5/22/23 22:51
Aroclor-1268	ND	U	0.00506	0.0418	mg/kg	1	5/22/23 22:51
Total PCBs	ND	U	0.00391	0.0418	mg/kg	1	5/22/23 22:51

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0124	0.127	mg/kg	1	5/27/23 14:42
2,4-D	ND	U	0.0211	0.127	mg/kg	1	5/27/23 14:42

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.144**		**0.00634**	**0.0254**	**mg/kg**	**1**	**5/17/23 12:26** J, RC:D

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6460**		**0.190**	**3.20**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D,4L
Antimony	ND	U	0.174	1.60	mg/kg	1	5/30/23 11:14 UJ, RC:4L
Arsenic	**21.4**		**0.114**	**1.60**	**mg/kg**	**1**	**5/30/23 11:14**
Barium	**177**		**0.0484**	**0.640**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D
Beryllium	**0.811**		**0.00371**	**0.0320**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D
Cadmium	**1.00**		**0.0624**	**0.320**	**mg/kg**	**1**	**5/30/23 11:14**
Calcium	**64000**	D	**36.0**	**320**	**mg/kg**	**10**	**5/30/23 13:15** J, RC:D
Chromium	**45.2**		**0.0362**	**0.320**	**mg/kg**	**1**	**5/30/23 11:14**
Cobalt	**6.12**		**0.0327**	**0.256**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D
Copper	**54.1**		**0.0896**	**0.320**	**mg/kg**	**1**	**5/30/23 11:14**
Iron	**79700**	D	**9.07**	**64.0**	**mg/kg**	**10**	**5/30/23 13:15** J, RC:D
Lead	**588**		**0.134**	**1.60**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D
Magnesium	**1610**		**11.3**	**64.0**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D
Manganese	**230**		**0.0398**	**0.320**	**mg/kg**	**1**	**5/30/23 11:14**
Nickel	**21.9**		**0.0281**	**0.160**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D
Potassium	**1470**		**38.1**	**128**	**mg/kg**	**1**	**5/30/23 11:14** J, RC:D

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-202 30515** Collected: **5/15/2023 2:05:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.307	1.60	mg/kg	1	5/30/23 11:14	UJ, RC:4L
Silver	~~ND~~	~~U~~	0.0545	0.192	mg/kg	1	5/30/23 11:14	R, RC:6L
Sodium	**1700**		**6.11**	**64.0**	**mg/kg**	**1**	**5/30/23 11:14**	
Thallium	ND	U	0.108	1.60	mg/kg	1	5/30/23 11:14	
Vanadium	**35.9**		**0.0737**	**0.640**	**mg/kg**	**1**	**5/30/23 11:14**	J, RC:D
Zinc	**727**	D	**0.978**	**9.61**	**mg/kg**	**10**	**5/30/23 13:15**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.00389**		**0.000755**	**0.00165**	**mg/kg**	**1**	**5/24/23 21:34**	J, RC:3L
4,4'-DDE [2C]	**0.00665**		**0.000902**	**0.00165**	**mg/kg**	**1**	**5/24/23 21:34**	J, RC:3H
4,4'-DDT [2C]	**0.00826**		**0.00116**	**0.00165**	**mg/kg**	**1**	**5/24/23 21:34**	J, RC:3H
Aldrin	ND	U	0.000781	0.00165	mg/kg	1	5/24/23 21:34	UJ, RC:3L
alpha-BHC	ND	U	0.000491	0.00165	mg/kg	1	5/24/23 21:34	
beta-BHC	ND	U	0.000788	0.00165	mg/kg	1	5/24/23 21:34	
Chlordane	ND	U	0.000733	0.00165	mg/kg	1	5/24/23 21:34	
delta-BHC	ND	U	0.000766	0.00165	mg/kg	1	5/24/23 21:34	
Dieldrin	ND	U	0.000862	0.00165	mg/kg	1	5/24/23 21:34	
Endosulfan I	ND	U	0.000779	0.00165	mg/kg	1	5/24/23 21:34	
Endosulfan II	ND	U	0.000749	0.00165	mg/kg	1	5/24/23 21:34	RC:6L
Endosulfan sulfate	ND	U	0.000620	0.00165	mg/kg	1	5/24/23 21:34	
Endosulfans, Total (alpha and beta)	ND	U	0.000749	0.00165	mg/kg	1	5/24/23 21:34	
Endrin	ND	U	0.000569	0.00165	mg/kg	1	5/24/23 21:34	
Endrin aldehyde	ND	U	0.000657	0.00165	mg/kg	1	5/24/23 21:34	
Endrin ketone	ND	U	0.000581	0.00165	mg/kg	1	5/24/23 21:34	
gamma-BHC (Lindane)	ND	U	0.000522	0.00165	mg/kg	1	5/24/23 21:34	
Heptachlor	ND	U	0.000441	0.00165	mg/kg	1	5/24/23 21:34	
Heptachlor Epoxide	ND	U	0.000832	0.00165	mg/kg	1	5/24/23 21:34	
Methoxychlor	ND	U	0.000483	0.00165	mg/kg	1	5/24/23 21:34	
Toxaphene	ND	U	0.0794	0.0837	mg/kg	1	5/24/23 21:34	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00477	0.0422	mg/kg	1	5/24/23 19:32
2,3,4,6-Tetrachlorophenol	ND	U	0.0260	0.169	mg/kg	1	5/24/23 19:32
2,4,5-Trichlorophenol	ND	U	0.0230	0.169	mg/kg	1	5/24/23 19:32
2,4,6-Trichlorophenol	ND	U	0.0106	0.169	mg/kg	1	5/24/23 19:32

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-20230515** Collected: **5/15/2023 2:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0170	0.169	mg/kg	1	5/24/23 19:32	
2,4-Dimethylphenol	ND	U	0.0166	0.169	mg/kg	1	5/24/23 19:32	
2,4-Dinitrophenol	ND	U	0.0243	0.846	mg/kg	1	5/24/23 19:32	
2,4-Dinitrotoluene	ND	U	0.0180	0.169	mg/kg	1	5/24/23 19:32	
2,6-Dinitrotoluene	ND	U	0.0403	0.169	mg/kg	1	5/24/23 19:32	
2-Chloronaphthalene	ND	U	0.0194	0.169	mg/kg	1	5/24/23 19:32	
2-Chlorophenol	ND	U	0.0223	0.169	mg/kg	1	5/24/23 19:32	
2-Methylnaphthalene	**0.377**		**0.0405**	**0.254**	**mg/kg**	**1**	**5/24/23 19:32**	
2-Methylphenol	ND	U	0.0334	0.169	mg/kg	1	5/24/23 19:32	
2-Nitroaniline	ND	U	0.0136	0.169	mg/kg	1	5/24/23 19:32	
2-Nitrophenol	ND	U	0.0188	0.169	mg/kg	1	5/24/23 19:32	
3,3'-Dichlorobenzidine	ND	U	0.0178	0.169	mg/kg	1	5/24/23 19:32	
3+4-Methylphenol	**0.0889**	J	**0.0309**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
3-Nitroaniline	ND	U	0.0313	0.169	mg/kg	1	5/24/23 19:32	
4,6-Dinitro-2-methylphenol	ND	U	0.0318	0.422	mg/kg	1	5/24/23 19:32	
4-Bromophenyl-phenyl ether	ND	U	0.0241	0.169	mg/kg	1	5/24/23 19:32	
4-Chloro-3-methylphenol	ND	U	0.0266	0.169	mg/kg	1	5/24/23 19:32	
4-Chloroaniline	ND	U	0.00591	0.169	mg/kg	1	5/24/23 19:32	
4-Chlorophenyl phenyl ether	ND	U	0.00912	0.169	mg/kg	1	5/24/23 19:32	
4-Nitroaniline	ND	U	0.0845	0.169	mg/kg	1	5/24/23 19:32	
4-Nitrophenol	ND	U	0.0108	0.169	mg/kg	1	5/24/23 19:32	
Acenaphthene	**1.56**		**0.00963**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Acenaphthylene	**0.424**		**0.00587**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Acetophenone	ND	U	0.0167	0.169	mg/kg	1	5/24/23 19:32	
Anthracene	**2.04**		**0.0245**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Atrazine	ND	U	0.0159	0.169	mg/kg	1	5/24/23 19:32	
Benzaldehyde	ND	U	0.0519	0.169	mg/kg	1	5/24/23 19:32	UJ, RC:SL
Benzo(a)anthracene	**4.81**		**0.0170**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Benzo(a)pyrene	**5.42**		**0.0294**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Benzo(b)fluoranthene	**5.69**		**0.0237**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Benzo(g,h,i)perylene	**3.52**		**0.0137**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Benzo(k)fluoranthene	**2.22**		**0.0194**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Biphenyl	**0.113**	J	**0.0148**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
bis(2-chloroethoxy)methane	ND	U	0.0233	0.169	mg/kg	1	5/24/23 19:32	
bis(2-chloroethyl)ether	ND	U	0.0185	0.169	mg/kg	1	5/24/23 19:32	
bis(2-chloroisopropyl)ether	ND	U	0.0607	0.169	mg/kg	1	5/24/23 19:32	
bis(2-ethylhexyl)phthalate	ND	U	0.0337	0.169	mg/kg	1	5/24/23 19:32	
Butylbenzylphthalate	ND	U	0.0153	0.169	mg/kg	1	5/24/23 19:32	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-202 30515** Collected: **5/15/2023 2:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0218	0.169	mg/kg	1	5/24/23 19:32	
Carbazole	**0.629**		**0.0325**	**0.422**	**mg/kg**	**1**	**5/24/23 19:32**	
Chrysene	**4.74**		**0.0116**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Dibenzo(a,h)anthracene	**0.855**		**0.0167**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	J, RC:SH
Dibenzofuran	**0.774**		**0.0101**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Diethylphthalate	ND	U	0.0327	0.169	mg/kg	1	5/24/23 19:32	
Dimethylphthalate	ND	U	0.0105	0.169	mg/kg	1	5/24/23 19:32	
Di-n-butylphthalate	ND	U	0.0690	0.169	mg/kg	1	5/24/23 19:32	
Di-n-octylphthalate	ND	U	0.0346	0.169	mg/kg	1	5/24/23 19:32	
Fluoranthene	**10.5**		**0.0159**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Fluorene	**1.23**		**0.0141**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Hexachlorobenzene	ND	U	0.0221	0.169	mg/kg	1	5/24/23 19:32	
Hexachlorobutadiene	ND	U	0.0810	0.169	mg/kg	1	5/24/23 19:32	
Hexachlorocyclopentadiene	ND	U	0.0704	0.422	mg/kg	1	5/24/23 19:32	
Hexachloroethane	ND	U	0.0185	0.169	mg/kg	1	5/24/23 19:32	
Indeno(1,2,3-cd)pyrene	**2.82**		**0.0181**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Isophorone	ND	U	0.0111	0.169	mg/kg	1	5/24/23 19:32	
Naphthalene	**0.974**		**0.0125**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Nitrobenzene	ND	U	0.0287	0.169	mg/kg	1	5/24/23 19:32	
n-Nitroso-di-n-propylamine	ND	U	0.00904	0.169	mg/kg	1	5/24/23 19:32	
n-Nitrosodiphenylamine	ND	U	0.0360	0.169	mg/kg	1	5/24/23 19:32	
Pentachlorophenol	ND	U	0.0232	0.422	mg/kg	1	5/24/23 19:32	
Phenanthrene	**7.98**		**0.0222**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	
Phenol	ND	U	0.0137	0.169	mg/kg	1	5/24/23 19:32	
Pyrene	**8.56**		**0.0124**	**0.169**	**mg/kg**	**1**	**5/24/23 19:32**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Octadecanethiol	0.579	14.11	J	mg/kg	1	5/24/23 19:32	
2-Pentanone, 4-hydroxy-4-methyl-	~~7.28~~	5.20	J, B	mg/kg	1	5/24/23 19:32	R, RC:2
Dibenzothiophene	0.976	11.39	J	mg/kg	1	5/24/23 19:32	
Hexadecanoic acid, butyl ester	20.4	12.83	J, B	mg/kg	1	5/24/23 19:32	
Naphthalene, 1-methyl-	0.357	9.03	J	mg/kg	1	5/24/23 19:32	
Octadecanoic acid, butyl ester	4.82	13.65	J, B	mg/kg	1	5/24/23 19:32	
unknown (01)	0.824	11.99	J	mg/kg	1	5/24/23 19:32	
unknown (02)	1.28	12.02	J	mg/kg	1	5/24/23 19:32	
TIC Total	~~36.5~~ 29.22						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-20230515** Collected: **5/15/2023 2:05:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000363	0.00249	mg/kg	1	5/19/23 17:51	
1,1,2,2-Tetrachloroethane	ND	U	0.000343	0.00249	mg/kg	1	5/19/23 17:51	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00106	0.00249	mg/kg	1	5/19/23 17:51	
1,1,2-Trichloroethane	ND	U	0.000419	0.00249	mg/kg	1	5/19/23 17:51	
1,1-Dichloroethane	ND	U	0.000363	0.00249	mg/kg	1	5/19/23 17:51	
1,1-Dichloroethene	ND	U	0.000460	0.00249	mg/kg	1	5/19/23 17:51	
1,2,3-Trichlorobenzene	ND	U	0.000537	0.00249	mg/kg	1	5/19/23 17:51	
1,2,4-Trichlorobenzene	ND	U	0.000663	0.00249	mg/kg	1	5/19/23 17:51	
1,2,4-Trimethylbenzene	ND	U	0.000343	0.00249	mg/kg	1	5/19/23 17:51	
1,2-Dibromo-3-chloropropane	ND	U	0.000607	0.00249	mg/kg	1	5/19/23 17:51	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000313	0.00249	mg/kg	1	5/19/23 17:51	
1,2-Dichlorobenzene	ND	U	0.000439	0.00249	mg/kg	1	5/19/23 17:51	
1,2-Dichloroethane	ND	U	0.000351	0.00249	mg/kg	1	5/19/23 17:51	
1,2-Dichloropropane	ND	U	0.000408	0.00249	mg/kg	1	5/19/23 17:51	
1,3-Dichlorobenzene	ND	U	0.000183	0.00249	mg/kg	1	5/19/23 17:51	
1,4-Dichlorobenzene	ND	U	0.000358	0.00249	mg/kg	1	5/19/23 17:51	
2-Butanone	**0.0606**		**0.000405**	**0.00622**	**mg/kg**	**1**	**5/19/23 17:51**	J, RC:6H,SH
2-Hexanone	ND	U	0.000232	0.00249	mg/kg	1	5/19/23 17:51	
4-Methyl-2-pentanone	ND	U	0.000311	0.00249	mg/kg	1	5/19/23 17:51	
Acetone	**0.310**		**0.000753**	**0.00622**	**mg/kg**	**1**	**5/19/23 17:51**	J, RC:6H,SH
Benzene	ND	U	0.000226	0.00249	mg/kg	1	5/19/23 17:51	
Bromochloromethane	ND	U	0.000459	0.00249	mg/kg	1	5/19/23 17:51	
Bromodichloromethane	ND	U	0.000312	0.00249	mg/kg	1	5/19/23 17:51	
Bromoform	ND	U	0.000436	0.00249	mg/kg	1	5/19/23 17:51	
Bromomethane	ND	U	0.000717	0.00249	mg/kg	1	5/19/23 17:51	UJ, RC:SL
Carbon disulfide	ND	U	0.000357	0.00249	mg/kg	1	5/19/23 17:51	
Carbon Tetrachloride	ND	U	0.000374	0.00249	mg/kg	1	5/19/23 17:51	
Chlorobenzene	ND	U	0.000361	0.00249	mg/kg	1	5/19/23 17:51	
Chlorodibromomethane	ND	U	0.000306	0.00249	mg/kg	1	5/19/23 17:51	
Chloroethane	ND	U	0.000424	0.00249	mg/kg	1	5/19/23 17:51	
Chloroform	ND	U	0.000418	0.00249	mg/kg	1	5/19/23 17:51	
Chloromethane	ND	U	0.000957	0.00249	mg/kg	1	5/19/23 17:51	
cis-1,2-Dichloroethene	ND	U	0.000120	0.00249	mg/kg	1	5/19/23 17:51	
cis-1,3-Dichloropropene	ND	U	0.000315	0.00249	mg/kg	1	5/19/23 17:51	
Cyclohexane	ND	U	0.000551	0.00249	mg/kg	1	5/19/23 17:51	
Dichlorodifluoromethane	ND	U	0.000839	0.00249	mg/kg	1	5/19/23 17:51	UJ, RC:SL
EthylBenzene	ND	U	0.000337	0.00249	mg/kg	1	5/19/23 17:51	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-01 (Soil) Sample Name: **OH-SB-66-6.0-7.0-20230515** Collected: **5/15/2023 2:05:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000390	0.00249	mg/kg	1	5/19/23 17:51
m+p-Xylenes	ND	U	0.000628	0.00497	mg/kg	1	5/19/23 17:51
Methyl Acetate	ND	U	0.000329	0.00249	mg/kg	1	5/19/23 17:51
Methyl tert-Butyl Ether	ND	U	0.000420	0.00249	mg/kg	1	5/19/23 17:51
Methylcyclohexane	**0.00565**		**0.000400**	**0.00249**	**mg/kg**	**1**	**5/19/23 17:51**
Methylene Chloride	ND	U	0.000747	0.00249	mg/kg	1	5/19/23 17:51
o-Xylene	ND	U	0.000320	0.00249	mg/kg	1	5/19/23 17:51
Styrene	ND	U	0.000356	0.00249	mg/kg	1	5/19/23 17:51
tert-Butyl alcohol	ND	U	0.00522	0.0249	mg/kg	1	5/19/23 17:51
Tetrachloroethene	ND	U	0.000246	0.00249	mg/kg	1	5/19/23 17:51
Toluene	**0.00113**	J	**0.000200**	**0.00249**	**mg/kg**	**1**	**5/19/23 17:51**
Total Xylenes	ND	U	0.000320	0.00249	mg/kg	1	5/19/23 17:51
trans-1,2-Dichloroethene	ND	U	0.000337	0.00249	mg/kg	1	5/19/23 17:51
trans-1,3-Dichloropropene	ND	U	0.000475	0.00249	mg/kg	1	5/19/23 17:51
Trichloroethene	ND	U	0.000366	0.00249	mg/kg	1	5/19/23 17:51
Trichlorofluoromethane	ND	U	0.000286	0.00249	mg/kg	1	5/19/23 17:51
Vinyl chloride	ND	U	0.000472	0.00249	mg/kg	1	5/19/23 17:51

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Butane	0.0152	2.66	J	mg/kg	1	5/19/23 17:51
Monoethyl carbonotrithioate	0.00736	4.78	J	mg/kg	1	5/19/23 17:51
Propane, 2-methyl-1-nitro-	0.0125	3.37	J	mg/kg	1	5/19/23 17:51
TIC Total	**0.035**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**78.9**				**%**	**1**	**5/17/23 11:56**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.152**		**0.00967**	**0.0812**	**mg/kg**	**1**	**5/17/23 17:15**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-202 30516** Collected: **5/16/2023 9:40:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00536	0.0399	mg/kg	1	5/22/23 23:13	UJ, RC:3L
Aroclor-1221	ND	U	0.0105	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1232	ND	U	0.0134	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1242	ND	U	0.00785	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1248	ND	U	0.00821	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1254	ND	U	0.00645	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1260	ND	U	0.00500	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1262	ND	U	0.0107	0.0399	mg/kg	1	5/22/23 23:13	
Aroclor-1268	ND	U	0.00483	0.0399	mg/kg	1	5/22/23 23:13	
Total PCBs	ND	U	0.00373	0.0399	mg/kg	1	5/22/23 23:13	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0119	0.121	mg/kg	1	5/27/23 15:05
2,4-D	ND	U	0.0201	0.121	mg/kg	1	5/27/23 15:05

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**3.78**		**0.00605**	**0.0242**	**mg/kg**	**1**	**5/17/23 12:27**	J, RC:D

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8770**		**0.172**	**2.90**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D,4L
Antimony	**2.21**		**0.158**	**1.45**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:4L
Arsenic	**9.13**		**0.103**	**1.45**	**mg/kg**	**1**	**5/30/23 11:17**	
Barium	**151**		**0.0438**	**0.579**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Beryllium	**1.30**		**0.00335**	**0.0290**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Cadmium	**0.365**		**0.0565**	**0.290**	**mg/kg**	**1**	**5/30/23 11:17**	
Calcium	**25400**		**3.26**	**29.0**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Chromium	**38.8**		**0.0327**	**0.290**	**mg/kg**	**1**	**5/30/23 11:17**	
Cobalt	**7.01**		**0.0296**	**0.232**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Copper	**59.1**		**0.0810**	**0.290**	**mg/kg**	**1**	**5/30/23 11:17**	
Iron	**20200**		**0.820**	**5.79**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Lead	**501**		**0.121**	**1.45**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Magnesium	**5250**		**10.2**	**57.9**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Manganese	**213**		**0.0360**	**0.290**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Nickel	**30.7**		**0.0254**	**0.145**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Potassium	**2260**		**34.4**	**116**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-202 30516** Collected: **5/16/2023 9:40:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.278	1.45	mg/kg	1	5/30/23 11:17	UJ, RC:4L
Silver	~~ND~~	~~U~~	0.0493	0.174	mg/kg	1	5/30/23 11:17	R, RC:6L
Sodium	**709**		**5.52**	**57.9**	**mg/kg**	**1**	**5/30/23 11:17**	
Thallium	ND	U	0.0974	1.45	mg/kg	1	5/30/23 11:17	
Vanadium	**40.0**		**0.0666**	**0.579**	**mg/kg**	**1**	**5/30/23 11:17**	J, RC:D
Zinc	**180**		**0.0885**	**0.869**	**mg/kg**	**1**	**5/30/23 11:17**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000720	0.00157	mg/kg	1	5/24/23 21:56	
4,4'-DDE	**0.00466**		**0.000861**	**0.00157**	**mg/kg**	**1**	**5/24/23 21:56**	
4,4'-DDT	ND	U	0.00111	0.00157	mg/kg	1	5/24/23 21:56	
Aldrin	ND	U	0.000746	0.00157	mg/kg	1	5/24/23 21:56	
alpha-BHC	ND	U	0.000468	0.00157	mg/kg	1	5/24/23 21:56	
beta-BHC	ND	U	0.000752	0.00157	mg/kg	1	5/24/23 21:56	
Chlordane	ND	U	0.000700	0.00157	mg/kg	1	5/24/23 21:56	
delta-BHC	ND	U	0.000731	0.00157	mg/kg	1	5/24/23 21:56	
Dieldrin	ND	U	0.000823	0.00157	mg/kg	1	5/24/23 21:56	
Endosulfan I	ND	U	0.000743	0.00157	mg/kg	1	5/24/23 21:56	
Endosulfan II	ND	U	0.000715	0.00157	mg/kg	1	5/24/23 21:56	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000592	0.00157	mg/kg	1	5/24/23 21:56	
Endosulfans, Total (alpha and beta)	ND	U	0.000715	0.00157	mg/kg	1	5/24/23 21:56	
Endrin	ND	U	0.000543	0.00157	mg/kg	1	5/24/23 21:56	
Endrin aldehyde	ND	U	0.000627	0.00157	mg/kg	1	5/24/23 21:56	
Endrin ketone	ND	U	0.000554	0.00157	mg/kg	1	5/24/23 21:56	
gamma-BHC (Lindane)	ND	U	0.000499	0.00157	mg/kg	1	5/24/23 21:56	
Heptachlor	ND	U	0.000421	0.00157	mg/kg	1	5/24/23 21:56	
Heptachlor Epoxide	ND	U	0.000794	0.00157	mg/kg	1	5/24/23 21:56	
Methoxychlor	ND	U	0.000461	0.00157	mg/kg	1	5/24/23 21:56	
Toxaphene	ND	U	0.0758	0.0799	mg/kg	1	5/24/23 21:56	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00910	0.0806	mg/kg	2	5/24/23 20:35
2,3,4,6-Tetrachlorophenol	ND	U	0.0496	0.322	mg/kg	2	5/24/23 20:35
2,4,5-Trichlorophenol	ND	U	0.0438	0.322	mg/kg	2	5/24/23 20:35
2,4,6-Trichlorophenol	ND	U	0.0202	0.322	mg/kg	2	5/24/23 20:35

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-202 30516** Collected: **5/16/2023 9:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0324	0.322	mg/kg	2	5/24/23 20:35	
2,4-Dimethylphenol	**0.128**	J, D	**0.0317**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
2,4-Dinitrophenol	ND	U	0.0465	1.61	mg/kg	2	5/24/23 20:35	
2,4-Dinitrotoluene	ND	U	0.0344	0.322	mg/kg	2	5/24/23 20:35	
2,6-Dinitrotoluene	ND	U	0.0770	0.322	mg/kg	2	5/24/23 20:35	
2-Chloronaphthalene	ND	U	0.0370	0.322	mg/kg	2	5/24/23 20:35	
2-Chlorophenol	ND	U	0.0426	0.322	mg/kg	2	5/24/23 20:35	
2-Methylnaphthalene	**0.549**	D	**0.0772**	**0.484**	**mg/kg**	**2**	**5/24/23 20:35**	
2-Methylphenol	ND	U	0.0637	0.322	mg/kg	2	5/24/23 20:35	
2-Nitroaniline	ND	U	0.0259	0.322	mg/kg	2	5/24/23 20:35	
2-Nitrophenol	ND	U	0.0358	0.322	mg/kg	2	5/24/23 20:35	
3,3'-Dichlorobenzidine	ND	U	0.0339	0.322	mg/kg	2	5/24/23 20:35	
3+4-Methylphenol	**0.374**	D	**0.0591**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
3-Nitroaniline	ND	U	0.0598	0.322	mg/kg	2	5/24/23 20:35	
4,6-Dinitro-2-methylphenol	ND	U	0.0608	0.806	mg/kg	2	5/24/23 20:35	
4-Bromophenyl-phenyl ether	ND	U	0.0460	0.322	mg/kg	2	5/24/23 20:35	
4-Chloro-3-methylphenol	ND	U	0.0508	0.322	mg/kg	2	5/24/23 20:35	
4-Chloroaniline	ND	U	0.0113	0.322	mg/kg	2	5/24/23 20:35	
4-Chlorophenyl phenyl ether	ND	U	0.0174	0.322	mg/kg	2	5/24/23 20:35	
4-Nitroaniline	ND	U	0.161	0.322	mg/kg	2	5/24/23 20:35	
4-Nitrophenol	ND	U	0.0206	0.322	mg/kg	2	5/24/23 20:35	
Acenaphthene	**2.28**	D	**0.0184**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Acenaphthylene	**0.908**	D	**0.0112**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Acetophenone	ND	U	0.0320	0.322	mg/kg	2	5/24/23 20:35	
Anthracene	**3.23**	D	**0.0467**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Atrazine	ND	U	0.0303	0.322	mg/kg	2	5/24/23 20:35	
Benzaldehyde	**0.164**	J, D	**0.0990**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	J, RC:SL
Benzo(a)anthracene	**7.90**	D	**0.0324**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Benzo(a)pyrene	**8.38**	D	**0.0562**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Benzo(b)fluoranthene	**9.55**	D	**0.0453**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Benzo(g,h,i)perylene	**5.54**	D	**0.0261**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Benzo(k)fluoranthene	**3.15**	D	**0.0370**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Biphenyl	**0.215**	J, D	**0.0283**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
bis(2-chloroethoxy)methane	ND	U	0.0445	0.322	mg/kg	2	5/24/23 20:35	
bis(2-chloroethyl)ether	ND	U	0.0353	0.322	mg/kg	2	5/24/23 20:35	
bis(2-chloroisopropyl)ether	ND	U	0.116	0.322	mg/kg	2	5/24/23 20:35	
bis(2-ethylhexyl)phthalate	ND	U	0.0644	0.322	mg/kg	2	5/24/23 20:35	
Butylbenzylphthalate	ND	U	0.0293	0.322	mg/kg	2	5/24/23 20:35	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-202 30516** Collected: **5/16/2023 9:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0416	0.322	mg/kg	2	5/24/23 20:35	
Carbazole	**1.07**	D	**0.0620**	**0.806**	**mg/kg**	**2**	**5/24/23 20:35**	
Chrysene	**8.10**	D	**0.0221**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Dibenzo(a,h)anthracene	**1.32**	D	**0.0320**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	J, RC:SL
Dibenzofuran	**1.11**	D	**0.0192**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Diethylphthalate	ND	U	0.0625	0.322	mg/kg	2	5/24/23 20:35	
Dimethylphthalate	ND	U	0.0200	0.322	mg/kg	2	5/24/23 20:35	
Di-n-butylphthalate	ND	U	0.132	0.322	mg/kg	2	5/24/23 20:35	
Di-n-octylphthalate	ND	U	0.0661	0.322	mg/kg	2	5/24/23 20:35	
Fluoranthene	**19.3**	D	**0.0303**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Fluorene	**1.90**	D	**0.0269**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Hexachlorobenzene	ND	U	0.0421	0.322	mg/kg	2	5/24/23 20:35	
Hexachlorobutadiene	ND	U	0.155	0.322	mg/kg	2	5/24/23 20:35	
Hexachlorocyclopentadiene	ND	U	0.134	0.806	mg/kg	2	5/24/23 20:35	
Hexachloroethane	ND	U	0.0353	0.322	mg/kg	2	5/24/23 20:35	
Indeno(1,2,3-cd)pyrene	**4.22**	D	**0.0346**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Isophorone	ND	U	0.0211	0.322	mg/kg	2	5/24/23 20:35	
Naphthalene	**0.959**	D	**0.0239**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Nitrobenzene	ND	U	0.0547	0.322	mg/kg	2	5/24/23 20:35	
n-Nitroso-di-n-propylamine	ND	U	0.0173	0.322	mg/kg	2	5/24/23 20:35	
n-Nitrosodiphenylamine	ND	U	0.0688	0.322	mg/kg	2	5/24/23 20:35	
Pentachlorophenol	ND	U	0.0443	0.806	mg/kg	2	5/24/23 20:35	
Phenanthrene	**15.5**	D	**0.0424**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	
Phenol	ND	U	0.0261	0.322	mg/kg	2	5/24/23 20:35	
Pyrene	**16.5**	D	**0.0237**	**0.322**	**mg/kg**	**2**	**5/24/23 20:35**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	11.6	5.20	J, D	mg/kg	2	5/24/23 20:35	
Dibenzothiophene	1.41	11.39	J, D	mg/kg	2	5/24/23 20:35	
Hexadecanoic acid, butyl ester	11.3	12.83	J, D, B	mg/kg	2	5/24/23 20:35	
Naphthalene, 2-phenyl-	1.56	12.28	J, D	mg/kg	2	5/24/23 20:35	
Octadecanoic acid, butyl ester	~~3.54~~	13.64	J, D, B	mg/kg	2	5/24/23 20:35	R, RC:2
unknown (01)	1.85	11.99	J, D	mg/kg	2	5/24/23 20:35	
unknown (02)	2.44	12.02	J, D	mg/kg	2	5/24/23 20:35	
unknown (03)	3.67	12.12	J, D	mg/kg	2	5/24/23 20:35	
TIC Total	~~37.3~~ 33.63						

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-202 30516** Collected: **5/16/2023 9:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000570	0.00390	mg/kg	1	5/19/23 18:23	
1,1,2,2-Tetrachloroethane	ND	U	0.000539	0.00390	mg/kg	1	5/19/23 18:23	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00167	0.00390	mg/kg	1	5/19/23 18:23	
1,1,2-Trichloroethane	ND	U	0.000658	0.00390	mg/kg	1	5/19/23 18:23	
1,1-Dichloroethane	ND	U	0.000570	0.00390	mg/kg	1	5/19/23 18:23	
1,1-Dichloroethene	ND	U	0.000722	0.00390	mg/kg	1	5/19/23 18:23	
1,2,3-Trichlorobenzene	ND	U	0.000843	0.00390	mg/kg	1	5/19/23 18:23	
1,2,4-Trichlorobenzene	ND	U	0.00104	0.00390	mg/kg	1	5/19/23 18:23	
1,2,4-Trimethylbenzene	ND	U	0.000539	0.00390	mg/kg	1	5/19/23 18:23	
1,2-Dibromo-3-chloropropane	ND	U	0.000953	0.00390	mg/kg	1	5/19/23 18:23	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000492	0.00390	mg/kg	1	5/19/23 18:23	
1,2-Dichlorobenzene	ND	U	0.000689	0.00390	mg/kg	1	5/19/23 18:23	
1,2-Dichloroethane	ND	U	0.000551	0.00390	mg/kg	1	5/19/23 18:23	
1,2-Dichloropropane	ND	U	0.000640	0.00390	mg/kg	1	5/19/23 18:23	
1,3-Dichlorobenzene	ND	U	0.000287	0.00390	mg/kg	1	5/19/23 18:23	
1,4-Dichlorobenzene	ND	U	0.000562	0.00390	mg/kg	1	5/19/23 18:23	
2-Butanone	ND	U	0.000636	0.00976	mg/kg	1	5/19/23 18:23	
2-Hexanone	ND	U	0.000365	0.00390	mg/kg	1	5/19/23 18:23	
4-Methyl-2-pentanone	ND	U	0.000488	0.00390	mg/kg	1	5/19/23 18:23	
Acetone	ND	U	0.00118	0.00976	mg/kg	1	5/19/23 18:23	
Benzene	ND	U	0.000355	0.00390	mg/kg	1	5/19/23 18:23	
Bromochloromethane	ND	U	0.000720	0.00390	mg/kg	1	5/19/23 18:23	
Bromodichloromethane	ND	U	0.000490	0.00390	mg/kg	1	5/19/23 18:23	
Bromoform	ND	U	0.000685	0.00390	mg/kg	1	5/19/23 18:23	
Bromomethane	ND	U	0.00113	0.00390	mg/kg	1	5/19/23 18:23	
Carbon disulfide	ND	U	0.000560	0.00390	mg/kg	1	5/19/23 18:23	
Carbon Tetrachloride	ND	U	0.000588	0.00390	mg/kg	1	5/19/23 18:23	
Chlorobenzene	ND	U	0.000566	0.00390	mg/kg	1	5/19/23 18:23	
Chlorodibromomethane	ND	U	0.000480	0.00390	mg/kg	1	5/19/23 18:23	
Chloroethane	ND	U	0.000666	0.00390	mg/kg	1	5/19/23 18:23	
Chloroform	ND	U	0.000656	0.00390	mg/kg	1	5/19/23 18:23	
Chloromethane	ND	U	0.00150	0.00390	mg/kg	1	5/19/23 18:23	
cis-1,2-Dichloroethene	ND	U	0.000189	0.00390	mg/kg	1	5/19/23 18:23	
cis-1,3-Dichloropropene	ND	U	0.000494	0.00390	mg/kg	1	5/19/23 18:23	
Cyclohexane	ND	U	0.000865	0.00390	mg/kg	1	5/19/23 18:23	
Dichlorodifluoromethane	ND	U	0.00132	0.00390	mg/kg	1	5/19/23 18:23	UJ, RC:SL
EthylBenzene	ND	U	0.000529	0.00390	mg/kg	1	5/19/23 18:23	

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-02 (Soil) Sample Name: **OH-SB-30-3.0-4.0-202 30516** Collected: **5/16/2023 9:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000613	0.00390	mg/kg	1	5/19/23 18:23
m+p-Xylenes	ND	U	0.000986	0.00781	mg/kg	1	5/19/23 18:23
Methyl Acetate	ND	U	0.000517	0.00390	mg/kg	1	5/19/23 18:23
Methyl tert-Butyl Ether	ND	U	0.000660	0.00390	mg/kg	1	5/19/23 18:23
Methylcyclohexane	ND	U	0.000629	0.00390	mg/kg	1	5/19/23 18:23
Methylene Chloride	ND	U	0.00117	0.00390	mg/kg	1	5/19/23 18:23
o-Xylene	ND	U	0.000502	0.00390	mg/kg	1	5/19/23 18:23
Styrene	ND	U	0.000558	0.00390	mg/kg	1	5/19/23 18:23
tert-Butyl alcohol	ND	U	0.00820	0.0390	mg/kg	1	5/19/23 18:23
Tetrachloroethene	ND	U	0.000387	0.00390	mg/kg	1	5/19/23 18:23
Toluene	ND	U	0.000314	0.00390	mg/kg	1	5/19/23 18:23
Total Xylenes	ND	U	0.000502	0.00390	mg/kg	1	5/19/23 18:23
trans-1,2-Dichloroethene	ND	U	0.000529	0.00390	mg/kg	1	5/19/23 18:23
trans-1,3-Dichloropropene	ND	U	0.000746	0.00390	mg/kg	1	5/19/23 18:23
Trichloroethene	ND	U	0.000574	0.00390	mg/kg	1	5/19/23 18:23
Trichlorofluoromethane	ND	U	0.000449	0.00390	mg/kg	1	5/19/23 18:23
Vinyl chloride	ND	U	0.000742	0.00390	mg/kg	1	5/19/23 18:23

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.6**				**%**	**1**	**5/17/23 11:56**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00755	0.0634	mg/kg	1	5/17/23 17:15

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516** Collected: **5/16/2023 10:05:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00523	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1221	ND	U	0.0103	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1232	ND	U	0.0131	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1242	ND	U	0.00766	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1248	ND	U	0.00801	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1254	ND	U	0.00629	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1260	ND	U	0.00488	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1262	ND	U	0.0105	0.0390	mg/kg	1	5/23/23 20:22	
Aroclor-1268	ND	U	0.00472	0.0390	mg/kg	1	5/23/23 20:22	
Total PCBs	ND	U	0.00364	0.0390	mg/kg	1	5/23/23 20:22	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0116	0.118	mg/kg	1	5/27/23 15:29	UJ, RC:3L
2,4-D	ND	U	0.0196	0.118	mg/kg	1	5/27/23 15:29	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**2.88**		**0.00591**	**0.0236**	**mg/kg**	**1**	**5/17/23 15:28**	J, RC:D

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8660**		**0.173**	**2.91**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D,4L
Antimony	ND	U	0.159	1.46	mg/kg	1	5/30/23 11:19	J, RC:4L
Arsenic	**5.58**		**0.104**	**1.46**	**mg/kg**	**1**	**5/30/23 11:19**	
Barium	**55.7**		**0.0440**	**0.582**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Beryllium	**0.904**		**0.00337**	**0.0291**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Cadmium	ND	U	0.0567	0.291	mg/kg	1	5/30/23 11:19	
Calcium	**37200**	D	**32.7**	**291**	**mg/kg**	**10**	**5/30/23 13:17**	J, RC:D
Chromium	**61.4**		**0.0329**	**0.291**	**mg/kg**	**1**	**5/30/23 11:19**	
Cobalt	**6.64**		**0.0297**	**0.233**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Copper	**70.7**		**0.0814**	**0.291**	**mg/kg**	**1**	**5/30/23 11:19**	
Iron	**21200**		**0.824**	**5.82**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Lead	**103**		**0.121**	**1.46**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Magnesium	**2970**		**10.3**	**58.2**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Manganese	**124**		**0.0362**	**0.291**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Nickel	**16.3**		**0.0256**	**0.146**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Potassium	**2190**		**34.6**	**116**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516** Collected: **5/16/2023 10:05:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.279	1.46	mg/kg	1	5/30/23 11:19	UJ, RC:4L
Silver	~~ND~~	~~U~~	0.0495	0.175	mg/kg	1	5/30/23 11:19	R, RC:4L
Sodium	**578**		**5.55**	**58.2**	**mg/kg**	**1**	**5/30/23 11:19**	
Thallium	ND	U	0.0979	1.46	mg/kg	1	5/30/23 11:19	
Vanadium	**26.3**		**0.0669**	**0.582**	**mg/kg**	**1**	**5/30/23 11:19**	J, RC:D
Zinc	**116**		**0.0889**	**0.873**	**mg/kg**	**1**	**5/30/23 11:19**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000703	0.00154	mg/kg	1	5/24/23 22:18	
4,4'-DDE	ND	U	0.000840	0.00154	mg/kg	1	5/24/23 22:18	
4,4'-DDT	ND	U	0.00108	0.00154	mg/kg	1	5/24/23 22:18	
Aldrin	ND	U	0.000728	0.00154	mg/kg	1	5/24/23 22:18	
alpha-BHC	ND	U	0.000457	0.00154	mg/kg	1	5/24/23 22:18	
beta-BHC	ND	U	0.000734	0.00154	mg/kg	1	5/24/23 22:18	
Chlordane	ND	U	0.000683	0.00154	mg/kg	1	5/24/23 22:18	
delta-BHC	ND	U	0.000714	0.00154	mg/kg	1	5/24/23 22:18	
Dieldrin	ND	U	0.000803	0.00154	mg/kg	1	5/24/23 22:18	
Endosulfan I	ND	U	0.000725	0.00154	mg/kg	1	5/24/23 22:18	
Endosulfan II	ND	U	0.000698	0.00154	mg/kg	1	5/24/23 22:18	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000578	0.00154	mg/kg	1	5/24/23 22:18	
Endosulfans, Total (alpha and beta)	ND	U	0.000698	0.00154	mg/kg	1	5/24/23 22:18	
Endrin	ND	U	0.000531	0.00154	mg/kg	1	5/24/23 22:18	
Endrin aldehyde	ND	U	0.000612	0.00154	mg/kg	1	5/24/23 22:18	
Endrin ketone	ND	U	0.000541	0.00154	mg/kg	1	5/24/23 22:18	
gamma-BHC (Lindane)	ND	U	0.000487	0.00154	mg/kg	1	5/24/23 22:18	
Heptachlor	ND	U	0.000411	0.00154	mg/kg	1	5/24/23 22:18	
Heptachlor Epoxide	ND	U	0.000775	0.00154	mg/kg	1	5/24/23 22:18	
Methoxychlor	ND	U	0.000450	0.00154	mg/kg	1	5/24/23 22:18	
Toxaphene	ND	U	0.0740	0.0780	mg/kg	1	5/24/23 22:18	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00444	0.0393	mg/kg	1	5/24/23 21:07
2,3,4,6-Tetrachlorophenol	ND	U	0.0242	0.157	mg/kg	1	5/24/23 21:07
2,4,5-Trichlorophenol	ND	U	0.0214	0.157	mg/kg	1	5/24/23 21:07
2,4,6-Trichlorophenol	ND	U	0.00984	0.157	mg/kg	1	5/24/23 21:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516** Collected: **5/16/2023 10:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0158	0.157	mg/kg	1	5/24/23 21:07	
2,4-Dimethylphenol	**0.0735**	J	**0.0155**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
2,4-Dinitrophenol	ND	U	0.0227	0.788	mg/kg	1	5/24/23 21:07	
2,4-Dinitrotoluene	ND	U	0.0168	0.157	mg/kg	1	5/24/23 21:07	
2,6-Dinitrotoluene	ND	U	0.0376	0.157	mg/kg	1	5/24/23 21:07	
2-Chloronaphthalene	ND	U	0.0181	0.157	mg/kg	1	5/24/23 21:07	
2-Chlorophenol	ND	U	0.0208	0.157	mg/kg	1	5/24/23 21:07	
2-Methylnaphthalene	**0.108**	J	**0.0377**	**0.236**	**mg/kg**	**1**	**5/24/23 21:07**	
2-Methylphenol	ND	U	0.0311	0.157	mg/kg	1	5/24/23 21:07	
2-Nitroaniline	ND	U	0.0126	0.157	mg/kg	1	5/24/23 21:07	
2-Nitrophenol	ND	U	0.0175	0.157	mg/kg	1	5/24/23 21:07	
3,3'-Dichlorobenzidine	ND	U	0.0165	0.157	mg/kg	1	5/24/23 21:07	
3+4-Methylphenol	**0.180**		**0.0288**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
3-Nitroaniline	ND	U	0.0292	0.157	mg/kg	1	5/24/23 21:07	
4,6-Dinitro-2-methylphenol	ND	U	0.0297	0.393	mg/kg	1	5/24/23 21:07	
4-Bromophenyl-phenyl ether	ND	U	0.0224	0.157	mg/kg	1	5/24/23 21:07	
4-Chloro-3-methylphenol	ND	U	0.0248	0.157	mg/kg	1	5/24/23 21:07	
4-Chloroaniline	ND	U	0.00551	0.157	mg/kg	1	5/24/23 21:07	
4-Chlorophenyl phenyl ether	ND	U	0.00850	0.157	mg/kg	1	5/24/23 21:07	
4-Nitroaniline	ND	U	0.0787	0.157	mg/kg	1	5/24/23 21:07	
4-Nitrophenol	ND	U	0.0101	0.157	mg/kg	1	5/24/23 21:07	
Acenaphthene	**0.136**	J	**0.00897**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Acenaphthylene	**0.170**		**0.00547**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Acetophenone	ND	U	0.0156	0.157	mg/kg	1	5/24/23 21:07	
Anthracene	**0.280**		**0.0228**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Atrazine	ND	U	0.0148	0.157	mg/kg	1	5/24/23 21:07	
Benzaldehyde	ND	U	0.0483	0.157	mg/kg	1	5/24/23 21:07	UJ, RC:SL
Benzo(a)anthracene	**1.41**		**0.0158**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Benzo(a)pyrene	**1.99**		**0.0274**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Benzo(b)fluoranthene	**2.41**		**0.0221**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Benzo(g,h,i)perylene	**1.52**		**0.0128**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Benzo(k)fluoranthene	**0.855**		**0.0181**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Biphenyl	**0.0437**	J	**0.0138**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
bis(2-chloroethoxy)methane	ND	U	0.0217	0.157	mg/kg	1	5/24/23 21:07	
bis(2-chloroethyl)ether	ND	U	0.0173	0.157	mg/kg	1	5/24/23 21:07	
bis(2-chloroisopropyl)ether	ND	U	0.0566	0.157	mg/kg	1	5/24/23 21:07	
bis(2-ethylhexyl)phthalate	ND	U	0.0314	0.157	mg/kg	1	5/24/23 21:07	
Butylbenzylphthalate	ND	U	0.0143	0.157	mg/kg	1	5/24/23 21:07	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516** Collected: **5/16/2023 10:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0203	0.157	mg/kg	1	5/24/23 21:07	
Carbazole	**0.127**	J	**0.0302**	**0.393**	**mg/kg**	**1**	**5/24/23 21:07**	
Chrysene	**1.67**		**0.0108**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Dibenzo(a,h)anthracene	**0.375**		**0.0156**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	J, RC:SH
Dibenzofuran	**0.119**	J	**0.00937**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Diethylphthalate	ND	U	0.0305	0.157	mg/kg	1	5/24/23 21:07	
Dimethylphthalate	ND	U	0.00976	0.157	mg/kg	1	5/24/23 21:07	
Di-n-butylphthalate	ND	U	0.0643	0.157	mg/kg	1	5/24/23 21:07	
Di-n-octylphthalate	ND	U	0.0323	0.157	mg/kg	1	5/24/23 21:07	
Fluoranthene	**2.42**		**0.0148**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Fluorene	**0.0944**	J	**0.0131**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Hexachlorobenzene	ND	U	0.0206	0.157	mg/kg	1	5/24/23 21:07	
Hexachlorobutadiene	ND	U	0.0755	0.157	mg/kg	1	5/24/23 21:07	
Hexachlorocyclopentadiene	ND	U	0.0656	0.393	mg/kg	1	5/24/23 21:07	
Hexachloroethane	ND	U	0.0173	0.157	mg/kg	1	5/24/23 21:07	
Indeno(1,2,3-cd)pyrene	**1.22**		**0.0169**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Isophorone	ND	U	0.0103	0.157	mg/kg	1	5/24/23 21:07	
Naphthalene	**0.264**		**0.0116**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Nitrobenzene	ND	U	0.0267	0.157	mg/kg	1	5/24/23 21:07	
n-Nitroso-di-n-propylamine	ND	U	0.00842	0.157	mg/kg	1	5/24/23 21:07	
n-Nitrosodiphenylamine	ND	U	0.0336	0.157	mg/kg	1	5/24/23 21:07	
Pentachlorophenol	ND	U	0.0216	0.393	mg/kg	1	5/24/23 21:07	
Phenanthrene	**1.09**		**0.0207**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	
Phenol	ND	U	0.0128	0.157	mg/kg	1	5/24/23 21:07	
Pyrene	**2.19**		**0.0116**	**0.157**	**mg/kg**	**1**	**5/24/23 21:07**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1-Docosene	0.616	14.11	J	mg/kg	1	5/24/23 21:07	
2-Pentanone, 4-hydroxy-4-methyl-	9.17	5.20	J	mg/kg	1	5/24/23 21:07	
Hexadecanoic acid, butyl ester	9.50	12.83	J, B	mg/kg	1	5/24/23 21:07	
Octadecanoic acid, butyl ester	4.09	13.64	J, B	mg/kg	1	5/24/23 21:07	
Toluene	0.365	4.38	J	mg/kg	1	5/24/23 21:07	
unknown	~~1.33~~	16.69	J, B	mg/kg	1	5/24/23 21:07	R, RC:2
TIC Total	~~25.1~~ 23.77						

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516** Collected: **5/16/2023 10:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000319	0.00219	mg/kg	1	5/19/23 18:54	
1,1,2,2-Tetrachloroethane	ND	U	0.000302	0.00219	mg/kg	1	5/19/23 18:54	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000936	0.00219	mg/kg	1	5/19/23 18:54	
1,1,2-Trichloroethane	ND	U	0.000369	0.00219	mg/kg	1	5/19/23 18:54	
1,1-Dichloroethane	ND	U	0.000319	0.00219	mg/kg	1	5/19/23 18:54	
1,1-Dichloroethene	ND	U	0.000405	0.00219	mg/kg	1	5/19/23 18:54	
1,2,3-Trichlorobenzene	ND	U	0.000473	0.00219	mg/kg	1	5/19/23 18:54	
1,2,4-Trichlorobenzene	ND	U	0.000583	0.00219	mg/kg	1	5/19/23 18:54	
1,2,4-Trimethylbenzene	ND	U	0.000302	0.00219	mg/kg	1	5/19/23 18:54	
1,2-Dibromo-3-chloropropane	ND	U	0.000534	0.00219	mg/kg	1	5/19/23 18:54	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000276	0.00219	mg/kg	1	5/19/23 18:54	
1,2-Dichlorobenzene	ND	U	0.000386	0.00219	mg/kg	1	5/19/23 18:54	
1,2-Dichloroethane	ND	U	0.000309	0.00219	mg/kg	1	5/19/23 18:54	
1,2-Dichloropropane	ND	U	0.000359	0.00219	mg/kg	1	5/19/23 18:54	
1,3-Dichlorobenzene	ND	U	0.000161	0.00219	mg/kg	1	5/19/23 18:54	
1,4-Dichlorobenzene	ND	U	0.000315	0.00219	mg/kg	1	5/19/23 18:54	
2-Butanone	ND	U	0.000357	0.00547	mg/kg	1	5/19/23 18:54	
2-Hexanone	ND	U	0.000205	0.00219	mg/kg	1	5/19/23 18:54	
4-Methyl-2-pentanone	ND	U	0.000273	0.00219	mg/kg	1	5/19/23 18:54	
Acetone	ND	U	0.000663	0.00547	mg/kg	1	5/19/23 18:54	
Benzene	ND	U	0.000199	0.00219	mg/kg	1	5/19/23 18:54	
Bromochloromethane	ND	U	0.000404	0.00219	mg/kg	1	5/19/23 18:54	
Bromodichloromethane	ND	U	0.000275	0.00219	mg/kg	1	5/19/23 18:54	
Bromoform	ND	U	0.000384	0.00219	mg/kg	1	5/19/23 18:54	
Bromomethane	ND	U	0.000631	0.00219	mg/kg	1	5/19/23 18:54	
Carbon disulfide	ND	U	0.000314	0.00219	mg/kg	1	5/19/23 18:54	
Carbon Tetrachloride	ND	U	0.000329	0.00219	mg/kg	1	5/19/23 18:54	
Chlorobenzene	ND	U	0.000317	0.00219	mg/kg	1	5/19/23 18:54	
Chlorodibromomethane	ND	U	0.000269	0.00219	mg/kg	1	5/19/23 18:54	
Chloroethane	ND	U	0.000373	0.00219	mg/kg	1	5/19/23 18:54	
Chloroform	ND	U	0.000368	0.00219	mg/kg	1	5/19/23 18:54	
Chloromethane	ND	U	0.000842	0.00219	mg/kg	1	5/19/23 18:54	
cis-1,2-Dichloroethene	ND	U	0.000106	0.00219	mg/kg	1	5/19/23 18:54	
cis-1,3-Dichloropropene	ND	U	0.000277	0.00219	mg/kg	1	5/19/23 18:54	
Cyclohexane	ND	U	0.000485	0.00219	mg/kg	1	5/19/23 18:54	
Dichlorodifluoromethane	ND	U	0.000738	0.00219	mg/kg	1	5/19/23 18:54	UJ, RC:SL
EthylBenzene	ND	U	0.000296	0.00219	mg/kg	1	5/19/23 18:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-03 (Soil) Sample Name: **OH-SB-30-6.5-7.5-20230516** Collected: **5/16/2023 10:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000344	0.00219	mg/kg	1	5/19/23 18:54
m+p-Xylenes	ND	U	0.000552	0.00438	mg/kg	1	5/19/23 18:54
Methyl Acetate	ND	U	0.000290	0.00219	mg/kg	1	5/19/23 18:54
Methyl tert-Butyl Ether	ND	U	0.000370	0.00219	mg/kg	1	5/19/23 18:54
Methylcyclohexane	ND	U	0.000352	0.00219	mg/kg	1	5/19/23 18:54
Methylene Chloride	ND	U	0.000657	0.00219	mg/kg	1	5/19/23 18:54
o-Xylene	ND	U	0.000281	0.00219	mg/kg	1	5/19/23 18:54
Styrene	ND	U	0.000313	0.00219	mg/kg	1	5/19/23 18:54
tert-Butyl alcohol	ND	U	0.00459	0.0219	mg/kg	1	5/19/23 18:54
Tetrachloroethene	ND	U	0.000217	0.00219	mg/kg	1	5/19/23 18:54
Toluene	ND	U	0.000176	0.00219	mg/kg	1	5/19/23 18:54
Total Xylenes	ND	U	0.000281	0.00219	mg/kg	1	5/19/23 18:54
trans-1,2-Dichloroethene	ND	U	0.000296	0.00219	mg/kg	1	5/19/23 18:54
trans-1,3-Dichloropropene	ND	U	0.000418	0.00219	mg/kg	1	5/19/23 18:54
Trichloroethene	ND	U	0.000322	0.00219	mg/kg	1	5/19/23 18:54
Trichlorofluoromethane	ND	U	0.000252	0.00219	mg/kg	1	5/19/23 18:54
Vinyl chloride	ND	U	0.000416	0.00219	mg/kg	1	5/19/23 18:54

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.6**				**%**	**1**	**5/17/23 11:56**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00780	0.0654	mg/kg	1	5/17/23 17:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-04 (Ground Water) Sample Name: **FB-20230516** Collected: **5/16/2023 11:20:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/23/23 21:28
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/23/23 21:28
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/23/23 21:28
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/23/23 21:28
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/23/23 21:28
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/23/23 21:28
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/23/23 21:28
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/23/23 21:28
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/23/23 21:28
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/23/23 21:28

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/6/23 12:59
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/6/23 12:59
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/6/23 12:59

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/17/23 16:07

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/24/23 13:07
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/24/23 13:07
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/24/23 13:07
Barium	ND	U	0.000558	0.0200	mg/L	1	5/24/23 13:07
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/24/23 13:07
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/24/23 13:07
Calcium	ND	U	0.256	1.00	mg/L	1	5/24/23 13:07
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/24/23 13:07
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/24/23 13:07
Copper	ND	U	0.00177	0.0100	mg/L	1	5/24/23 13:07
Iron	ND	U	0.0580	0.200	mg/L	1	5/24/23 13:07
Lead	ND	U	0.00510	0.0500	mg/L	1	5/24/23 13:07
Magnesium	ND	U	0.681	2.00	mg/L	1	5/24/23 13:07
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/24/23 13:07
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/24/23 13:07
Potassium	ND	U	2.41	4.00	mg/L	1	5/24/23 13:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-04 (Ground Water) Sample Name: **FB-20230516** Collected: **5/16/2023 11:20:00AM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/24/23 13:07	
Silver	ND	U	0.00465	0.0200	mg/L	1	5/24/23 13:07	UJ, RC:6L
Sodium	ND	U	0.205	2.00	mg/L	1	5/24/23 13:07	
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/24/23 13:07	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/24/23 13:07	
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/24/23 13:07	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/31/23 17:43	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/31/23 17:43	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/31/23 17:43	UJ, RC:6L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/31/23 17:43	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/31/23 17:43	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/31/23 17:43	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/31/23 17:43	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/31/23 17:43	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/31/23 17:43	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/31/23 17:43	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/31/23 17:43	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/31/23 17:43	
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/31/23 17:43	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/31/23 17:43	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/31/23 17:43	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/31/23 17:43	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/31/23 17:43	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/31/23 17:43	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/31/23 17:43	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/31/23 17:43	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/22/23 15:54
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/22/23 15:54
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/22/23 15:54
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/22/23 15:54
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/22/23 15:54
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/22/23 15:54
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/22/23 15:54

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-04 (Ground Water) Sample Name: **FB-20230516** Collected: **5/16/2023 11:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/22/23 15:54	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/22/23 15:54	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/22/23 15:54	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/22/23 15:54	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/22/23 15:54	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/22/23 15:54	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/22/23 15:54	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/22/23 15:54	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/22/23 15:54	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/22/23 15:54	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/22/23 15:54	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/22/23 15:54	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/22/23 15:54	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/22/23 15:54	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/22/23 15:54	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/22/23 15:54	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/22/23 15:54	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/22/23 15:54	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/22/23 15:54	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/22/23 15:54	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/22/23 15:54	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/22/23 15:54	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/22/23 15:54	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/22/23 15:54	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/22/23 15:54	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/22/23 15:54	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/22/23 15:54	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/22/23 15:54	
bis(2-ethylhexyl)phthalate	**0.568**	J	**0.183**	**2.00**	**ug/L**	**1**	**5/22/23 15:54**	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/22/23 15:54	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/22/23 15:54	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/22/23 15:54	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/22/23 15:54	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/22/23 15:54	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/22/23 15:54	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/22/23 15:54	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/22/23 15:54	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/22/23 15:54	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/22/23 15:54	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-04 (Ground Water) Sample Name: **FB-20230516** Collected: **5/16/2023 11:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	ND	U	0.109	2.00	ug/L	1	5/22/23 15:54
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/22/23 15:54
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/22/23 15:54
Isophorone	ND	U	0.111	2.00	ug/L	1	5/22/23 15:54
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/22/23 15:54
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/22/23 15:54
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/22/23 15:54
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/22/23 15:54
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/22/23 15:54
Phenol	ND	U	0.0973	2.00	ug/L	1	5/22/23 15:54
Pyrene	ND	U	0.115	2.00	ug/L	1	5/22/23 15:54

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	4.57	5.23	J	ug/L	1	5/22/23 15:54
unknown (02)	4.50	7.58	J	ug/L	1	5/22/23 15:54
TIC Total	**9.06**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 16:20
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 16:20
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 16:20
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 16:20
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 16:20
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 16:20
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 16:20
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 16:20
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 16:20
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/17/23 16:20
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/17/23 16:20
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/17/23 16:20
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/17/23 16:20
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/17/23 16:20
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/17/23 16:20
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/17/23 16:20
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/17/23 16:20
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/17/23 16:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-04 (Ground Water) Sample Name: **FB-20230516** Collected: **5/16/2023 11:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/17/23 16:20	
Acetone	ND	U	10.0	10.0	ug/L	1	5/17/23 16:20	
Benzene	ND	U	0.129	1.00	ug/L	1	5/17/23 16:20	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/17/23 16:20	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/17/23 16:20	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/17/23 16:20	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/17/23 16:20	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/17/23 16:20	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/17/23 16:20	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/17/23 16:20	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/17/23 16:20	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/17/23 16:20	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/17/23 16:20	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/17/23 16:20	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/17/23 16:20	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/17/23 16:20	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/17/23 16:20	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/17/23 16:20	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/17/23 16:20	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/17/23 16:20	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/17/23 16:20	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/17/23 16:20	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/17/23 16:20	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/17/23 16:20	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/17/23 16:20	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/17/23 16:20	
Styrene	ND	U	0.176	1.00	ug/L	1	5/17/23 16:20	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/17/23 16:20	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/17/23 16:20	
Toluene	ND	U	0.205	1.00	ug/L	1	5/17/23 16:20	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/17/23 16:20	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/17/23 16:20	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/17/23 16:20	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/17/23 16:20	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/17/23 16:20	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/17/23 16:20	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-04 (Ground Water) Sample Name: FB-20230516 Collected: 5/16/2023 11:20:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/17/23 17:39

23E0803-05 (Soil) Sample Name: OH-SB-13-3.0-4.0-20230516 Collected: 5/16/2023 12:55:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00492	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1221	ND	U	0.00967	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1232	ND	U	0.0123	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1242	ND	U	0.00720	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1248	ND	U	0.00753	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1254	ND	U	0.00592	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1260	ND	U	0.00459	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1262	ND	U	0.00986	0.0366	mg/kg	1	5/23/23 21:51
Aroclor-1268	ND	U	0.00443	0.0366	mg/kg	1	5/23/23 21:51
Total PCBs	ND	U	0.00342	0.0366	mg/kg	1	5/23/23 21:51

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	5/27/23 15:53	UJ, RC:3L
2,4-D	ND	U	0.0184	0.111	mg/kg	1	5/27/23 15:53	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.185**		**0.00555**	**0.0222**	**mg/kg**	**1**	**5/17/23 12:27**	J, RC:D

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8980**		**0.169**	**2.85**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D,4L
Antimony	ND	U	0.155	1.42	mg/kg	1	5/30/23 11:23	UJ, RC:4L
Arsenic	**2.67**		**0.102**	**1.42**	**mg/kg**	**1**	**5/30/23 11:23**	
Barium	**75.5**		**0.0431**	**0.570**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Beryllium	**1.56**		**0.00330**	**0.0285**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Cadmium	**0.456**		**0.0555**	**0.285**	**mg/kg**	**1**	**5/30/23 11:23**	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-202 30516** Collected: **5/16/2023 12:55:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Calcium	**68500**	D	**32.0**	**285**	**mg/kg**	**10**	**5/30/23 13:19**	J, RC:D
Chromium	**15.9**		**0.0322**	**0.285**	**mg/kg**	**1**	**5/30/23 11:23**	
Cobalt	**4.81**		**0.0291**	**0.228**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Copper	**81.4**		**0.0797**	**0.285**	**mg/kg**	**1**	**5/30/23 11:23**	
Iron	**17500**		**0.807**	**5.70**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Lead	**92.4**		**0.119**	**1.42**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Magnesium	**21000**		**10.1**	**57.0**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Manganese	**200**		**0.0354**	**0.285**	**mg/kg**	**1**	**5/30/23 11:23**	
Nickel	**13.9**		**0.0250**	**0.142**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Potassium	**1800**		**33.9**	**114**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Selenium	ND	U	0.273	1.42	mg/kg	1	5/30/23 11:23	UJ, RC:4L
Silver	~~ND~~	~~U~~	0.0484	0.171	mg/kg	1	5/30/23 11:23	R, RC:6L
Sodium	**886**		**5.43**	**57.0**	**mg/kg**	**1**	**5/30/23 11:23**	
Thallium	ND	U	0.0958	1.42	mg/kg	1	5/30/23 11:23	
Vanadium	**62.9**		**0.0655**	**0.570**	**mg/kg**	**1**	**5/30/23 11:23**	J, RC:D
Zinc	**86.3**		**0.0870**	**0.854**	**mg/kg**	**1**	**5/30/23 11:23**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000661	0.00144	mg/kg	1	5/24/23 22:40	
4,4'-DDE	ND	U	0.000790	0.00144	mg/kg	1	5/24/23 22:40	
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	5/24/23 22:40	
Aldrin	ND	U	0.000684	0.00144	mg/kg	1	5/24/23 22:40	
alpha-BHC	ND	U	0.000430	0.00144	mg/kg	1	5/24/23 22:40	
beta-BHC	ND	U	0.000690	0.00144	mg/kg	1	5/24/23 22:40	
Chlordane	ND	U	0.000642	0.00144	mg/kg	1	5/24/23 22:40	
delta-BHC	ND	U	0.000671	0.00144	mg/kg	1	5/24/23 22:40	
Dieldrin	ND	U	0.000755	0.00144	mg/kg	1	5/24/23 22:40	
Endosulfan I	ND	U	0.000682	0.00144	mg/kg	1	5/24/23 22:40	
Endosulfan II	ND	U	0.000656	0.00144	mg/kg	1	5/24/23 22:40	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000543	0.00144	mg/kg	1	5/24/23 22:40	
Endosulfans, Total (alpha and beta)	ND	U	0.000656	0.00144	mg/kg	1	5/24/23 22:40	
Endrin	ND	U	0.000499	0.00144	mg/kg	1	5/24/23 22:40	
Endrin aldehyde	ND	U	0.000575	0.00144	mg/kg	1	5/24/23 22:40	
Endrin ketone	ND	U	0.000509	0.00144	mg/kg	1	5/24/23 22:40	
gamma-BHC (Lindane)	ND	U	0.000458	0.00144	mg/kg	1	5/24/23 22:40	
Heptachlor	ND	U	0.000386	0.00144	mg/kg	1	5/24/23 22:40	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-202 30516** Collected: **5/16/2023 12:55:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor Epoxide	ND	U	0.000729	0.00144	mg/kg	1	5/24/23 22:40
Methoxychlor	ND	U	0.000423	0.00144	mg/kg	1	5/24/23 22:40
Toxaphene	ND	U	0.0696	0.0733	mg/kg	1	5/24/23 22:40

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00835	0.0740	mg/kg	2	5/24/23 21:38	
2,3,4,6-Tetrachlorophenol	ND	U	0.0455	0.295	mg/kg	2	5/24/23 21:38	
2,4,5-Trichlorophenol	ND	U	0.0402	0.295	mg/kg	2	5/24/23 21:38	
2,4,6-Trichlorophenol	ND	U	0.0185	0.295	mg/kg	2	5/24/23 21:38	
2,4-Dichlorophenol	ND	U	0.0298	0.295	mg/kg	2	5/24/23 21:38	
2,4-Dimethylphenol	ND	U	0.0291	0.295	mg/kg	2	5/24/23 21:38	
2,4-Dinitrophenol	~~ND~~	~~U~~	0.0426	1.48	mg/kg	2	5/24/23 21:38	R, RC:4L
2,4-Dinitrotoluene	ND	U	0.0315	0.295	mg/kg	2	5/24/23 21:38	
2,6-Dinitrotoluene	ND	U	0.0706	0.295	mg/kg	2	5/24/23 21:38	
2-Chloronaphthalene	ND	U	0.0340	0.295	mg/kg	2	5/24/23 21:38	
2-Chlorophenol	ND	U	0.0391	0.295	mg/kg	2	5/24/23 21:38	
2-Methylnaphthalene	**0.198**	D, J	**0.0709**	**0.444**	**mg/kg**	**2**	**5/24/23 21:38**	
2-Methylphenol	ND	U	0.0584	0.295	mg/kg	2	5/24/23 21:38	
2-Nitroaniline	ND	U	0.0238	0.295	mg/kg	2	5/24/23 21:38	
2-Nitrophenol	ND	U	0.0329	0.295	mg/kg	2	5/24/23 21:38	
3,3'-Dichlorobenzidine	ND	U	0.0311	0.295	mg/kg	2	5/24/23 21:38	
3+4-Methylphenol	ND	U	0.0542	0.295	mg/kg	2	5/24/23 21:38	
3-Nitroaniline	ND	U	0.0549	0.295	mg/kg	2	5/24/23 21:38	
4,6-Dinitro-2-methylphenol	~~ND~~	~~U~~	0.0558	0.740	mg/kg	2	5/24/23 21:38	R, RC:4L
4-Bromophenyl-phenyl ether	ND	U	0.0422	0.295	mg/kg	2	5/24/23 21:38	
4-Chloro-3-methylphenol	ND	U	0.0466	0.295	mg/kg	2	5/24/23 21:38	
4-Chloroaniline	ND	U	0.0104	0.295	mg/kg	2	5/24/23 21:38	
4-Chlorophenyl phenyl ether	ND	U	0.0160	0.295	mg/kg	2	5/24/23 21:38	
4-Nitroaniline	ND	U	0.148	0.295	mg/kg	2	5/24/23 21:38	
4-Nitrophenol	ND	U	0.0189	0.295	mg/kg	2	5/24/23 21:38	
Acenaphthene	**0.313**	D	**0.0169**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Acenaphthylene	**0.299**	D	**0.0103**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Acetophenone	ND	U	0.0293	0.295	mg/kg	2	5/24/23 21:38	
Anthracene	**1.10**	D	**0.0429**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Atrazine	ND	U	0.0278	0.295	mg/kg	2	5/24/23 21:38	
Benzaldehyde	ND	U	0.0908	0.295	mg/kg	2	5/24/23 21:38	UJ, RC:SL
Benzo(a)anthracene	**3.29**	D	**0.0298**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-202 30516** Collected: **5/16/2023 12:55:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)pyrene	**3.75**	D	**0.0515**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Benzo(b)fluoranthene	**4.81**	D	**0.0415**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Benzo(g,h,i)perylene	**2.45**	D	**0.0240**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Benzo(k)fluoranthene	**1.66**	D	**0.0340**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Biphenyl	**0.0582**	J, D	**0.0260**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
bis(2-chloroethoxy)methane	ND	U	0.0409	0.295	mg/kg	2	5/24/23 21:38	
bis(2-chloroethyl)ether	ND	U	0.0324	0.295	mg/kg	2	5/24/23 21:38	
bis(2-chloroisopropyl)ether	ND	U	0.106	0.295	mg/kg	2	5/24/23 21:38	
bis(2-ethylhexyl)phthalate	**6.22**	D	**0.0591**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	J, RC:4H
Butylbenzylphthalate	ND	U	0.0269	0.295	mg/kg	2	5/24/23 21:38	
Caprolactam	ND	U	0.0382	0.295	mg/kg	2	5/24/23 21:38	
Carbazole	**0.351**	J, D	**0.0569**	**0.740**	**mg/kg**	**2**	**5/24/23 21:38**	
Chrysene	**3.55**	D	**0.0203**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Dibenzo(a,h)anthracene	**0.661**	D	**0.0293**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	J, RC:SH
Dibenzofuran	**0.291**	D, J	**0.0176**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Diethylphthalate	ND	U	0.0573	0.295	mg/kg	2	5/24/23 21:38	
Dimethylphthalate	**0.191**	J, D	**0.0183**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Di-n-butylphthalate	ND	U	0.121	0.295	mg/kg	2	5/24/23 21:38	
Di-n-octylphthalate	ND	U	0.0606	0.295	mg/kg	2	5/24/23 21:38	
Fluoranthene	**7.11**	D	**0.0278**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Fluorene	**0.569**	D	**0.0247**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Hexachlorobenzene	ND	U	0.0386	0.295	mg/kg	2	5/24/23 21:38	
Hexachlorobutadiene	ND	U	0.142	0.295	mg/kg	2	5/24/23 21:38	
Hexachlorocyclopentadiene	~~ND~~	~~U~~	0.123	0.740	mg/kg	2	5/24/23 21:38	R, RC:4L
Hexachloroethane	ND	U	0.0324	0.295	mg/kg	2	5/24/23 21:38	
Indeno(1,2,3-cd)pyrene	**2.07**	D	**0.0318**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Isophorone	ND	U	0.0194	0.295	mg/kg	2	5/24/23 21:38	
Naphthalene	**0.241**	J, D	**0.0219**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Nitrobenzene	ND	U	0.0502	0.295	mg/kg	2	5/24/23 21:38	
n-Nitroso-di-n-propylamine	ND	U	0.0158	0.295	mg/kg	2	5/24/23 21:38	
n-Nitrosodiphenylamine	ND	U	0.0631	0.295	mg/kg	2	5/24/23 21:38	
Pentachlorophenol	ND	U	0.0406	0.740	mg/kg	2	5/24/23 21:38	
Phenanthrene	**3.95**	D	**0.0389**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	
Phenol	ND	U	0.0240	0.295	mg/kg	2	5/24/23 21:38	
Pyrene	**6.09**	D	**0.0217**	**0.295**	**mg/kg**	**2**	**5/24/23 21:38**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-202 30516** Collected: **5/16/2023 12:55:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	9.11	5.20	J, D	mg/kg	2	5/24/23 21:38
Decane, 2-methyl-	0.937	11.29	J, D	mg/kg	2	5/24/23 21:38
Hexadecanoic acid, butyl ester	12.6	12.83	J, D, B	mg/kg	2	5/24/23 21:38
Octadecanoic acid, butyl ester	9.36	13.64	J, D, B	mg/kg	2	5/24/23 21:38
TIC Total	**32.0**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000438	0.00300	mg/kg	1	5/19/23 19:26	
1,1,2,2-Tetrachloroethane	ND	U	0.000414	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00128	0.00300	mg/kg	1	5/19/23 19:26	
1,1,2-Trichloroethane	ND	U	0.000506	0.00300	mg/kg	1	5/19/23 19:26	
1,1-Dichloroethane	ND	U	0.000438	0.00300	mg/kg	1	5/19/23 19:26	
1,1-Dichloroethene	ND	U	0.000555	0.00300	mg/kg	1	5/19/23 19:26	
1,2,3-Trichlorobenzene	ND	U	0.000648	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
1,2,4-Trichlorobenzene	ND	U	0.000800	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
1,2,4-Trimethylbenzene	ND	U	0.000414	0.00300	mg/kg	1	5/19/23 19:26	
1,2-Dibromo-3-chloropropane	ND	U	0.000732	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000378	0.00300	mg/kg	1	5/19/23 19:26	
1,2-Dichlorobenzene	ND	U	0.000530	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
1,2-Dichloroethane	ND	U	0.000423	0.00300	mg/kg	1	5/19/23 19:26	
1,2-Dichloropropane	ND	U	0.000492	0.00300	mg/kg	1	5/19/23 19:26	
1,3-Dichlorobenzene	ND	U	0.000221	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
1,4-Dichlorobenzene	ND	U	0.000432	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
2-Butanone	ND	U	0.000489	0.00750	mg/kg	1	5/19/23 19:26	
2-Hexanone	ND	U	0.000281	0.00300	mg/kg	1	5/19/23 19:26	
4-Methyl-2-pentanone	ND	U	0.000375	0.00300	mg/kg	1	5/19/23 19:26	
Acetone	ND	U	0.000909	0.00750	mg/kg	1	5/19/23 19:26	
Benzene	ND	U	0.000273	0.00300	mg/kg	1	5/19/23 19:26	
Bromochloromethane	ND	U	0.000554	0.00300	mg/kg	1	5/19/23 19:26	
Bromodichloromethane	ND	U	0.000377	0.00300	mg/kg	1	5/19/23 19:26	
Bromoform	ND	U	0.000527	0.00300	mg/kg	1	5/19/23 19:26	
Bromomethane	ND	U	0.000866	0.00300	mg/kg	1	5/19/23 19:26	
Carbon disulfide	ND	U	0.000431	0.00300	mg/kg	1	5/19/23 19:26	
Carbon Tetrachloride	ND	U	0.000452	0.00300	mg/kg	1	5/19/23 19:26	
Chlorobenzene	ND	U	0.000435	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
Chlorodibromomethane	ND	U	0.000369	0.00300	mg/kg	1	5/19/23 19:26	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-05 (Soil) Sample Name: **OH-SB-13-3.0-4.0-202 30516** Collected: **5/16/2023 12:55:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chloroethane	ND	U	0.000512	0.00300	mg/kg	1	5/19/23 19:26	
Chloroform	ND	U	0.000504	0.00300	mg/kg	1	5/19/23 19:26	
Chloromethane	ND	U	0.00116	0.00300	mg/kg	1	5/19/23 19:26	
cis-1,2-Dichloroethene	ND	U	0.000145	0.00300	mg/kg	1	5/19/23 19:26	
cis-1,3-Dichloropropene	ND	U	0.000380	0.00300	mg/kg	1	5/19/23 19:26	
Cyclohexane	ND	U	0.000665	0.00300	mg/kg	1	5/19/23 19:26	
Dichlorodifluoromethane	ND	U	0.00101	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:SL
EthylBenzene	ND	U	0.000407	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
Isopropylbenzene	ND	U	0.000471	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
m+p-Xylenes	ND	U	0.000758	0.00600	mg/kg	1	5/19/23 19:26	
Methyl Acetate	ND	U	0.000398	0.00300	mg/kg	1	5/19/23 19:26	
Methyl tert-Butyl Ether	ND	U	0.000507	0.00300	mg/kg	1	5/19/23 19:26	
Methylcyclohexane	ND	U	0.000483	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
Methylene Chloride	ND	U	0.000902	0.00300	mg/kg	1	5/19/23 19:26	
o-Xylene	ND	U	0.000386	0.00300	mg/kg	1	5/19/23 19:26	
Styrene	ND	U	0.000429	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
tert-Butyl alcohol	ND	U	0.00630	0.0300	mg/kg	1	5/19/23 19:26	
Tetrachloroethene	ND	U	0.000297	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
Toluene	ND	U	0.000242	0.00300	mg/kg	1	5/19/23 19:26	
Total Xylenes	ND	U	0.000386	0.00300	mg/kg	1	5/19/23 19:26	UJ, RC:4L
trans-1,2-Dichloroethene	ND	U	0.000407	0.00300	mg/kg	1	5/19/23 19:26	
trans-1,3-Dichloropropene	ND	U	0.000573	0.00300	mg/kg	1	5/19/23 19:26	
Trichloroethene	ND	U	0.000441	0.00300	mg/kg	1	5/19/23 19:26	
Trichlorofluoromethane	ND	U	0.000345	0.00300	mg/kg	1	5/19/23 19:26	
Vinyl chloride	ND	U	0.000570	0.00300	mg/kg	1	5/19/23 19:26	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.0**				**%**	**1**	**5/17/23 11:56**

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-05 (Soil)

Sample Name: **OH-SB-13-3.0-4.0-20230516**
Collected: **5/16/2023 12:55:00PM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**2.24**		**0.00778**	**0.0653**	**mg/kg**	**1**	**5/17/23 17:15**

23E0803-06 (Soil)

Sample Name: **OH-SB-13-5-6-20230516**
Collected: **5/16/2023 1:40:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00809	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1221	ND	U	0.0159	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1232	ND	U	0.0202	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1242	ND	U	0.0119	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1248	ND	U	0.0124	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1254	ND	U	0.00973	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1260	ND	U	0.00755	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1262	ND	U	0.0162	0.0603	mg/kg	1	5/30/23 14:26
Aroclor-1268	ND	U	0.00730	0.0603	mg/kg	1	5/30/23 14:26
Total PCBs	ND	U	0.00563	0.0603	mg/kg	1	5/30/23 14:26

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0179	0.183	mg/kg	1	5/27/23 16:16	UJ, RC:3L
2,4-D	ND	U	0.0303	0.183	mg/kg	1	5/27/23 16:16	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**2.84**		**0.00914**	**0.0366**	**mg/kg**	**1**	**5/17/23 12:27**	J, RC:D

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**6220**		**0.276**	**4.64**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D,4L
Antimony	ND	U	0.253	2.32	mg/kg	1	5/30/23 11:25	UJ, RC:4L
Arsenic	**4.70**		**0.165**	**2.32**	**mg/kg**	**1**	**5/30/23 11:25**	
Barium	**118**		**0.0701**	**0.928**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Beryllium	**1.11**		**0.00537**	**0.0464**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Cadmium	ND	U	0.0904	0.464	mg/kg	1	5/30/23 11:25	
Calcium	**29200**		**5.22**	**46.4**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Chromium	**19.9**		**0.0524**	**0.464**	**mg/kg**	**1**	**5/30/23 11:25**	
Cobalt	**4.23**		**0.0474**	**0.371**	**mg/kg**	**1**	**5/30/23 11:25**	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-202305 16** Collected: **5/16/2023 1:40:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Copper	**30.4**		**0.130**	**0.464**	**mg/kg**	**1**	**5/30/23 11:25**	
Iron	**11800**		**1.31**	**9.28**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Lead	**430**		**0.194**	**2.32**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Magnesium	**3080**		**16.4**	**92.8**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Manganese	**154**		**0.0577**	**0.464**	**mg/kg**	**1**	**5/30/23 11:25**	
Nickel	**11.1**		**0.0407**	**0.232**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Potassium	**2110**		**55.2**	**186**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Selenium	ND	U	0.445	2.32	mg/kg	1	5/30/23 11:25	UJ, RC:4L
Silver	~~ND~~	~~U~~	0.0789	0.278	mg/kg	1	5/30/23 11:25	R, RC:6L
Sodium	**1720**		**8.84**	**92.8**	**mg/kg**	**1**	**5/30/23 11:25**	
Thallium	ND	U	0.156	2.32	mg/kg	1	5/30/23 11:25	
Vanadium	**15.1**		**0.107**	**0.928**	**mg/kg**	**1**	**5/30/23 11:25**	J, RC:D
Zinc	**62.2**		**0.142**	**1.39**	**mg/kg**	**1**	**5/30/23 11:25**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.0142**		**0.00109**	**0.00238**	**mg/kg**	**1**	**5/24/23 23:02**	J, RC:3H
4,4'-DDE [2C]	**0.0118**		**0.00130**	**0.00238**	**mg/kg**	**1**	**5/24/23 23:02**	J, RC:3H
4,4'-DDT	ND	U	0.00168	0.00238	mg/kg	1	5/24/23 23:02	
Aldrin	ND	U	0.00113	0.00238	mg/kg	1	5/24/23 23:02	
alpha-BHC	ND	U	0.000707	0.00238	mg/kg	1	5/24/23 23:02	
beta-BHC	ND	U	0.00113	0.00238	mg/kg	1	5/24/23 23:02	
Chlordane	ND	U	0.00106	0.00238	mg/kg	1	5/24/23 23:02	
delta-BHC	ND	U	0.00110	0.00238	mg/kg	1	5/24/23 23:02	
Dieldrin	ND	U	0.00124	0.00238	mg/kg	1	5/24/23 23:02	
Endosulfan I	ND	U	0.00112	0.00238	mg/kg	1	5/24/23 23:02	
Endosulfan II	ND	U	0.00108	0.00238	mg/kg	1	5/24/23 23:02	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000894	0.00238	mg/kg	1	5/24/23 23:02	
Endosulfans, Total (alpha and beta)	ND	U	0.00108	0.00238	mg/kg	1	5/24/23 23:02	
Endrin	ND	U	0.000821	0.00238	mg/kg	1	5/24/23 23:02	
Endrin aldehyde	ND	U	0.000947	0.00238	mg/kg	1	5/24/23 23:02	
Endrin ketone	ND	U	0.000837	0.00238	mg/kg	1	5/24/23 23:02	
gamma-BHC (Lindane)	ND	U	0.000753	0.00238	mg/kg	1	5/24/23 23:02	
Heptachlor	ND	U	0.000636	0.00238	mg/kg	1	5/24/23 23:02	
Heptachlor Epoxide	ND	U	0.00120	0.00238	mg/kg	1	5/24/23 23:02	
Methoxychlor	ND	U	0.000696	0.00238	mg/kg	1	5/24/23 23:02	
Toxaphene	ND	U	0.114	0.121	mg/kg	1	5/24/23 23:02	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-202305 16** Collected: **5/16/2023 1:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0137	0.122	mg/kg	2	5/24/23 22:09	
2,3,4,6-Tetrachlorophenol	ND	U	0.0749	0.486	mg/kg	2	5/24/23 22:09	
2,4,5-Trichlorophenol	ND	U	0.0662	0.486	mg/kg	2	5/24/23 22:09	
2,4,6-Trichlorophenol	ND	U	0.0304	0.486	mg/kg	2	5/24/23 22:09	
2,4-Dichlorophenol	ND	U	0.0490	0.486	mg/kg	2	5/24/23 22:09	
2,4-Dimethylphenol	**0.646**	D	**0.0479**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
2,4-Dinitrophenol	ND	U	0.0702	2.44	mg/kg	2	5/24/23 22:09	
2,4-Dinitrotoluene	ND	U	0.0519	0.486	mg/kg	2	5/24/23 22:09	
2,6-Dinitrotoluene	ND	U	0.116	0.486	mg/kg	2	5/24/23 22:09	
2-Chloronaphthalene	ND	U	0.0559	0.486	mg/kg	2	5/24/23 22:09	
2-Chlorophenol	ND	U	0.0643	0.486	mg/kg	2	5/24/23 22:09	
2-Methylnaphthalene	**2.25**	D	**0.117**	**0.731**	**mg/kg**	**2**	**5/24/23 22:09**	
2-Methylphenol	ND	U	0.0961	0.486	mg/kg	2	5/24/23 22:09	
2-Nitroaniline	ND	U	0.0391	0.486	mg/kg	2	5/24/23 22:09	
2-Nitrophenol	ND	U	0.0541	0.486	mg/kg	2	5/24/23 22:09	
3,3'-Dichlorobenzidine	ND	U	0.0512	0.486	mg/kg	2	5/24/23 22:09	
3+4-Methylphenol	**1.14**	D	**0.0892**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
3-Nitroaniline	ND	U	0.0903	0.486	mg/kg	2	5/24/23 22:09	
4,6-Dinitro-2-methylphenol	ND	U	0.0917	1.22	mg/kg	2	5/24/23 22:09	
4-Bromophenyl-phenyl ether	ND	U	0.0694	0.486	mg/kg	2	5/24/23 22:09	
4-Chloro-3-methylphenol	ND	U	0.0768	0.486	mg/kg	2	5/24/23 22:09	
4-Chloroaniline	ND	U	0.0170	0.486	mg/kg	2	5/24/23 22:09	
4-Chlorophenyl phenyl ether	ND	U	0.0263	0.486	mg/kg	2	5/24/23 22:09	
4-Nitroaniline	ND	U	0.243	0.486	mg/kg	2	5/24/23 22:09	
4-Nitrophenol	ND	U	0.0311	0.486	mg/kg	2	5/24/23 22:09	
Acenaphthene	**12.8**	D	**0.0277**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Acenaphthylene	**16.6**	D	**0.0169**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Acetophenone	ND	U	0.0482	0.486	mg/kg	2	5/24/23 22:09	
Anthracene	**13.8**	D	**0.0705**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Atrazine	ND	U	0.0457	0.486	mg/kg	2	5/24/23 22:09	
Benzaldehyde	ND	U	0.149	0.486	mg/kg	2	5/24/23 22:09	UJ, RC:SL
Benzo(a)anthracene	**12.2**	D	**0.0490**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Benzo(a)pyrene	**32.4**	D	**0.848**	**4.86**	**mg/kg**	**20**	**5/26/23 20:04**	
Benzo(b)fluoranthene	**33.9**	D	**0.684**	**4.86**	**mg/kg**	**20**	**5/26/23 20:04**	
Benzo(g,h,i)perylene	**49.0**	D	**0.395**	**4.86**	**mg/kg**	**20**	**5/26/23 20:04**	
Benzo(k)fluoranthene	**9.05**	D	**0.0559**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Biphenyl	ND	U	0.0428	0.486	mg/kg	2	5/24/23 22:09	
bis(2-chloroethoxy)methane	ND	U	0.0673	0.486	mg/kg	2	5/24/23 22:09	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-202305 16** Collected: **5/16/2023 1:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0534	0.486	mg/kg	2	5/24/23 22:09	
bis(2-chloroisopropyl)ether	ND	U	0.175	0.486	mg/kg	2	5/24/23 22:09	
bis(2-ethylhexyl)phthalate	ND	U	0.0972	0.486	mg/kg	2	5/24/23 22:09	
Butylbenzylphthalate	ND	U	0.0442	0.486	mg/kg	2	5/24/23 22:09	
Caprolactam	ND	U	0.0629	0.486	mg/kg	2	5/24/23 22:09	
Carbazole	**1.25**	D	**0.0936**	**1.22**	**mg/kg**	**2**	**5/24/23 22:09**	
Chrysene	**16.9**	D	**0.0333**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Dibenzo(a,h)anthracene	**6.50**	D	**0.0482**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	J, RC:SH
Dibenzofuran	**5.44**	D	**0.0290**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Diethylphthalate	ND	U	0.0943	0.486	mg/kg	2	5/24/23 22:09	
Dimethylphthalate	ND	U	0.0302	0.486	mg/kg	2	5/24/23 22:09	
Di-n-butylphthalate	ND	U	0.199	0.486	mg/kg	2	5/24/23 22:09	
Di-n-octylphthalate	ND	U	0.0998	0.486	mg/kg	2	5/24/23 22:09	
Fluoranthene	**21.1**	D	**0.0457**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Fluorene	**3.77**	D	**0.0406**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Hexachlorobenzene	ND	U	0.0636	0.486	mg/kg	2	5/24/23 22:09	
Hexachlorobutadiene	ND	U	0.234	0.486	mg/kg	2	5/24/23 22:09	
Hexachlorocyclopentadiene	ND	U	0.203	1.22	mg/kg	2	5/24/23 22:09	
Hexachloroethane	ND	U	0.0534	0.486	mg/kg	2	5/24/23 22:09	
Indeno(1,2,3-cd)pyrene	**25.5**	D	**0.0523**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Isophorone	ND	U	0.0319	0.486	mg/kg	2	5/24/23 22:09	
Naphthalene	**8.18**	D	**0.0360**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Nitrobenzene	ND	U	0.0826	0.486	mg/kg	2	5/24/23 22:09	
n-Nitroso-di-n-propylamine	ND	U	0.0261	0.486	mg/kg	2	5/24/23 22:09	
n-Nitrosodiphenylamine	ND	U	0.104	0.486	mg/kg	2	5/24/23 22:09	
Pentachlorophenol	ND	U	0.0669	1.22	mg/kg	2	5/24/23 22:09	
Phenanthrene	**10.6**	D	**0.0640**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Phenol	**0.711**	D	**0.0395**	**0.486**	**mg/kg**	**2**	**5/24/23 22:09**	
Pyrene	**50.1**	D	**0.358**	**4.86**	**mg/kg**	**20**	**5/26/23 20:04**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,5,7-Cyclooctatetraene	8.02	5.81	J, D	mg/kg	2	5/24/23 22:09
2-Pentanone, 4-hydroxy-4-methyl-	18.5	5.20	J, D	mg/kg	2	5/24/23 22:09
Acenaphthenone	6.09	10.91	J, D	mg/kg	2	5/24/23 22:09
Benzene, 1-ethenyl-4-methyl-	8.22	6.74	J, D	mg/kg	2	5/24/23 22:09
Hexadecanoic acid, butyl ester	12.6	12.83	J, D, B	mg/kg	2	5/24/23 22:09
Lenthionine	11.0	10.93	J, D	mg/kg	2	5/24/23 22:09

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-202305 16** Collected: **5/16/2023 1:40:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	23.7	12.13	J, D	mg/kg	2	5/24/23 22:09
unknown (02)	17.5	13.31	J, D	mg/kg	2	5/24/23 22:09
unknown (03)	11.7	13.52	J, D	mg/kg	2	5/24/23 22:09
unknown (04)	13.4	13.64	J, D	mg/kg	2	5/24/23 22:09
unknown (05)	9.53	13.67	J, D	mg/kg	2	5/24/23 22:09
unknown (06)	6.70	14.23	J, D	mg/kg	2	5/24/23 22:09
unknown (07)	7.08	14.68	J, D	mg/kg	2	5/24/23 22:09
unknown (08)	16.4	15.01	J, D	mg/kg	2	5/24/23 22:09
unknown (09)	8.45	16.72	J, D	mg/kg	2	5/24/23 22:09
TIC Total	**179**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000545	0.00373	mg/kg	1	5/25/23 16:45
1,1,2,2-Tetrachloroethane	ND	U	0.000515	0.00373	mg/kg	1	5/25/23 16:45
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00160	0.00373	mg/kg	1	5/25/23 16:45
1,1,2-Trichloroethane	ND	U	0.000628	0.00373	mg/kg	1	5/25/23 16:45
1,1-Dichloroethane	ND	U	0.000545	0.00373	mg/kg	1	5/25/23 16:45
1,1-Dichloroethene	ND	U	0.000690	0.00373	mg/kg	1	5/25/23 16:45
1,2,3-Trichlorobenzene	ND	U	0.000806	0.00373	mg/kg	1	5/25/23 16:45
1,2,4-Trichlorobenzene	ND	U	0.000994	0.00373	mg/kg	1	5/25/23 16:45
1,2,4-Trimethylbenzene	ND	U	0.000515	0.00373	mg/kg	1	5/25/23 16:45
1,2-Dibromo-3-chloropropane	ND	U	0.000910	0.00373	mg/kg	1	5/25/23 16:45
1,2-Dibromoethane	ND	U	0.000470	0.00373	mg/kg	1	5/25/23 16:45
1,2-Dichlorobenzene	ND	U	0.000658	0.00373	mg/kg	1	5/25/23 16:45
1,2-Dichloroethane	ND	U	0.000526	0.00373	mg/kg	1	5/25/23 16:45
1,2-Dichloropropane	ND	U	0.000612	0.00373	mg/kg	1	5/25/23 16:45
1,3-Dichlorobenzene	ND	U	0.000274	0.00373	mg/kg	1	5/25/23 16:45
1,4-Dichlorobenzene	ND	U	0.000537	0.00373	mg/kg	1	5/25/23 16:45
2-Butanone	ND	U	0.000608	0.00932	mg/kg	1	5/25/23 16:45
2-Hexanone	ND	U	0.000349	0.00373	mg/kg	1	5/25/23 16:45
4-Methyl-2-pentanone	ND	U	0.000466	0.00373	mg/kg	1	5/25/23 16:45
Acetone	ND	U	0.00113	0.00932	mg/kg	1	5/25/23 16:45
Benzene	ND	U	0.000339	0.00373	mg/kg	1	5/25/23 16:45
Bromochloromethane	ND	U	0.000688	0.00373	mg/kg	1	5/25/23 16:45
Bromodichloromethane	ND	U	0.000468	0.00373	mg/kg	1	5/25/23 16:45
Bromoform	ND	U	0.000655	0.00373	mg/kg	1	5/25/23 16:45

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-202305 16** Collected: **5/16/2023 1:40:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromomethane	ND	U	0.00108	0.00373	mg/kg	1	5/25/23 16:45
Carbon disulfide	ND	U	0.000535	0.00373	mg/kg	1	5/25/23 16:45
Carbon Tetrachloride	ND	U	0.000561	0.00373	mg/kg	1	5/25/23 16:45
Chlorobenzene	ND	U	0.000541	0.00373	mg/kg	1	5/25/23 16:45
Chlorodibromomethane	ND	U	0.000459	0.00373	mg/kg	1	5/25/23 16:45
Chloroethane	ND	U	0.000636	0.00373	mg/kg	1	5/25/23 16:45
Chloroform	ND	U	0.000627	0.00373	mg/kg	1	5/25/23 16:45
Chloromethane	ND	U	0.00144	0.00373	mg/kg	1	5/25/23 16:45
cis-1,2-Dichloroethene	ND	U	0.000180	0.00373	mg/kg	1	5/25/23 16:45
cis-1,3-Dichloropropene	ND	U	0.000472	0.00373	mg/kg	1	5/25/23 16:45
Cyclohexane	ND	U	0.000826	0.00373	mg/kg	1	5/25/23 16:45
Dichlorodifluoromethane	ND	U	0.00126	0.00373	mg/kg	1	5/25/23 16:45
EthylBenzene	ND	U	0.000505	0.00373	mg/kg	1	5/25/23 16:45
Isopropylbenzene	ND	U	0.000586	0.00373	mg/kg	1	5/25/23 16:45
m+p-Xylenes	ND	U	0.000942	0.00746	mg/kg	1	5/25/23 16:45
Methyl Acetate	ND	U	0.000494	0.00373	mg/kg	1	5/25/23 16:45
Methyl tert-Butyl Ether	ND	U	0.000630	0.00373	mg/kg	1	5/25/23 16:45
Methylcyclohexane	ND	U	0.000600	0.00373	mg/kg	1	5/25/23 16:45
Methylene Chloride	ND	U	0.00112	0.00373	mg/kg	1	5/25/23 16:45
o-Xylene	ND	U	0.000479	0.00373	mg/kg	1	5/25/23 16:45
Styrene	ND	U	0.000533	0.00373	mg/kg	1	5/25/23 16:45
tert-Butyl alcohol	ND	U	0.00783	0.0373	mg/kg	1	5/25/23 16:45
Tetrachloroethene	ND	U	0.000369	0.00373	mg/kg	1	5/25/23 16:45
Toluene	ND	U	0.000300	0.00373	mg/kg	1	5/25/23 16:45
Total Xylenes	ND	U	0.000479	0.00373	mg/kg	1	5/25/23 16:45
trans-1,2-Dichloroethene	ND	U	0.000505	0.00373	mg/kg	1	5/25/23 16:45
trans-1,3-Dichloropropene	ND	U	0.000712	0.00373	mg/kg	1	5/25/23 16:45
Trichloroethene	ND	U	0.000548	0.00373	mg/kg	1	5/25/23 16:45
Trichlorofluoromethane	ND	U	0.000429	0.00373	mg/kg	1	5/25/23 16:45
Vinyl chloride	ND	U	0.000709	0.00373	mg/kg	1	5/25/23 16:45

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2,3-Dihydro-1-methylindene	0.0107	20.90	J	mg/kg	1	5/25/23 16:45
Benzene, 1-ethyl-2-methyl-	0.0395	18.57	J	mg/kg	1	5/25/23 16:45
Benzene, 1-ethyl-4-methyl-	0.0204	18.08	J	mg/kg	1	5/25/23 16:45
TIC Total	**0.071**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-06 (Soil) Sample Name: **OH-SB-13-5-6-20230516** Collected: **5/16/2023 1:40:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Percent Solids	**54.7**				**%**	**1**	**5/17/23 11:56**	

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyanide	**3.08**		**0.0131**	**0.110**	**mg/kg**	**1**	**5/17/23 17:15**	

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-20230516** Collected: **5/16/2023 2:00:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00651	0.0486	mg/kg	1	6/6/23 14:16	UJ, RC:3L
Aroclor-1221	ND	U	0.0128	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1232	ND	U	0.0163	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1242	ND	U	0.00954	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1248	ND	U	0.00998	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1254	ND	U	0.00784	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1260	ND	U	0.00608	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1262	ND	U	0.0131	0.0486	mg/kg	1	6/6/23 14:16	
Aroclor-1268	ND	U	0.00588	0.0486	mg/kg	1	6/6/23 14:16	
Total PCBs	ND	U	0.00453	0.0486	mg/kg	1	6/6/23 14:16	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0144	0.147	mg/kg	1	5/27/23 16:40
2,4-D	ND	U	0.0244	0.147	mg/kg	1	5/27/23 16:40

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**2.79**		**0.00736**	**0.0294**	**mg/kg**	**1**	**5/17/23 12:27**	J, RC:D

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**18600**		**0.213**	**3.59**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D,4L
Antimony	ND	U	0.196	1.79	mg/kg	1	5/30/23 11:28	UJ, RC:4L
Arsenic	**7.33**		**0.128**	**1.79**	**mg/kg**	**1**	**5/30/23 11:28**	
Barium	**64.5**		**0.0543**	**0.718**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Beryllium	**1.81**		**0.00416**	**0.0359**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-2023 0516** Collected: **5/16/2023 2:00:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	ND	U	0.0700	0.359	mg/kg	1	5/30/23 11:28	
Calcium	**6430**		**4.04**	**35.9**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Chromium	**28.7**		**0.0405**	**0.359**	**mg/kg**	**1**	**5/30/23 11:28**	
Cobalt	**7.86**		**0.0367**	**0.287**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Copper	**21.0**		**0.100**	**0.359**	**mg/kg**	**1**	**5/30/23 11:28**	
Iron	**31700**		**1.02**	**7.18**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Lead	**61.1**		**0.150**	**1.79**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Magnesium	**7140**		**12.7**	**71.8**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Manganese	**269**		**0.0447**	**0.359**	**mg/kg**	**1**	**5/30/23 11:28**	
Nickel	**22.9**		**0.0315**	**0.179**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Potassium	**4390**		**42.7**	**144**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Selenium	ND	U	0.345	1.79	mg/kg	1	5/30/23 11:28	UJ, RC:4L
Silver	~~ND~~	~~U~~	0.0611	0.215	mg/kg	1	5/30/23 11:28	R, RC:6L
Sodium	**2680**		**6.84**	**71.8**	**mg/kg**	**1**	**5/30/23 11:28**	
Thallium	ND	U	0.121	1.79	mg/kg	1	5/30/23 11:28	
Vanadium	**38.4**		**0.0826**	**0.718**	**mg/kg**	**1**	**5/30/23 11:28**	J, RC:D
Zinc	**76.1**		**0.110**	**1.08**	**mg/kg**	**1**	**5/30/23 11:28**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000876	0.00191	mg/kg	1	5/25/23 20:58	UJ, RC:6L
4,4'-DDE	ND	U	0.00105	0.00191	mg/kg	1	5/25/23 20:58	UJ, RC:6L
4,4'-DDT	ND	U	0.00135	0.00191	mg/kg	1	5/25/23 20:58	
Aldrin	ND	U	0.000907	0.00191	mg/kg	1	5/25/23 20:58	
alpha-BHC	ND	U	0.000570	0.00191	mg/kg	1	5/25/23 20:58	UJ, RC:6L
beta-BHC	ND	U	0.000914	0.00191	mg/kg	1	5/25/23 20:58	UJ, RC:6L
Chlordane	ND	U	0.000851	0.00191	mg/kg	1	5/25/23 20:58	
delta-BHC	ND	U	0.000889	0.00191	mg/kg	1	5/25/23 20:58	
Dieldrin	ND	U	0.00100	0.00191	mg/kg	1	5/25/23 20:58	
Endosulfan I	ND	U	0.000904	0.00191	mg/kg	1	5/25/23 20:58	
Endosulfan II	ND	U	0.000870	0.00191	mg/kg	1	5/25/23 20:58	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000720	0.00191	mg/kg	1	5/25/23 20:58	
Endosulfans, Total (alpha and beta)	ND	U	0.000870	0.00191	mg/kg	1	5/25/23 20:58	
Endrin	ND	U	0.000661	0.00191	mg/kg	1	5/25/23 20:58	
Endrin aldehyde	ND	U	0.000762	0.00191	mg/kg	1	5/25/23 20:58	
Endrin ketone	ND	U	0.000674	0.00191	mg/kg	1	5/25/23 20:58	
gamma-BHC (Lindane)	ND	U	0.000606	0.00191	mg/kg	1	5/25/23 20:58	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-2023 0516** Collected: **5/16/2023 2:00:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000512	0.00191	mg/kg	1	5/25/23 20:58
Heptachlor Epoxide	ND	U	0.000965	0.00191	mg/kg	1	5/25/23 20:58
Methoxychlor	ND	U	0.000561	0.00191	mg/kg	1	5/25/23 20:58
Toxaphene	ND	U	0.0922	0.0971	mg/kg	1	5/25/23 20:58

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00553	0.0490	mg/kg	1	5/24/23 22:40
2,3,4,6-Tetrachlorophenol	ND	U	0.0302	0.196	mg/kg	1	5/24/23 22:40
2,4,5-Trichlorophenol	ND	U	0.0266	0.196	mg/kg	1	5/24/23 22:40
2,4,6-Trichlorophenol	ND	U	0.0123	0.196	mg/kg	1	5/24/23 22:40
2,4-Dichlorophenol	ND	U	0.0197	0.196	mg/kg	1	5/24/23 22:40
2,4-Dimethylphenol	ND	U	0.0193	0.196	mg/kg	1	5/24/23 22:40
2,4-Dinitrophenol	ND	U	0.0283	0.982	mg/kg	1	5/24/23 22:40
2,4-Dinitrotoluene	ND	U	0.0209	0.196	mg/kg	1	5/24/23 22:40
2,6-Dinitrotoluene	ND	U	0.0468	0.196	mg/kg	1	5/24/23 22:40
2-Chloronaphthalene	ND	U	0.0225	0.196	mg/kg	1	5/24/23 22:40
2-Chlorophenol	ND	U	0.0259	0.196	mg/kg	1	5/24/23 22:40
2-Methylnaphthalene	**13.1**		**0.0469**	**0.294**	**mg/kg**	**1**	**5/24/23 22:40**
2-Methylphenol	ND	U	0.0387	0.196	mg/kg	1	5/24/23 22:40
2-Nitroaniline	ND	U	0.0157	0.196	mg/kg	1	5/24/23 22:40
2-Nitrophenol	ND	U	0.0218	0.196	mg/kg	1	5/24/23 22:40
3,3'-Dichlorobenzidine	ND	U	0.0206	0.196	mg/kg	1	5/24/23 22:40
3+4-Methylphenol	**0.560**		**0.0359**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**
3-Nitroaniline	ND	U	0.0364	0.196	mg/kg	1	5/24/23 22:40
4,6-Dinitro-2-methylphenol	ND	U	0.0369	0.490	mg/kg	1	5/24/23 22:40
4-Bromophenyl-phenyl ether	ND	U	0.0280	0.196	mg/kg	1	5/24/23 22:40
4-Chloro-3-methylphenol	ND	U	0.0309	0.196	mg/kg	1	5/24/23 22:40
4-Chloroaniline	ND	U	0.00686	0.196	mg/kg	1	5/24/23 22:40
4-Chlorophenyl phenyl ether	ND	U	0.0106	0.196	mg/kg	1	5/24/23 22:40
4-Nitroaniline	ND	U	0.0980	0.196	mg/kg	1	5/24/23 22:40
4-Nitrophenol	ND	U	0.0125	0.196	mg/kg	1	5/24/23 22:40
Acenaphthene	**11.9**		**0.0112**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**
Acenaphthylene	**0.987**		**0.00681**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**
Acetophenone	ND	U	0.0194	0.196	mg/kg	1	5/24/23 22:40
Anthracene	**7.70**		**0.0284**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**
Atrazine	ND	U	0.0184	0.196	mg/kg	1	5/24/23 22:40
Benzaldehyde	ND	U	0.0602	0.196	mg/kg	1	5/24/23 22:40 UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-2023 0516** Collected: **5/16/2023 2:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene		**5.27**		**0.0197**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Benzo(a)pyrene		**4.64**		**0.0341**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Benzo(b)fluoranthene		**4.65**		**0.0275**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Benzo(g,h,i)perylene		**2.25**		**0.0159**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Benzo(k)fluoranthene		**1.90**		**0.0225**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Biphenyl		**2.76**		**0.0172**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
bis(2-chloroethoxy)methane		ND	U	0.0271	0.196	mg/kg	1	5/24/23 22:40	
bis(2-chloroethyl)ether		ND	U	0.0215	0.196	mg/kg	1	5/24/23 22:40	
bis(2-chloroisopropyl)ether		ND	U	0.0705	0.196	mg/kg	1	5/24/23 22:40	
bis(2-ethylhexyl)phthalate	0.196	~~0.0923~~	J	**0.0391**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	UJ, RC:7
Butylbenzylphthalate		ND	U	0.0178	0.196	mg/kg	1	5/24/23 22:40	
Caprolactam		ND	U	0.0253	0.196	mg/kg	1	5/24/23 22:40	
Carbazole		**4.18**		**0.0377**	**0.490**	**mg/kg**	**1**	**5/24/23 22:40**	
Chrysene		**4.86**		**0.0134**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Dibenzo(a,h)anthracene		**0.635**		**0.0194**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	J, RC:SH
Dibenzofuran		**6.69**		**0.0117**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Diethylphthalate		ND	U	0.0380	0.196	mg/kg	1	5/24/23 22:40	
Dimethylphthalate		ND	U	0.0122	0.196	mg/kg	1	5/24/23 22:40	
Di-n-butylphthalate		ND	U	0.0801	0.196	mg/kg	1	5/24/23 22:40	
Di-n-octylphthalate		ND	U	0.0402	0.196	mg/kg	1	5/24/23 22:40	
Fluoranthene		**12.9**	D	**0.184**	**1.96**	**mg/kg**	**10**	**5/26/23 20:34**	
Fluorene		**8.85**		**0.0163**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Hexachlorobenzene		ND	U	0.0256	0.196	mg/kg	1	5/24/23 22:40	
Hexachlorobutadiene		ND	U	0.0940	0.196	mg/kg	1	5/24/23 22:40	
Hexachlorocyclopentadiene		ND	U	0.0817	0.490	mg/kg	1	5/24/23 22:40	
Hexachloroethane		ND	U	0.0215	0.196	mg/kg	1	5/24/23 22:40	
Indeno(1,2,3-cd)pyrene		**1.95**		**0.0210**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	
Isophorone		ND	U	0.0128	0.196	mg/kg	1	5/24/23 22:40	
Naphthalene		**49.5**	D	**0.145**	**1.96**	**mg/kg**	**10**	**5/26/23 20:34**	
Nitrobenzene		ND	U	0.0333	0.196	mg/kg	1	5/24/23 22:40	
n-Nitroso-di-n-propylamine		ND	U	0.0105	0.196	mg/kg	1	5/24/23 22:40	
n-Nitrosodiphenylamine		ND	U	0.0418	0.196	mg/kg	1	5/24/23 22:40	
Pentachlorophenol		ND	U	0.0269	0.490	mg/kg	1	5/24/23 22:40	
Phenanthrene		**25.1**	D	**0.258**	**1.96**	**mg/kg**	**10**	**5/26/23 20:34**	
Phenol		ND	U	0.0159	0.196	mg/kg	1	5/24/23 22:40	
Pyrene		**10.8**		**0.0144**	**0.196**	**mg/kg**	**1**	**5/24/23 22:40**	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-2023 0516** Collected: **5/16/2023 2:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	13.6	5.20	J	mg/kg	1	5/24/23 22:40
4b,8-Dimethyl-2-isopropylphenanthrene, 4	3.50	12.43	J	mg/kg	1	5/24/23 22:40
Dibenzothiophene	7.09	11.40	J	mg/kg	1	5/24/23 22:40
Eicosane	1.57	12.49	J	mg/kg	1	5/24/23 22:40
Ethyl Acetate	2.70	4.55	J	mg/kg	1	5/24/23 22:40
Ethylbenzene	2.41	5.49	J	mg/kg	1	5/24/23 22:40
Hexadecanoic acid, butyl ester	22.5	12.83	J, B	mg/kg	1	5/24/23 22:40
Indene	4.90	7.18	J	mg/kg	1	5/24/23 22:40
Lenthionine	4.69	10.93	J	mg/kg	1	5/24/23 22:40
Octadecanoic acid, butyl ester	5.07	13.64	J, B	mg/kg	1	5/24/23 22:40
Toluene	2.19	4.38	J	mg/kg	1	5/24/23 22:40
unknown (01)	2.46	11.09	J	mg/kg	1	5/24/23 22:40
unknown (02)	2.03	11.99	J	mg/kg	1	5/24/23 22:40
unknown (03)	3.25	12.02	J	mg/kg	1	5/24/23 22:40
unknown (04)	5.31	12.13	J	mg/kg	1	5/24/23 22:40
TIC Total	**83.3**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000413	0.00283	mg/kg	1	5/19/23 20:29	
1,1,2,2-Tetrachloroethane	ND	U	0.000391	0.00283	mg/kg	1	5/19/23 20:29	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00121	0.00283	mg/kg	1	5/19/23 20:29	
1,1,2-Trichloroethane	ND	U	0.000477	0.00283	mg/kg	1	5/19/23 20:29	
1,1-Dichloroethane	ND	U	0.000413	0.00283	mg/kg	1	5/19/23 20:29	
1,1-Dichloroethene	ND	U	0.000524	0.00283	mg/kg	1	5/19/23 20:29	
1,2,3-Trichlorobenzene	ND	U	0.000611	0.00283	mg/kg	1	5/19/23 20:29	
1,2,4-Trichlorobenzene	ND	U	0.000754	0.00283	mg/kg	1	5/19/23 20:29	
1,2,4-Trimethylbenzene	**0.162**		**0.000391**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
1,2-Dibromo-3-chloropropane	ND	U	0.000691	0.00283	mg/kg	1	5/19/23 20:29	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000357	0.00283	mg/kg	1	5/19/23 20:29	
1,2-Dichlorobenzene	ND	U	0.000500	0.00283	mg/kg	1	5/19/23 20:29	
1,2-Dichloroethane	ND	U	0.000399	0.00283	mg/kg	1	5/19/23 20:29	
1,2-Dichloropropane	ND	U	0.000464	0.00283	mg/kg	1	5/19/23 20:29	
1,3-Dichlorobenzene	ND	U	0.000208	0.00283	mg/kg	1	5/19/23 20:29	
1,4-Dichlorobenzene	ND	U	0.000408	0.00283	mg/kg	1	5/19/23 20:29	
2-Butanone	ND	U	0.000461	0.00708	mg/kg	1	5/19/23 20:29	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-2023 0516** Collected: **5/16/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Hexanone	ND	U	0.000265	0.00283	mg/kg	1	5/19/23 20:29	
4-Methyl-2-pentanone	ND	U	0.000354	0.00283	mg/kg	1	5/19/23 20:29	
Acetone	ND	U	0.000858	0.00708	mg/kg	1	5/19/23 20:29	
Benzene	**0.448**		**0.000258**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
Bromochloromethane	ND	U	0.000522	0.00283	mg/kg	1	5/19/23 20:29	
Bromodichloromethane	ND	U	0.000355	0.00283	mg/kg	1	5/19/23 20:29	
Bromoform	ND	U	0.000497	0.00283	mg/kg	1	5/19/23 20:29	
Bromomethane	ND	U	0.000817	0.00283	mg/kg	1	5/19/23 20:29	
Carbon disulfide	ND	U	0.000406	0.00283	mg/kg	1	5/19/23 20:29	
Carbon Tetrachloride	ND	U	0.000426	0.00283	mg/kg	1	5/19/23 20:29	
Chlorobenzene	ND	U	0.000410	0.00283	mg/kg	1	5/19/23 20:29	
Chlorodibromomethane	ND	U	0.000348	0.00283	mg/kg	1	5/19/23 20:29	
Chloroethane	ND	U	0.000483	0.00283	mg/kg	1	5/19/23 20:29	
Chloroform	ND	U	0.000475	0.00283	mg/kg	1	5/19/23 20:29	
Chloromethane	ND	U	0.00109	0.00283	mg/kg	1	5/19/23 20:29	
cis-1,2-Dichloroethene	ND	U	0.000137	0.00283	mg/kg	1	5/19/23 20:29	
cis-1,3-Dichloropropene	ND	U	0.000358	0.00283	mg/kg	1	5/19/23 20:29	
Cyclohexane	ND	U	0.000627	0.00283	mg/kg	1	5/19/23 20:29	
Dichlorodifluoromethane	ND	U	0.000955	0.00283	mg/kg	1	5/19/23 20:29	UJ, RC:SL
EthylBenzene	**0.456**		**0.000384**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
Isopropylbenzene	**0.0564**		**0.000444**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
m+p-Xylenes	**0.625**		**0.000715**	**0.00566**	**mg/kg**	**1**	**5/19/23 20:29**	
Methyl Acetate	ND	U	0.000375	0.00283	mg/kg	1	5/19/23 20:29	
Methyl tert-Butyl Ether	ND	U	0.000478	0.00283	mg/kg	1	5/19/23 20:29	
Methylcyclohexane	**0.00366**		**0.000456**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
Methylene Chloride	ND	U	0.000850	0.00283	mg/kg	1	5/19/23 20:29	
o-Xylene	**0.358**		**0.000364**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
Styrene	ND	U	0.000405	0.00283	mg/kg	1	5/19/23 20:29	
tert-Butyl alcohol	ND	U	0.00594	0.0283	mg/kg	1	5/19/23 20:29	
Tetrachloroethene	ND	U	0.000280	0.00283	mg/kg	1	5/19/23 20:29	
Toluene	**0.0719**		**0.000228**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
Total Xylenes	**0.983**		**0.000364**	**0.00283**	**mg/kg**	**1**	**5/19/23 20:29**	
trans-1,2-Dichloroethene	ND	U	0.000384	0.00283	mg/kg	1	5/19/23 20:29	
trans-1,3-Dichloropropene	ND	U	0.000541	0.00283	mg/kg	1	5/19/23 20:29	
Trichloroethene	ND	U	0.000416	0.00283	mg/kg	1	5/19/23 20:29	
Trichlorofluoromethane	ND	U	0.000325	0.00283	mg/kg	1	5/19/23 20:29	
Vinyl chloride	ND	U	0.000538	0.00283	mg/kg	1	5/19/23 20:29	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-07 (Soil) Sample Name: **OH-SB-13-15-16-2023 0516** Collected: **5/16/2023 2:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (1-methyl-1-propenyl)-, (Z)-	0.0374	22.14	J	mg/kg	1	5/19/23 20:29
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0568	22.27	J	mg/kg	1	5/19/23 20:29
Benzene, 1,2,3-trimethyl-	0.0658	19.55	J	mg/kg	1	5/19/23 20:29
Benzene, 1,3,5-trimethyl-	0.261	18.85	J	mg/kg	1	5/19/23 20:29
Benzene, 1-ethenyl-2-methyl-	0.560	19.91	J	mg/kg	1	5/19/23 20:29
Benzene, 1-ethyl-2-methyl-	0.180	18.05	J	mg/kg	1	5/19/23 20:29
Benzene, 1-ethyl-4-methyl-	0.0330	18.54	J	mg/kg	1	5/19/23 20:29
Benzene, 1-propynyl-	0.298	20.28	J	mg/kg	1	5/19/23 20:29
Benzo[b]thiophene	0.148	23.33	J	mg/kg	1	5/19/23 20:29
Benzofuran, 2-methyl-	0.148	21.48	J	mg/kg	1	5/19/23 20:29
Benzofuran, 7-methyl-	0.0508	21.28	J	mg/kg	1	5/19/23 20:29
Cycloprop[a]indene, 1,1a,6,6a-tetrahydro	0.0853	22.44	J	mg/kg	1	5/19/23 20:29
TIC:Naphthalene	3.13	23.18	J	mg/kg	1	5/19/23 20:29
TIC Total	**5.06**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**67.9**				**%**	**1**	**5/17/23 11:56**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00918	0.0771	mg/kg	1	5/17/23 17:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-08 (Ground Water) Sample Name: **TB-20230516** Collected: **5/16/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/17/23 16:50	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/17/23 16:50	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/17/23 16:50	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/17/23 16:50	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/17/23 16:50	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/17/23 16:50	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/17/23 16:50	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/17/23 16:50	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/17/23 16:50	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/17/23 16:50	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/17/23 16:50	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/17/23 16:50	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/17/23 16:50	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/17/23 16:50	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/17/23 16:50	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/17/23 16:50	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/17/23 16:50	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/17/23 16:50	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/17/23 16:50	
Acetone	ND	U	10.0	10.0	ug/L	1	5/17/23 16:50	
Benzene	ND	U	0.129	1.00	ug/L	1	5/17/23 16:50	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/17/23 16:50	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/17/23 16:50	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/17/23 16:50	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/17/23 16:50	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/17/23 16:50	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/17/23 16:50	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/17/23 16:50	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/17/23 16:50	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/17/23 16:50	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/17/23 16:50	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/17/23 16:50	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/17/23 16:50	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/17/23 16:50	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/17/23 16:50	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/17/23 16:50	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/17/23 16:50	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/17/23 16:50	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0803
Date to Lab: 5/16/2023 4:59:00PM

23E0803-08 (Ground Water) Sample Name: **TB-20230516** Collected: **5/16/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/17/23 16:50	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/17/23 16:50	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/17/23 16:50	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/17/23 16:50	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/17/23 16:50	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/17/23 16:50	
Styrene	ND	U	0.176	1.00	ug/L	1	5/17/23 16:50	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/17/23 16:50	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/17/23 16:50	
Toluene	ND	U	0.205	1.00	ug/L	1	5/17/23 16:50	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/17/23 16:50	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/17/23 16:50	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/17/23 16:50	UJ, RC:SL
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/17/23 16:50	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/17/23 16:50	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/17/23 16:50	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-01	**Date Collected**	: 05/15/23 14:05
Client ID	: OH-SB-66-6.0-7.0-20230515	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/12/23 19:36
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206122308	**Analyst**	: CNC
Sample Amount	: 2.11 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1870	26.9	7.74	
91-20-3C1	C1-Naphthalenes	539	26.9	7.74	
91-20-3C2	C2-Naphthalenes	806	26.9	7.74	
91-20-3C3	C3-Naphthalenes	970	26.9	7.74	
91-20-3C4	C4-Naphthalenes	985	26.9	7.74	
208-96-8	Acenaphthylene	327	26.9	5.14	
83-32-9	Acenaphthene	1580	26.9	4.75	
86-73-7	Fluorene	857	26.9	7.18	
86-73-7C1	C1-Fluorenes	570	26.9	7.18	
86-73-7C2	C2-Fluorenes	1210	26.9	7.18	
86-73-7C3	C3-Fluorenes	1890	26.9	7.18	
85-01-8	Phenanthrene	5780	26.9	8.92	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	4150	26.9	8.92	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	4720	26.9	8.92	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	3320	26.9	8.92	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	2060	26.9	8.92	
120-12-7	Anthracene	1690	26.9	5.55	
206-44-0	Fluoranthene	7380	26.9	8.56	
129-00-0	Pyrene	8220	26.9	7.08	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	6010	26.9	7.08	
56-55-3	Benz(a)anthracene	4350	26.9	5.49	
218-01-9	Chrysene	4710	26.9	5.44	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-01	**Date Collected**	: 05/15/23 14:05
Client ID	: OH-SB-66-6.0-7.0-20230515	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/12/23 19:36
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206122308	**Analyst**	: CNC
Sample Amount	: 2.11 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 70
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	3520	26.9	5.44	
218-01-9C2	C2-Chrysenes BS	2690	26.9	5.44	
218-01-9C3	C3-Chrysenes	2450	26.9	5.44	
218-01-9C4	C4-Chrysenes	1280	26.9	5.44	
205-99-2	Benzo(b)fluoranthene	3940	26.9	7.00	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3640	26.9	5.34	
192-97-2	Benzo(e)pyrene	3930	26.9	5.56	
50-32-8	Benzo(a)pyrene	5300	26.9	7.69	
198-55-0	Perylene	1520	26.9	5.20	
193-39-5	Indeno(1,2,3-cd)pyrene	3650	26.9	7.31	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1010	26.9	7.27	
191-24-2	Benzo(g,h,i)perylene	4070	26.9	7.15	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-02	**Date Collected**	: 05/16/23 09:40
Client ID	: OH-SB-30-3.0-4.0-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/12/23 21:04
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206122309	**Analyst**	: CNC
Sample Amount	: 2.53 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	681	23.2	6.66	
91-20-3C1	C1-Naphthalenes	638	23.2	6.66	
91-20-3C2	C2-Naphthalenes	1020	23.2	6.66	
91-20-3C3	C3-Naphthalenes	1050	23.2	6.66	
91-20-3C4	C4-Naphthalenes	775	23.2	6.66	
208-96-8	Acenaphthylene	743	23.2	4.42	
83-32-9	Acenaphthene	1960	23.2	4.08	
86-73-7	Fluorene	2180	23.2	6.18	
86-73-7C1	C1-Fluorenes	982	23.2	6.18	
86-73-7C2	C2-Fluorenes	1140	23.2	6.18	
86-73-7C3	C3-Fluorenes	1580	23.2	6.18	
85-01-8	Phenanthrene	16700	23.2	7.68	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	6680	23.2	7.68	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	4490	23.2	7.68	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	2160	23.2	7.68	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	912	23.2	7.68	
120-12-7	Anthracene	4350	23.2	4.78	
206-44-0	Fluoranthene	20000	23.2	7.36	
129-00-0	Pyrene	19200	23.2	6.10	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	9540	23.2	6.10	
56-55-3	Benz(a)anthracene	8380	23.2	4.72	
218-01-9	Chrysene	8510	23.2	4.68	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-02	**Date Collected**	: 05/16/23 09:40
Client ID	: OH-SB-30-3.0-4.0-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/12/23 21:04
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206122309	**Analyst**	: CNC
Sample Amount	: 2.53 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	4210	23.2	4.68	
218-01-9C2	C2-Chrysenes BS	2300	23.2	4.68	
218-01-9C3	C3-Chrysenes	2090	23.2	4.68	
218-01-9C4	C4-Chrysenes	1130	23.2	4.68	
205-99-2	Benzo(b)fluoranthene	7960	23.2	6.03	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	5680	23.2	4.60	
192-97-2	Benzo(e)pyrene	6000	23.2	4.78	
50-32-8	Benzo(a)pyrene	8970	23.2	6.62	
198-55-0	Perylene	2490	23.2	4.47	
193-39-5	Indeno(1,2,3-cd)pyrene	5360	23.2	6.29	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1460	23.2	6.26	
191-24-2	Benzo(g,h,i)perylene	6090	23.2	6.16	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2327919
Project Name	: 23E0803	Project Number	: 23E0803
Lab ID	: L2327919-03	Date Collected	: 05/16/23 10:05
Client ID	: OH-SB-30-6.5-7.5-20230516	Date Received	: 05/18/23
Sample Location	:	Date Analyzed	: 06/10/23 01:03
Sample Matrix	: SOIL	Date Extracted	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206092312	Analyst	: CNC
Sample Amount	: 10.5 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	146	3.41	0.981	
91-20-3C1	C1-Naphthalenes	34.5	3.41	0.981	
91-20-3C2	C2-Naphthalenes	48.7	3.41	0.981	
91-20-3C3	C3-Naphthalenes	40.8	3.41	0.981	
91-20-3C4	C4-Naphthalenes	27.0	3.41	0.981	
208-96-8	Acenaphthylene	21.6	3.41	0.651	J, RC:SL
83-32-9	Acenaphthene	47.6	3.41	0.602	J, RC:SL
86-73-7	Fluorene	19.0	3.41	0.910	
86-73-7C1	C1-Fluorenes	27.0	3.41	0.910	
86-73-7C2	C2-Fluorenes	36.5	3.41	0.910	
86-73-7C3	C3-Fluorenes	36.5	3.41	0.910	
85-01-8	Phenanthrene	91.2	3.41	1.13	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	80.8	3.41	1.13	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	82.9	3.41	1.13	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	56.0	3.41	1.13	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	42.2	3.41	1.13	
120-12-7	Anthracene	52.9	3.41	0.704	
206-44-0	Fluoranthene	199	3.41	1.08	
129-00-0	Pyrene	311	3.41	0.898	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	235	3.41	0.898	
56-55-3	Benz(a)anthracene	191	3.41	0.696	
218-01-9	Chrysene	205	3.41	0.690	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-03	**Date Collected**	: 05/16/23 10:05
Client ID	: OH-SB-30-6.5-7.5-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 01:03
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092312	**Analyst**	: CNC
Sample Amount	: 10.5 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	104	3.41	0.690	
218-01-9C2	C2-Chrysenes BS	61.7	3.41	0.690	
218-01-9C3	C3-Chrysenes	59.3	3.41	0.690	
218-01-9C4	C4-Chrysenes	34.4	3.41	0.690	
205-99-2	Benzo(b)fluoranthene	234	3.41	0.888	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	184	3.41	0.677	
192-97-2	Benzo(e)pyrene	180	3.41	0.704	
50-32-8	Benzo(a)pyrene	242	3.41	0.974	
198-55-0	Perylene	124	3.41	0.659	
193-39-5	Indeno(1,2,3-cd)pyrene	176	3.41	0.926	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	46.2	3.41	0.922	
191-24-2	Benzo(g,h,i)perylene	167	3.41	0.907	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2327919
Project Name	: 23E0803	Project Number	: 23E0803
Lab ID	: L2327919-04	Date Collected	: 05/16/23 12:55
Client ID	: OH-SB-13-3.0-4.0-20230516	Date Received	: 05/18/23
Sample Location	:	Date Analyzed	: 06/10/23 02:31
Sample Matrix	: SOIL	Date Extracted	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206092313	Analyst	: CNC
Sample Amount	: 5.06 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	217	22.0	6.34	
91-20-3C1	C1-Naphthalenes	187	22.0	6.34	
91-20-3C2	C2-Naphthalenes	296	22.0	6.34	
91-20-3C3	C3-Naphthalenes	402	22.0	6.34	
91-20-3C4	C4-Naphthalenes	399	22.0	6.34	
208-96-8	Acenaphthylene	210	22.0	4.21	J, RC:SL
83-32-9	Acenaphthene	275	22.0	3.89	J, RC:SL
86-73-7	Fluorene	548	22.0	5.88	
86-73-7C1	C1-Fluorenes	215	22.0	5.88	
86-73-7C2	C2-Fluorenes	444	22.0	5.88	
86-73-7C3	C3-Fluorenes	664	22.0	5.88	
85-01-8	Phenanthrene	3880	22.0	7.31	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1830	22.0	7.31	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1620	22.0	7.31	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1050	22.0	7.31	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	516	22.0	7.31	
120-12-7	Anthracene	1050	22.0	4.55	
206-44-0	Fluoranthene	7250	22.0	7.01	
129-00-0	Pyrene	7220	22.0	5.80	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	3710	22.0	5.80	
56-55-3	Benz(a)anthracene	3210	22.0	4.50	
218-01-9	Chrysene	3510	22.0	4.46	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-04	**Date Collected**	: 05/16/23 12:55
Client ID	: OH-SB-13-3.0-4.0-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 02:31
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092313	**Analyst**	: CNC
Sample Amount	: 5.06 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1520	22.0	4.46	
218-01-9C2	C2-Chrysenes BS	956	22.0	4.46	
218-01-9C3	C3-Chrysenes	1100	22.0	4.46	
218-01-9C4	C4-Chrysenes	701	22.0	4.46	
205-99-2	Benzo(b)fluoranthene	3010	22.0	5.74	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3150	22.0	4.38	
192-97-2	Benzo(e)pyrene	2510	22.0	4.55	
50-32-8	Benzo(a)pyrene	3330	22.0	6.30	
198-55-0	Perylene	949	22.0	4.26	
193-39-5	Indeno(1,2,3-cd)pyrene	2260	22.0	5.99	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	628	22.0	5.96	
191-24-2	Benzo(g,h,i)perylene	2310	22.0	5.86	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-05	**Date Collected**	: 05/16/23 13:40
Client ID	: OH-SB-13-5-6-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/12/23 22:33
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206122310	**Analyst**	: CNC
Sample Amount	: 5.25 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	3560	288	82.8	
91-20-3C1	C1-Naphthalenes	2900	288	82.8	
91-20-3C2	C2-Naphthalenes	5040	288	82.8	
91-20-3C3	C3-Naphthalenes	4160	288	82.8	
91-20-3C4	C4-Naphthalenes	4850	288	82.8	
208-96-8	Acenaphthylene	22700	288	55.0	
83-32-9	Acenaphthene	7510	288	50.8	
86-73-7	Fluorene	2280	288	76.9	
86-73-7C1	C1-Fluorenes	3440	288	76.9	
86-73-7C2	C2-Fluorenes	11500	288	76.9	
86-73-7C3	C3-Fluorenes	17400	288	76.9	
85-01-8	Phenanthrene	10100	288	95.5	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	20900	288	95.5	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	33900	288	95.5	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	33100	288	95.5	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	22800	288	95.5	
120-12-7	Anthracene	11800	288	59.4	
206-44-0	Fluoranthene	31600	288	91.6	
129-00-0	Pyrene	165000	288	75.8	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	132000	288	75.8	
56-55-3	Benz(a)anthracene	25100	288	58.8	
218-01-9	Chrysene	36000	288	58.3	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-05	**Date Collected**	: 05/16/23 13:40
Client ID	: OH-SB-13-5-6-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/12/23 22:33
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206122310	**Analyst**	: CNC
Sample Amount	: 5.25 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	60500	288	58.3	
218-01-9C2	C2-Chrysenes BS	53900	288	58.3	
218-01-9C3	C3-Chrysenes	34000	288	58.3	
218-01-9C4	C4-Chrysenes	13900	288	58.3	
205-99-2	Benzo(b)fluoranthene	61800	288	75.0	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	51200	288	57.2	
192-97-2	Benzo(e)pyrene	94500	288	59.5	
50-32-8	Benzo(a)pyrene	95800	288	82.3	
198-55-0	Perylene	20700	288	55.6	
193-39-5	Indeno(1,2,3-cd)pyrene	78800	288	78.2	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	19300	288	77.9	
191-24-2	Benzo(g,h,i)perylene	134000	288	76.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2327919
Project Name	: 23E0803	Project Number	: 23E0803
Lab ID	: L2327919-06D	Date Collected	: 05/16/23 14:00
Client ID	: OH-SB-13-15-16-20230516	Date Received	: 05/18/23
Sample Location	:	Date Analyzed	: 06/13/23 00:01
Sample Matrix	: SOIL	Date Extracted	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 4
Lab File ID	: F206122311	Analyst	: CNC
Sample Amount	: 5.69 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 64
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	~~84700~~	60.3	17.3	E
91-20-3C1	C1-Naphthalenes	28300	60.3	17.3	
91-20-3C2	C2-Naphthalenes	20100	60.3	17.3	
91-20-3C3	C3-Naphthalenes	11300	60.3	17.3	
91-20-3C4	C4-Naphthalenes	4400	60.3	17.3	
208-96-8	Acenaphthylene	4370	60.3	11.5	
83-32-9	Acenaphthene	29600	60.3	10.6	
86-73-7	Fluorene	27700	60.3	16.1	
86-73-7C1	C1-Fluorenes	9140	60.3	16.1	
86-73-7C2	C2-Fluorenes	6120	60.3	16.1	
86-73-7C3	C3-Fluorenes	3320	60.3	16.1	
85-01-8	Phenanthrene	~~96600~~	60.3	20.0	E
PHENANTHC1	C1-Phenanthrenes/Anthracenes	37600	60.3	20.0	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	17600	60.3	20.0	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	6440	60.3	20.0	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	2120	60.3	20.0	
120-12-7	Anthracene	36700	60.3	12.4	
206-44-0	Fluoranthene	61700	60.3	19.2	
129-00-0	Pyrene	56900	60.3	15.8	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	39500	60.3	15.8	
56-55-3	Benz(a)anthracene	26100	60.3	12.3	
218-01-9	Chrysene	24600	60.3	12.2	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-06D	**Date Collected**	: 05/16/23 14:00
Client ID	: OH-SB-13-15-16-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/13/23 00:01
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F206122311	**Analyst**	: CNC
Sample Amount	: 5.69 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 64
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	13100	60.3	12.2	
218-01-9C2	C2-Chrysenes BS	6240	60.3	12.2	
218-01-9C3	C3-Chrysenes	4770	60.3	12.2	
218-01-9C4	C4-Chrysenes	1900	60.3	12.2	
205-99-2	Benzo(b)fluoranthene	17600	60.3	15.7	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	18800	60.3	12.0	
192-97-2	Benzo(e)pyrene	14900	60.3	12.4	
50-32-8	Benzo(a)pyrene	26200	60.3	17.2	
198-55-0	Perylene	6620	60.3	11.6	
193-39-5	Indeno(1,2,3-cd)pyrene	13200	60.3	16.4	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	3950	60.3	16.3	
191-24-2	Benzo(g,h,i)perylene	13200	60.3	16.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-06D2	**Date Collected**	: 05/16/23 14:00
Client ID	: OH-SB-13-15-16-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/13/23 20:18
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F206122325	**Analyst**	: CNC
Sample Amount	: 5.69 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 64
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	79600	301	86.6	
85-01-8	Phenanthrene	94700	301	99.9	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-01	**Date Collected**	: 05/15/23 14:05
Client ID	: OH-SB-66-6.0-7.0-20230515	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 70
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-02	**Date Collected**	: 05/16/23 09:40
Client ID	: OH-SB-30-3.0-4.0-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 79
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-03	**Date Collected**	: 05/16/23 10:05
Client ID	: OH-SB-30-6.5-7.5-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-04	**Date Collected**	: 05/16/23 12:55
Client ID	: OH-SB-13-3.0-4.0-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 90
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-05	**Date Collected**	: 05/16/23 13:40
Client ID	: OH-SB-13-5-6-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 79
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327919
Project Name	: 23E0803	**Project Number**	: 23E0803
Lab ID	: L2327919-06	**Date Collected**	: 05/16/23 14:00
Client ID	: OH-SB-13-15-16-20230516	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 64
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2327930 and 23E0866
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 29, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-14-1.0-2.0_20230517	23E0866-01 L2327930-01	5/17/2023	Soil
OH-SB-14-7.7-8.7_20230517	23E0866-02 L2327930-02	5/17/2023	Soil
OH-SB-19-3.5-4.5_20230517	23E0866-03 L2327930-03	5/17/2023	Soil
OH-SB-19-5.5-6.5_20230517	23E0866-04 L2327930-04	5/17/2023	Soil
FB-20230517	23E0866-05	5/17/2023	Water
TB-20230517	23E0866-06	5/17/2023	Water
OH-SB-18-3.5-4.5_20230517	23E0866-07 L2327930-05	5/17/2023	Soil

Data validation was performed on the analytical data for seven (7) samples collected on May 17, 2023 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270E-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500CN-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020

- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Certain poor responding soil SVOC results were rejected due to major recovery issues associated with matrix spike/matrix spike duplicates. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, matrix spike/matrix spike duplicates, and laboratory control samples.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.
- Sample FB-20230517 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	All Soil Samples	1,1,2-Trichloroethane 2-Butanone Acetone Bromomethane Chloromethane Cis-1,3-dichloropropene Tetrachloroethene Trans-1,2-dichloroethene Trans-1,3-dichloropropene	%R > CL	J (Detects) No Action (NDs)	6H
8260D	FB_20230517	Bromomethane	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on sample(s) associated with this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260E	TB-20240517	1,2,4-Trimethylbenzene	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q
	FB-20230517	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (ND)	Q
		1,2,3-Trichlorobenzene	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q
	All Soil Samples	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (ND)	Q
		Methyl Acetate 1,2,3-Trichlorobenzene	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB_20230517	Methylene Chloride Toluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		1,2,4-Trichlorobenzene 4-Methyl-2-Pentanone Chloromethane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	All Soil Samples	2-Butanone 2-Hexanone Acetone Bromomethane Chloromethane Cyclohexane Trans-1,2-Dichloroethene Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		1,2-Dibromo-3-chloropropane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	FB_20230517	Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2-Hexanone Bromomethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, J, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270E-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exceptions:
  - The field blank associated with soil samples had a detection of bis(2-ethylhexyl)phthalate (0.510 ug/L) and TIC detections of 1-methyl-cyclopentanecarboxylic acid (4.94 ug/L), 1,1,2,2-tetrachloroethane (5.08 ug/L), and unknowns (4.13 ug/L). Associated sample non-detections are not qualified. TICs are not qualified from a field blank, therefore; no qualification is required.
  - The method blank [BAE0995-BLK-1] associated with soil samples via 8270E had TIC detections of Propanedioic acid, dimethyl-, diethyl es (0.439 mg/kg) and unknowns (0.301 mg/kg). TICs are not qualified unless the TICs identified in the associated samples are qualified by the lab with a 'B' qualifier. None of the TICs had a 'B' qualifier, therefore; no qualification is necessary.
  - The method blank [WG1782800-1] associated with soil samples via 8270E-SIM had detections of Naphthalene (2.98 ug/kg) and C1-Naphthalenes (0.393 ug/kg). Sample detections greater than five times the method blank detections are not qualified.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	FB-20230517	Phenol-d6 (PHN-D6)	%R < CL	None; Qualification not warranted as only one of the six surrogates was outside control limits.	---

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	All soils samples	2,4-Dimethylphenol 2,6-Dinitrotoluene Dimethylphthalate	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was performed on sample OH-SB-14-1.0-2.0_20230517 [23E0866-01]. Percent recoveries were within control limits except for the analytes presented in the following table:

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	OH-SB-14-1.0-2.0_20230517	Butylbenzylphthalate	%R > CL	J (Detects) No action (NDs)	4H
8270E	OH-SB-14-1.0-2.0_20230517	Fluoranthene Pyrene Benzo(g,h,i)perylene	%R < CL	J (Detects) UJ (NDs)	4L
8270E	OH-SB-14-1.0-2.0_20230517	3,3'-Dichlorobenzidine 4,6-Dinitro-2-methylphenol Hexachlorocyclopentadiene 2,4-Dinitrophenol	%R < 10%	R (Detects and NDs)	4L
8270E	OH-SB-14-1.0-2.0_20230517	2,4-Dinitrophenol 3,3'-Dichlorobenzidine Atrazine	%RPD > CL	J (Detects) No action (NDs)	5

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230517	Benzaldehyde	%RSD >20% and Correlation Coefficient <0.99	J (Detects) UJ (ND)	Q
8270E	All Soil Samples	2,4-Dinitrophenol	RRF < 0.05	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB_20230517	4-nitrophenol Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	All soil samples	Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2-Nitroaniline 4-chloro-3-methylphenol Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E-SIM	OH-SB-14-1.0-2.0_20230517 [01] OH-SB-19-3.5-4.5_20230517 [03] OH-SB-19-5.5-6.5_20230517 [04] OH-SB-18-3.5-4.5_20230517 [05]	Acenaphthylene Acenaphthene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, J, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	FB_20230517	Decachlorobiphenyl (DCB) – Columns 1 & 2	%R < CL	J (Detects) UJ (NDs)	3L
8081B	OH-SB-14-1.0-2.0_ 20230517 [01] OH-SB-14-7.7-8.7_ 20230517 [02] OH-SB-18-3.5-4.5_ 20230517 [07]	Decachlorobiphenyl (DCB) – Column 2	%R > CL	J (Detects) No Action (NDs) *Only affects detections reported from Column 2*	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB_20230517	4,4'-DDT	%R < CL	J (Detects) UJ (NDs)	6L
8081B	All Soil Samples	4,4'-DDD 4,4'-DDE Alpha-BHC Beta-BHC Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception:

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
200.7	FB_20230517	Silver	%R < CL	UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Benjamin Long
Validator
Brown and Caldwell

Dated: March 29, 2024

Peer Review: JLD

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0866

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 16, 2023

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Sample Summary

Work Order: 23E0866

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-14-1.0-2.0-20230517	23E0866-01	Soil	05/17/2023 08:35	05/17/2023 16:58
OH-SB-14-7.7-8.7-20230517	23E0866-02	Soil	05/17/2023 09:55	05/17/2023 16:58
OH-SB-19-3.5-4.5-20230517	23E0866-03	Soil	05/17/2023 11:11	05/17/2023 16:58
OH-SB-19-5.5-6.5-20230517	23E0866-04	Soil	05/17/2023 11:35	05/17/2023 16:58
FB_20230517	23E0866-05	Ground Water	05/17/2023 12:45	05/17/2023 16:58
TB_20230517	23E0866-06	Ground Water	05/17/2023 00:00	05/17/2023 16:58
OH-SB-18-3.5-4.5-20230517	23E0866-07	Soil	05/17/2023 13:55	05/17/2023 16:58

PN: 23E0866

APL 23E0866

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CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: Yu & Associates	SEND REPORT TO: " "
ADDRESS: 611 Riverside Drive	ADDRESS: " "
3rd Floor, Elmwood Park NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-001	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MLM

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☑ LOW

TURN-AROUND TIME
- ☑ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required ____
  - ☐ 48 hr. date & time required ____
  - ☐ 72 hr. date & time required ____
  - ☐ 1 week

REPORT FORMAT
- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP# ____

PWSID# ____

✓ NY State Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0866 -01	OH-SB-14-1.0-20230517	05/17/23	0835	X		S	5		VOCs, SVOCs, PCBs, Pesticides, Herbicides, TAL Metals TCN, F-CN, Alkylated PAHs by 8270 GC/MS
-02	OH-SB-14-7.7-8.7-20230517		0955	X		S	5		" "
-03	OH-SB-19-3.5-4.5-20230517		1111	X		S	5		" "
-04	OH-SB-19-5.5-6.5-20230517		1135	X		S	5		" "
-05	FB-20230517		1245	X		S	5		" "
-06	TB-20230517		LAB	X		WT	2		VOCs
* -07	OH-SB-18-3.5-4.5-20230517		1355						Same as 1-6 analysis

RELINQUISHED BY (Print) Max Macondray	DATE 05/17/23	RECEIVED BY (Print) Vito DeRosa	
Signature	Time 1405	Signature	
RELINQUISHED BY (Print) Vito DeRosa	DATE 5/17	RECEIVED BY (Print) Rose Nap	5/17/23
Signature	Time 1700	Signature	1658
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS
* received samples, not on chain (RN)

Cooler Temp. upon receipt at lab 3.8

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Method 200.7
The percent recovery for Silver was outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Samples 23E0866-01, -03 and -04 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PCBs [8082A]
Samples 23E0866-01 has one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]
Samples 23E0866-01, -02 and -07 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike (low).
The percent recoveries for several compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

Sample 23E0866-06 (TB) has one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Reviewed By: _____ (SK) 8/16/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-20230517**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.584		0.00580	0.0232	mg/kg dry	1	5/18/23 12:54

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7570		0.176	2.96	mg/kg dry	1	5/31/23 12:45
Antimony	26.1		0.161	1.48	mg/kg dry	1	5/31/23 12:45
Arsenic	4.11		0.105	1.48	mg/kg dry	1	5/31/23 12:45
Barium	125		0.0447	0.591	mg/kg dry	1	5/31/23 12:45
Beryllium	1.41		0.00342	0.0296	mg/kg dry	1	5/31/23 12:45
Cadmium	26.4		0.0577	0.296	mg/kg dry	1	5/31/23 12:45
Calcium	70700	D	33.3	296	mg/kg dry	10	5/31/23 14:01
Chromium	29.9		0.0334	0.296	mg/kg dry	1	5/31/23 12:45
Cobalt	6.06		0.0302	0.237	mg/kg dry	1	5/31/23 12:45
Copper	165		0.0827	0.296	mg/kg dry	1	5/31/23 12:45
Iron	20100		0.838	5.91	mg/kg dry	1	5/31/23 12:45
Lead	2160	D	1.23	14.8	mg/kg dry	10	5/31/23 14:01
Magnesium	18400		10.4	59.1	mg/kg dry	1	5/31/23 12:45
Manganese	178		0.0368	0.296	mg/kg dry	1	5/31/23 12:45
Nickel	67.4		0.0260	0.148	mg/kg dry	1	5/31/23 12:45
Potassium	1770		35.2	118	mg/kg dry	1	5/31/23 12:45
Silver	0.444		0.0503	0.177	mg/kg dry	1	5/31/23 12:45
Sodium	626		5.64	59.1	mg/kg dry	1	5/31/23 12:45
Vanadium	72.5		0.0680	0.591	mg/kg dry	1	5/31/23 12:45
Zinc	266		0.0903	0.887	mg/kg dry	1	5/31/23 12:45

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00383		0.000690	0.00151	mg/kg dry	1	5/25/23 22:26
4,4'-DDE [2C]	0.00129	J	0.000824	0.00151	mg/kg dry	1	5/25/23 22:26
4,4'-DDT	0.0251		0.00106	0.00151	mg/kg dry	1	5/25/23 22:26

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.107	J, D	0.0740	0.464	mg/kg dry	2	5/25/23 17:36
Anthracene	0.844	D	0.0447	0.308	mg/kg dry	2	5/25/23 17:36
Benzo(a)anthracene	2.60	D	0.0311	0.308	mg/kg dry	2	5/25/23 17:36
Benzo(a)pyrene	2.40	D	0.0538	0.308	mg/kg dry	2	5/25/23 17:36
Benzo(b)fluoranthene	3.24	D	0.0434	0.308	mg/kg dry	2	5/25/23 17:36
Benzo(g,h,i)perylene	2.24	D	0.0250	0.308	mg/kg dry	2	5/25/23 17:36
Benzo(k)fluoranthene	1.19	D	0.0355	0.308	mg/kg dry	2	5/25/23 17:36
bis(2-ethylhexyl)phthalate	0.107	J, D	0.0617	0.308	mg/kg dry	2	5/25/23 17:36

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-20230517**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chrysene	2.60	D	0.0211	0.308	mg/kg dry	2	5/25/23 17:36
Dibenzo(a,h)anthracene	0.474	D	0.0306	0.308	mg/kg dry	2	5/25/23 17:36
Fluoranthene	4.91	D	0.0290	0.308	mg/kg dry	2	5/25/23 17:36
Fluorene	0.218	J, D	0.0257	0.308	mg/kg dry	2	5/25/23 17:36
Indeno(1,2,3-cd)pyrene	1.61	D	0.0332	0.308	mg/kg dry	2	5/25/23 17:36
Naphthalene	0.280	J, D	0.0229	0.308	mg/kg dry	2	5/25/23 17:36
Phenanthrene	2.28	D	0.0406	0.308	mg/kg dry	2	5/25/23 17:36
Pyrene	4.23	D	0.0227	0.308	mg/kg dry	2	5/25/23 17:36
TIC_2H-Pyran-2-carboxylic acid, 3,6-dihydro-	0.651	J, D			mg/kg dry	2	5/25/23 17:36
TIC_Naphthalene, decahydro-2-methyl-	0.920	J, D			mg/kg dry	2	5/25/23 17:36
TIC_unknown (01)	3.04	J, D			mg/kg dry	2	5/25/23 17:36
TIC_unknown (02)	1.02	J, D			mg/kg dry	2	5/25/23 17:36
TIC_unknown (03)	1.95	J, D			mg/kg dry	2	5/25/23 17:36
TIC_unknown (04)	0.707	J, D			mg/kg dry	2	5/25/23 17:36

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Acenaphthene	0.0403	J			mg/kg dry	1	5/19/23 21:00
TIC_Naphthalene, 1,7-dimethyl-	0.0145	J			mg/kg dry	1	5/19/23 21:00
TIC_Naphthalene, 2,6-dimethyl-	0.0185	J			mg/kg dry	1	5/19/23 21:00
TIC_Phenol, 4-(aminomethyl)-2-methoxy-	0.00915	J			mg/kg dry	1	5/19/23 21:00
TIC_TIC:Naphthalene	0.0304	J			mg/kg dry	1	5/19/23 21:00

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.873		0.00723	0.0607	mg/kg dry	1	5/18/23 16:54

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-20230517**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.157		0.00864	0.0346	mg/kg dry	1	5/18/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	18000		0.261	4.39	mg/kg dry	1	5/31/23 12:47
Arsenic	9.35		0.156	2.19	mg/kg dry	1	5/31/23 12:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-20230517**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	182		0.0663	0.877	mg/kg dry	1	5/31/23 12:47
Beryllium	1.96		0.00508	0.0439	mg/kg dry	1	5/31/23 12:47
Calcium	2330		4.93	43.9	mg/kg dry	1	5/31/23 12:47
Chromium	33.9		0.0495	0.439	mg/kg dry	1	5/31/23 12:47
Cobalt	7.37		0.0448	0.351	mg/kg dry	1	5/31/23 12:47
Copper	28.7		0.123	0.439	mg/kg dry	1	5/31/23 12:47
Iron	28800		1.24	8.77	mg/kg dry	1	5/31/23 12:47
Lead	81.8		0.183	2.19	mg/kg dry	1	5/31/23 12:47
Magnesium	6040		15.5	87.7	mg/kg dry	1	5/31/23 12:47
Manganese	235		0.0546	0.439	mg/kg dry	1	5/31/23 12:47
Nickel	24.3		0.0385	0.219	mg/kg dry	1	5/31/23 12:47
Potassium	4390		52.2	175	mg/kg dry	1	5/31/23 12:47
Silver	1.17		0.0746	0.263	mg/kg dry	1	5/31/23 12:47
Sodium	1680		8.36	87.7	mg/kg dry	1	5/31/23 12:47
Vanadium	40.2		0.101	0.877	mg/kg dry	1	5/31/23 12:47
Zinc	67.1		0.134	1.32	mg/kg dry	1	5/31/23 12:47

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.0131		0.00103	0.00225	mg/kg dry	1	5/25/23 22:49
4,4'-DDE	0.0182		0.00123	0.00225	mg/kg dry	1	5/25/23 22:49
4,4'-DDT	0.00423		0.00159	0.00225	mg/kg dry	1	5/25/23 22:49

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0955	J	0.0551	0.346	mg/kg dry	1	5/25/23 18:08
Acenaphthene	0.182	J	0.0131	0.230	mg/kg dry	1	5/25/23 18:08
Acenaphthylene	0.219	J	0.00800	0.230	mg/kg dry	1	5/25/23 18:08
Anthracene	0.860		0.0334	0.230	mg/kg dry	1	5/25/23 18:08
Benzo(a)anthracene	2.71		0.0232	0.230	mg/kg dry	1	5/25/23 18:08
Benzo(a)pyrene	2.58		0.0401	0.230	mg/kg dry	1	5/25/23 18:08
Benzo(b)fluoranthene	2.91		0.0323	0.230	mg/kg dry	1	5/25/23 18:08
Benzo(g,h,i)perylene	1.21		0.0187	0.230	mg/kg dry	1	5/25/23 18:08
Benzo(k)fluoranthene	1.03		0.0264	0.230	mg/kg dry	1	5/25/23 18:08
Chrysene	2.43		0.0158	0.230	mg/kg dry	1	5/25/23 18:08
Dibenzo(a,h)anthracene	0.436		0.0228	0.230	mg/kg dry	1	5/25/23 18:08
Dibenzofuran	0.157	J	0.0137	0.230	mg/kg dry	1	5/25/23 18:08
Fluoranthene	5.61		0.0216	0.230	mg/kg dry	1	5/25/23 18:08
Fluorene	0.346		0.0192	0.230	mg/kg dry	1	5/25/23 18:08
Indeno(1,2,3-cd)pyrene	1.15		0.0247	0.230	mg/kg dry	1	5/25/23 18:08

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-20230517**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Naphthalene	0.710		0.0170	0.230	mg/kg dry	1	5/25/23 18:08
Phenanthrene	2.35		0.0302	0.230	mg/kg dry	1	5/25/23 18:08
Pyrene	4.77		0.0169	0.230	mg/kg dry	1	5/25/23 18:08
TIC_Copper, bis(3-ethyl-2,4-pentanedionato-O	2.53	J			mg/kg dry	1	5/25/23 18:08
TIC_Hexadecanoic acid, butyl ester	20.6	J			mg/kg dry	1	5/25/23 18:08
TIC_Octadecanoic acid, butyl ester	6.13	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (01)	0.854	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (02)	0.501	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (03)	0.825	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (04)	0.686	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (05)	0.753	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (06)	1.38	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (07)	1.30	J			mg/kg dry	1	5/25/23 18:08
TIC_unknown (08)	0.591	J			mg/kg dry	1	5/25/23 18:08

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00593		0.000628	0.00455	mg/kg dry	1	5/19/23 21:31
2-Butanone	0.236		0.000741	0.0114	mg/kg dry	1	5/19/23 21:31
Acetone	0.695		0.00138	0.0114	mg/kg dry	1	5/19/23 21:31
m+p-Xylenes	0.00508	J	0.00115	0.00910	mg/kg dry	1	5/19/23 21:31
Total Xylenes	0.00508		0.000584	0.00455	mg/kg dry	1	5/19/23 21:31
TIC_TIC:Naphthalene	0.0747	J			mg/kg dry	1	5/19/23 21:31

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.419		0.0126	0.106	mg/kg dry	1	5/18/23 16:54

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-20230517**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0979		0.00617	0.0247	mg/kg dry	1	5/18/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12200		0.175	2.95	mg/kg dry	1	5/31/23 12:49
Antimony	1.74		0.161	1.48	mg/kg dry	1	5/31/23 12:49

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-20230517**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	3.87		0.105	1.48	mg/kg dry	1	5/31/23 12:49
Barium	69.4		0.0447	0.591	mg/kg dry	1	5/31/23 12:49
Beryllium	1.55		0.00342	0.0295	mg/kg dry	1	5/31/23 12:49
Cadmium	5.02		0.0576	0.295	mg/kg dry	1	5/31/23 12:49
Calcium	127000	D	33.2	295	mg/kg dry	10	5/31/23 14:04
Chromium	17.9		0.0333	0.295	mg/kg dry	1	5/31/23 12:49
Cobalt	6.02		0.0302	0.236	mg/kg dry	1	5/31/23 12:49
Copper	99.8		0.0826	0.295	mg/kg dry	1	5/31/23 12:49
Iron	13400		0.837	5.91	mg/kg dry	1	5/31/23 12:49
Lead	52.1		0.123	1.48	mg/kg dry	1	5/31/23 12:49
Magnesium	7500		10.4	59.1	mg/kg dry	1	5/31/23 12:49
Manganese	157		0.0367	0.295	mg/kg dry	1	5/31/23 12:49
Nickel	526	D	0.259	1.48	mg/kg dry	10	5/31/23 14:04
Potassium	1610		35.1	118	mg/kg dry	1	5/31/23 12:49
Sodium	1040		5.63	59.1	mg/kg dry	1	5/31/23 12:49
Vanadium	37.2		0.0679	0.591	mg/kg dry	1	5/31/23 12:49
Zinc	165		0.0902	0.886	mg/kg dry	1	5/31/23 12:49

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.00672		0.00113	0.00160	mg/kg dry	1	5/25/23 23:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.226	J	0.0394	0.247	mg/kg dry	1	5/25/23 18:40
Anthracene	0.233		0.0238	0.164	mg/kg dry	1	5/25/23 18:40
Benzo(a)anthracene	0.467		0.0165	0.164	mg/kg dry	1	5/25/23 18:40
Benzo(a)pyrene	0.487		0.0286	0.164	mg/kg dry	1	5/25/23 18:40
Benzo(b)fluoranthene	0.519		0.0231	0.164	mg/kg dry	1	5/25/23 18:40
Benzo(g,h,i)perylene	0.516		0.0133	0.164	mg/kg dry	1	5/25/23 18:40
Benzo(k)fluoranthene	0.371		0.0189	0.164	mg/kg dry	1	5/25/23 18:40
Chrysene	0.552		0.0113	0.164	mg/kg dry	1	5/25/23 18:40
Dibenzo(a,h)anthracene	0.141	J	0.0163	0.164	mg/kg dry	1	5/25/23 18:40
Fluoranthene	0.954		0.0154	0.164	mg/kg dry	1	5/25/23 18:40
Fluorene	0.141	J	0.0137	0.164	mg/kg dry	1	5/25/23 18:40
Indeno(1,2,3-cd)pyrene	0.359		0.0177	0.164	mg/kg dry	1	5/25/23 18:40
Naphthalene	0.178		0.0122	0.164	mg/kg dry	1	5/25/23 18:40
Phenanthrene	0.796		0.0216	0.164	mg/kg dry	1	5/25/23 18:40
Pyrene	1.00		0.0121	0.164	mg/kg dry	1	5/25/23 18:40
TIC_1-Decene, 4-methyl-	1.32	J			mg/kg dry	1	5/25/23 18:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-20230517**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Dodecane, 2,6,11-trimethyl-	1.85	J			mg/kg dry	1	5/25/23 18:40
TIC_Dodecane, 4,6-dimethyl-(01)	0.910	J			mg/kg dry	1	5/25/23 18:40
TIC_Dodecane, 4,6-dimethyl-(02)	3.99	J			mg/kg dry	1	5/25/23 18:40
TIC_Eicosane	1.83	J			mg/kg dry	1	5/25/23 18:40
TIC_Heptafluorobutyric acid,n-tridecyl ester	1.23	J			mg/kg dry	1	5/25/23 18:40
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	2.76	J			mg/kg dry	1	5/25/23 18:40
TIC_Tetradecane	1.57	J			mg/kg dry	1	5/25/23 18:40
TIC_Tetrapentacontane, 1,54-dibromo-	1.26	J			mg/kg dry	1	5/25/23 18:40
TIC_unknown (01)	1.15	J			mg/kg dry	1	5/25/23 18:40
TIC_unknown (02)	0.943	J			mg/kg dry	1	5/25/23 18:40
TIC_unknown (03)	0.951	J			mg/kg dry	1	5/25/23 18:40
TIC_unknown (04)	1.01	J			mg/kg dry	1	5/25/23 18:40
TIC_unknown (05)	1.04	J			mg/kg dry	1	5/25/23 18:40
TIC_unknown (06)	0.982	J			mg/kg dry	1	5/25/23 18:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopentane	0.0101	J			mg/kg dry	1	5/19/23 22:03

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.148		0.00942	0.0790	mg/kg dry	1	5/18/23 16:54

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-20230517**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.301		0.00688	0.0275	mg/kg dry	1	5/18/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	19100		0.209	3.51	mg/kg dry	1	5/31/23 12:51
Antimony	2.68		0.191	1.76	mg/kg dry	1	5/31/23 12:51
Arsenic	6.10		0.125	1.76	mg/kg dry	1	5/31/23 12:51
Barium	88.0		0.0531	0.702	mg/kg dry	1	5/31/23 12:51
Beryllium	3.05		0.00407	0.0351	mg/kg dry	1	5/31/23 12:51
Cadmium	18.1		0.0684	0.351	mg/kg dry	1	5/31/23 12:51

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-20230517**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	16200		3.95	35.1	mg/kg dry	1	5/31/23 12:51
Chromium	28.2		0.0396	0.351	mg/kg dry	1	5/31/23 12:51
Cobalt	10.1		0.0359	0.281	mg/kg dry	1	5/31/23 12:51
Copper	67.4		0.0982	0.351	mg/kg dry	1	5/31/23 12:51
Iron	24200		0.994	7.02	mg/kg dry	1	5/31/23 12:51
Lead	258		0.146	1.76	mg/kg dry	1	5/31/23 12:51
Magnesium	6760		12.4	70.2	mg/kg dry	1	5/31/23 12:51
Manganese	287		0.0437	0.351	mg/kg dry	1	5/31/23 12:51
Nickel	425	D	0.308	1.76	mg/kg dry	10	5/31/23 14:06
Potassium	6090		41.7	140	mg/kg dry	1	5/31/23 12:51
Sodium	1120		6.69	70.2	mg/kg dry	1	5/31/23 12:51
Vanadium	34.1		0.0807	0.702	mg/kg dry	1	5/31/23 12:51
Zinc	2880	D	1.07	10.5	mg/kg dry	10	5/31/23 14:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0746	J	0.0439	0.275	mg/kg dry	1	5/25/23 19:13
Acenaphthene	0.305		0.0104	0.183	mg/kg dry	1	5/25/23 19:13
Anthracene	0.270		0.0266	0.183	mg/kg dry	1	5/25/23 19:13
Benzo(a)anthracene	0.407		0.0184	0.183	mg/kg dry	1	5/25/23 19:13
Benzo(a)pyrene	0.539		0.0319	0.183	mg/kg dry	1	5/25/23 19:13
Benzo(b)fluoranthene	0.562		0.0257	0.183	mg/kg dry	1	5/25/23 19:13
Benzo(g,h,i)perylene	0.435		0.0149	0.183	mg/kg dry	1	5/25/23 19:13
Benzo(k)fluoranthene	0.334		0.0211	0.183	mg/kg dry	1	5/25/23 19:13
Chrysene	0.400		0.0126	0.183	mg/kg dry	1	5/25/23 19:13
Dibenzo(a,h)anthracene	0.0445	J	0.0182	0.183	mg/kg dry	1	5/25/23 19:13
Fluoranthene	0.816		0.0172	0.183	mg/kg dry	1	5/25/23 19:13
Fluorene	0.171	J	0.0153	0.183	mg/kg dry	1	5/25/23 19:13
Indeno(1,2,3-cd)pyrene	0.297		0.0197	0.183	mg/kg dry	1	5/25/23 19:13
Naphthalene	0.209		0.0136	0.183	mg/kg dry	1	5/25/23 19:13
Phenanthrene	0.552		0.0241	0.183	mg/kg dry	1	5/25/23 19:13
Pyrene	0.735		0.0135	0.183	mg/kg dry	1	5/25/23 19:13
TIC_Hexadecanoic acid, butyl ester	9.54	J			mg/kg dry	1	5/25/23 19:13
TIC_Octadecanoic acid, butyl ester	4.40	J			mg/kg dry	1	5/25/23 19:13
TIC_unknown (01)	0.528	J			mg/kg dry	1	5/25/23 19:13
TIC_unknown (02)	0.420	J			mg/kg dry	1	5/25/23 19:13
TIC_unknown (03)	0.436	J			mg/kg dry	1	5/25/23 19:13
TIC_unknown (04)	0.877	J			mg/kg dry	1	5/25/23 19:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-20230517**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Butane	0.00649	J			mg/kg dry	1	5/19/23 22:35

23E0866-05 (Ground Water) Sample Name: **FB_20230517**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-ethylhexyl)phthalate	0.510	J	0.183	2.00	ug/L	1	5/22/23 16:25
TIC_Cyclopentanecarboxylic acid, 1-methyl-	4.94	J			ug/L	1	5/22/23 16:25
TIC_Ethane, 1,1,2,2-tetrachloro-	5.08	J			ug/L	1	5/22/23 16:25
TIC_unknown	4.13	J			ug/L	1	5/22/23 16:25

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-20230517**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	6.71		0.00653	0.0261	mg/kg dry	1	5/18/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4210		0.198	3.33	mg/kg dry	1	5/31/23 12:54
Antimony	7.17		0.181	1.66	mg/kg dry	1	5/31/23 12:54
Arsenic	7.49		0.119	1.66	mg/kg dry	1	5/31/23 12:54
Barium	107		0.0503	0.666	mg/kg dry	1	5/31/23 12:54
Beryllium	1.14		0.00386	0.0333	mg/kg dry	1	5/31/23 12:54
Cadmium	1.02		0.0649	0.333	mg/kg dry	1	5/31/23 12:54
Calcium	8990		3.75	33.3	mg/kg dry	1	5/31/23 12:54
Chromium	27.0		0.0376	0.333	mg/kg dry	1	5/31/23 12:54
Cobalt	6.79		0.0340	0.266	mg/kg dry	1	5/31/23 12:54
Copper	125		0.0932	0.333	mg/kg dry	1	5/31/23 12:54
Iron	14100		0.943	6.66	mg/kg dry	1	5/31/23 12:54
Lead	491		0.139	1.66	mg/kg dry	1	5/31/23 12:54
Magnesium	2480		11.8	66.6	mg/kg dry	1	5/31/23 12:54
Manganese	122		0.0414	0.333	mg/kg dry	1	5/31/23 12:54
Nickel	23.7		0.0292	0.166	mg/kg dry	1	5/31/23 12:54
Potassium	816		39.6	133	mg/kg dry	1	5/31/23 12:54
Sodium	3540		6.35	66.6	mg/kg dry	1	5/31/23 12:54
Vanadium	19.9		0.0766	0.666	mg/kg dry	1	5/31/23 12:54
Zinc	177		0.102	0.999	mg/kg dry	1	5/31/23 12:54

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-20230517**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00892		0.000777	0.00170	mg/kg dry	1	5/25/23 23:55
4,4'-DDE	0.00915		0.000928	0.00170	mg/kg dry	1	5/25/23 23:55
4,4'-DDT [2C]	0.00497		0.00120	0.00170	mg/kg dry	1	5/25/23 23:55

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.524		0.0171	0.174	mg/kg dry	1	5/25/23 19:45
2-Methylnaphthalene	0.616		0.0416	0.261	mg/kg dry	1	5/25/23 19:45
3+4-Methylphenol	0.500		0.0318	0.174	mg/kg dry	1	5/25/23 19:45
Acenaphthene	3.51		0.00991	0.174	mg/kg dry	1	5/25/23 19:45
Acenaphthylene	0.989		0.00604	0.174	mg/kg dry	1	5/25/23 19:45
Anthracene	5.54		0.0252	0.174	mg/kg dry	1	5/25/23 19:45
Benzo(a)anthracene	4.52		0.0175	0.174	mg/kg dry	1	5/25/23 19:45
Benzo(a)pyrene	4.54		0.0303	0.174	mg/kg dry	1	5/25/23 19:45
Benzo(b)fluoranthene	5.51		0.0244	0.174	mg/kg dry	1	5/25/23 19:45
Benzo(g,h,i)perylene	3.94		0.0141	0.174	mg/kg dry	1	5/25/23 19:45
Benzo(k)fluoranthene	2.40		0.0200	0.174	mg/kg dry	1	5/25/23 19:45
Carbazole	0.828		0.0334	0.435	mg/kg dry	1	5/25/23 19:45
Chrysene	4.57		0.0119	0.174	mg/kg dry	1	5/25/23 19:45
Dibenzo(a,h)anthracene	0.999		0.0172	0.174	mg/kg dry	1	5/25/23 19:45
Dibenzofuran	1.49		0.0104	0.174	mg/kg dry	1	5/25/23 19:45
Fluoranthene	9.94		0.0163	0.174	mg/kg dry	1	5/25/23 19:45
Fluorene	2.11		0.0145	0.174	mg/kg dry	1	5/25/23 19:45
Indeno(1,2,3-cd)pyrene	2.84		0.0187	0.174	mg/kg dry	1	5/25/23 19:45
Naphthalene	2.25		0.0129	0.174	mg/kg dry	1	5/25/23 19:45
Phenanthrene	7.31		0.0228	0.174	mg/kg dry	1	5/25/23 19:45
Pyrene	9.80		0.0128	0.174	mg/kg dry	1	5/25/23 19:45
TIC_Benzene, [1-(methoxymethoxy)-2-propynyl]	1.20	J			mg/kg dry	1	5/25/23 19:45
TIC_Benzene, 1-methyl-4-[(2-methylpropyl)thi	1.19	J			mg/kg dry	1	5/25/23 19:45
TIC_Cycloeicosane	1.32	J			mg/kg dry	1	5/25/23 19:45
TIC_Cyclohexadecane	3.02	J			mg/kg dry	1	5/25/23 19:45
TIC_Indolizine	1.22	J			mg/kg dry	1	5/25/23 19:45
TIC_Tricyclo[8.2.2.2(4,7)]hexadeca-2,4,6,8,1	1.45	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (01)	1.16	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (02)	1.63	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (03)	1.37	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (04)	1.62	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (05)	1.23	J			mg/kg dry	1	5/25/23 19:45

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-20230517**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (06)	4.96	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (07)	1.46	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (08)	1.76	J			mg/kg dry	1	5/25/23 19:45
TIC_unknown (09)	4.84	J			mg/kg dry	1	5/25/23 19:45

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetone	0.364		0.00158	0.0131	mg/kg dry	1	5/19/23 23:06
TIC_1-Butanol, 2-methyl-	0.0243	J			mg/kg dry	1	5/19/23 23:06
TIC_Cyclopentane, 1,2,4-trimethyl-, (1.alpha	0.0253	J			mg/kg dry	1	5/19/23 23:06

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	7.02	D	0.0332	0.278	mg/kg dry	4	5/18/23 16:54

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-202 30517** Collected: **5/17/2023 8:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00513	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1221	ND	U	0.0101	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1232	ND	U	0.0128	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1242	ND	U	0.00752	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1248	ND	U	0.00786	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1254	ND	U	0.00617	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1260	ND	U	0.00479	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1262	ND	U	0.0103	0.0383	mg/kg	1	5/25/23 14:46
Aroclor-1268	ND	U	0.00463	0.0383	mg/kg	1	5/25/23 14:46
Total PCBs	ND	U	0.00357	0.0383	mg/kg	1	5/25/23 14:46

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0114	0.116	mg/kg	1	6/3/23 13:14
2,4-D	ND	U	0.0192	0.116	mg/kg	1	6/3/23 13:14

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.584**		**0.00580**	**0.0232**	**mg/kg**	**1**	**5/18/23 12:54**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7570**		**0.176**	**2.96**	**mg/kg**	**1**	**5/31/23 12:45**
Antimony	**26.1**		**0.161**	**1.48**	**mg/kg**	**1**	**5/31/23 12:45**
Arsenic	**4.11**		**0.105**	**1.48**	**mg/kg**	**1**	**5/31/23 12:45**
Barium	**125**		**0.0447**	**0.591**	**mg/kg**	**1**	**5/31/23 12:45**
Beryllium	**1.41**		**0.00342**	**0.0296**	**mg/kg**	**1**	**5/31/23 12:45**
Cadmium	**26.4**		**0.0577**	**0.296**	**mg/kg**	**1**	**5/31/23 12:45**
Calcium	**70700**	D	**33.3**	**296**	**mg/kg**	**10**	**5/31/23 14:01**
Chromium	**29.9**		**0.0334**	**0.296**	**mg/kg**	**1**	**5/31/23 12:45**
Cobalt	**6.06**		**0.0302**	**0.237**	**mg/kg**	**1**	**5/31/23 12:45**
Copper	**165**		**0.0827**	**0.296**	**mg/kg**	**1**	**5/31/23 12:45**
Iron	**20100**		**0.838**	**5.91**	**mg/kg**	**1**	**5/31/23 12:45**
Lead	**2160**	D	**1.23**	**14.8**	**mg/kg**	**10**	**5/31/23 14:01**
Magnesium	**18400**		**10.4**	**59.1**	**mg/kg**	**1**	**5/31/23 12:45**
Manganese	**178**		**0.0368**	**0.296**	**mg/kg**	**1**	**5/31/23 12:45**
Nickel	**67.4**		**0.0260**	**0.148**	**mg/kg**	**1**	**5/31/23 12:45**
Potassium	**1770**		**35.2**	**118**	**mg/kg**	**1**	**5/31/23 12:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-202 30517** Collected: **5/17/2023 8:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.284	1.48	mg/kg	1	5/31/23 12:45
Silver	**0.444**		**0.0503**	**0.177**	**mg/kg**	**1**	**5/31/23 12:45**
Sodium	**626**		**5.64**	**59.1**	**mg/kg**	**1**	**5/31/23 12:45**
Thallium	ND	U	0.0995	1.48	mg/kg	1	5/31/23 12:45
Vanadium	**72.5**		**0.0680**	**0.591**	**mg/kg**	**1**	**5/31/23 12:45**
Zinc	**266**		**0.0903**	**0.887**	**mg/kg**	**1**	**5/31/23 12:45**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C] J, RC:3H,6L	**0.00383**		**0.000690**	**0.00151**	**mg/kg**	**1**	**5/25/23 22:26**
4,4'-DDE [2C] J, RC:3H,6L	**0.00129**	J	**0.000824**	**0.00151**	**mg/kg**	**1**	**5/25/23 22:26**
4,4'-DDT	**0.0251**		**0.00106**	**0.00151**	**mg/kg**	**1**	**5/25/23 22:26**
Aldrin	ND	U	0.000714	0.00151	mg/kg	1	5/25/23 22:26
alpha-BHC UJ, RC:6L	ND	U	0.000449	0.00151	mg/kg	1	5/25/23 22:26
beta-BHC UJ, RC:6L	ND	U	0.000720	0.00151	mg/kg	1	5/25/23 22:26
Chlordane	ND	U	0.000670	0.00151	mg/kg	1	5/25/23 22:26
delta-BHC	ND	U	0.000700	0.00151	mg/kg	1	5/25/23 22:26
Dieldrin	ND	U	0.000788	0.00151	mg/kg	1	5/25/23 22:26
Endosulfan I	ND	U	0.000712	0.00151	mg/kg	1	5/25/23 22:26
Endosulfan II UJ, RC:6L	ND	U	0.000685	0.00151	mg/kg	1	5/25/23 22:26
Endosulfan sulfate	ND	U	0.000567	0.00151	mg/kg	1	5/25/23 22:26
Endosulfans, Total (alpha and beta)	ND	U	0.000685	0.00151	mg/kg	1	5/25/23 22:26
Endrin	ND	U	0.000520	0.00151	mg/kg	1	5/25/23 22:26
Endrin aldehyde	ND	U	0.000600	0.00151	mg/kg	1	5/25/23 22:26
Endrin ketone	ND	U	0.000531	0.00151	mg/kg	1	5/25/23 22:26
gamma-BHC (Lindane)	ND	U	0.000478	0.00151	mg/kg	1	5/25/23 22:26
Heptachlor	ND	U	0.000403	0.00151	mg/kg	1	5/25/23 22:26
Heptachlor Epoxide	ND	U	0.000760	0.00151	mg/kg	1	5/25/23 22:26
Methoxychlor	ND	U	0.000442	0.00151	mg/kg	1	5/25/23 22:26
Toxaphene	ND	U	0.0726	0.0765	mg/kg	1	5/25/23 22:26

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00872	0.0772	mg/kg	2	5/25/23 17:36
2,3,4,6-Tetrachlorophenol	ND	U	0.0475	0.308	mg/kg	2	5/25/23 17:36
2,4,5-Trichlorophenol	ND	U	0.0420	0.308	mg/kg	2	5/25/23 17:36
2,4,6-Trichlorophenol	ND	U	0.0193	0.308	mg/kg	2	5/25/23 17:36

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-202 30517** Collected: **5/17/2023 8:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dichlorophenol		ND	U	0.0311	0.308	mg/kg	2	5/25/23 17:36
2,4-Dimethylphenol		ND	U	0.0304	0.308	mg/kg	2	5/25/23 17:36
2,4-Dinitrophenol	R, RC:4L	ND	U	0.0445	1.55	mg/kg	2	5/25/23 17:36
2,4-Dinitrotoluene		ND	U	0.0329	0.308	mg/kg	2	5/25/23 17:36
2,6-Dinitrotoluene		ND	U	0.0737	0.308	mg/kg	2	5/25/23 17:36
2-Chloronaphthalene		ND	U	0.0355	0.308	mg/kg	2	5/25/23 17:36
2-Chlorophenol		ND	U	0.0408	0.308	mg/kg	2	5/25/23 17:36
2-Methylnaphthalene		**0.107**	J, D	**0.0740**	**0.464**	**mg/kg**	**2**	**5/25/23 17:36**
2-Methylphenol		ND	U	0.0610	0.308	mg/kg	2	5/25/23 17:36
2-Nitroaniline		ND	U	0.0248	0.308	mg/kg	2	5/25/23 17:36
2-Nitrophenol		ND	U	0.0343	0.308	mg/kg	2	5/25/23 17:36
3,3'-Dichlorobenzidine	R, RC:4L	ND	U	0.0325	0.308	mg/kg	2	5/25/23 17:36
3+4-Methylphenol		ND	U	0.0566	0.308	mg/kg	2	5/25/23 17:36
3-Nitroaniline		ND	U	0.0573	0.308	mg/kg	2	5/25/23 17:36
4,6-Dinitro-2-methylphenol	R, RC:4L	ND	U	0.0582	0.772	mg/kg	2	5/25/23 17:36
4-Bromophenyl-phenyl ether		ND	U	0.0441	0.308	mg/kg	2	5/25/23 17:36
4-Chloro-3-methylphenol		ND	U	0.0487	0.308	mg/kg	2	5/25/23 17:36
4-Chloroaniline		ND	U	0.0108	0.308	mg/kg	2	5/25/23 17:36
4-Chlorophenyl phenyl ether		ND	U	0.0167	0.308	mg/kg	2	5/25/23 17:36
4-Nitroaniline		ND	U	0.154	0.308	mg/kg	2	5/25/23 17:36
4-Nitrophenol		ND	U	0.0198	0.308	mg/kg	2	5/25/23 17:36
Acenaphthene		ND	U	0.0176	0.308	mg/kg	2	5/25/23 17:36
Acenaphthylene		ND	U	0.0107	0.308	mg/kg	2	5/25/23 17:36
Acetophenone		ND	U	0.0306	0.308	mg/kg	2	5/25/23 17:36
Anthracene		**0.844**	D	**0.0447**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Atrazine		ND	U	0.0290	0.308	mg/kg	2	5/25/23 17:36
Benzaldehyde	UJ, RC:SL	ND	U	0.0948	0.308	mg/kg	2	5/25/23 17:36
Benzo(a)anthracene		**2.60**	D	**0.0311**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Benzo(a)pyrene		**2.40**	D	**0.0538**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Benzo(b)fluoranthene		**3.24**	D	**0.0434**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Benzo(g,h,i)perylene	J, RC:4L	**2.24**	D	**0.0250**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Benzo(k)fluoranthene		**1.19**	D	**0.0355**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Biphenyl		ND	U	0.0271	0.308	mg/kg	2	5/25/23 17:36
bis(2-chloroethoxy)methane		ND	U	0.0427	0.308	mg/kg	2	5/25/23 17:36
bis(2-chloroethyl)ether		ND	U	0.0338	0.308	mg/kg	2	5/25/23 17:36
bis(2-chloroisopropyl)ether		ND	U	0.111	0.308	mg/kg	2	5/25/23 17:36
bis(2-ethylhexyl)phthalate	J, RC:7	**0.107**	J, D	**0.0617**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Butylbenzylphthalate		ND	U	0.0281	0.308	mg/kg	2	5/25/23 17:36

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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-202 30517** Collected: **5/17/2023 8:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam		ND	U	0.0399	0.308	mg/kg	2	5/25/23 17:36
Carbazole		ND	U	0.0594	0.772	mg/kg	2	5/25/23 17:36
Chrysene		**2.60**	D	**0.0211**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Dibenzo(a,h)anthracene		**0.474**	D	**0.0306**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Dibenzofuran		ND	U	0.0184	0.308	mg/kg	2	5/25/23 17:36
Diethylphthalate		ND	U	0.0598	0.308	mg/kg	2	5/25/23 17:36
Dimethylphthalate		ND	U	0.0192	0.308	mg/kg	2	5/25/23 17:36
Di-n-butylphthalate		ND	U	0.126	0.308	mg/kg	2	5/25/23 17:36
Di-n-octylphthalate		ND	U	0.0633	0.308	mg/kg	2	5/25/23 17:36
Fluoranthene	J, RC:4L	**4.91**	D	**0.0290**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Fluorene		**0.218**	J, D	**0.0257**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Hexachlorobenzene		ND	U	0.0403	0.308	mg/kg	2	5/25/23 17:36
Hexachlorobutadiene		ND	U	0.148	0.308	mg/kg	2	5/25/23 17:36
Hexachlorocyclopentadiene	R, RC:4L	~~ND~~	~~U~~	~~0.129~~	~~0.772~~	mg/kg	2	5/25/23 17:36
Hexachloroethane		ND	U	0.0338	0.308	mg/kg	2	5/25/23 17:36
Indeno(1,2,3-cd)pyrene		**1.61**	D	**0.0332**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Isophorone		ND	U	0.0202	0.308	mg/kg	2	5/25/23 17:36
Naphthalene		**0.280**	J, D	**0.0229**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Nitrobenzene		ND	U	0.0524	0.308	mg/kg	2	5/25/23 17:36
n-Nitroso-di-n-propylamine		ND	U	0.0165	0.308	mg/kg	2	5/25/23 17:36
n-Nitrosodiphenylamine		ND	U	0.0658	0.308	mg/kg	2	5/25/23 17:36
Pentachlorophenol		ND	U	0.0424	0.772	mg/kg	2	5/25/23 17:36
Phenanthrene		**2.28**	D	**0.0406**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**
Phenol		ND	U	0.0250	0.308	mg/kg	2	5/25/23 17:36
Pyrene	J, RC:4L	**4.23**	D	**0.0227**	**0.308**	**mg/kg**	**2**	**5/25/23 17:36**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2H-Pyran-2-carboxylic acid, 3,6-dihydro-	0.651	8.62	J, D	mg/kg	2	5/25/23 17:36
Naphthalene, decahydro-2-methyl-	0.920	8.82	J, D	mg/kg	2	5/25/23 17:36
unknown (01)	3.04	11.80	J, D	mg/kg	2	5/25/23 17:36
unknown (02)	1.02	11.89	J, D	mg/kg	2	5/25/23 17:36
unknown (03)	1.95	12.58	J, D	mg/kg	2	5/25/23 17:36
unknown (04)	0.707	13.05	J, D	mg/kg	2	5/25/23 17:36
TIC Total	**8.28**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-202 30517** Collected: **5/17/2023 8:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane		ND	U	0.000457	0.00313	mg/kg	1	5/19/23 21:00
1,1,2,2-Tetrachloroethane		ND	U	0.000432	0.00313	mg/kg	1	5/19/23 21:00
1,1,2-Trichloro-1,2,2 Trifluoroethane		ND	U	0.00134	0.00313	mg/kg	1	5/19/23 21:00
1,1,2-Trichloroethane		ND	U	0.000528	0.00313	mg/kg	1	5/19/23 21:00
1,1-Dichloroethane		ND	U	0.000457	0.00313	mg/kg	1	5/19/23 21:00
1,1-Dichloroethene		ND	U	0.000580	0.00313	mg/kg	1	5/19/23 21:00
1,2,3-Trichlorobenzene	UJ, RC:Q	ND	U	0.000677	0.00313	mg/kg	1	5/19/23 21:00
1,2,4-Trichlorobenzene		ND	U	0.000835	0.00313	mg/kg	1	5/19/23 21:00
1,2,4-Trimethylbenzene		ND	U	0.000432	0.00313	mg/kg	1	5/19/23 21:00
1,2-Dibromo-3-chloropropane	UJ, RC:SL	ND	U	0.000764	0.00313	mg/kg	1	5/19/23 21:00
1,2-Dibromoethane		ND	U	0.000395	0.00313	mg/kg	1	5/19/23 21:00
1,2-Dichlorobenzene		ND	U	0.000553	0.00313	mg/kg	1	5/19/23 21:00
1,2-Dichloroethane		ND	U	0.000442	0.00313	mg/kg	1	5/19/23 21:00
1,2-Dichloropropane		ND	U	0.000514	0.00313	mg/kg	1	5/19/23 21:00
1,3-Dichlorobenzene		ND	U	0.000230	0.00313	mg/kg	1	5/19/23 21:00
1,4-Dichlorobenzene		ND	U	0.000451	0.00313	mg/kg	1	5/19/23 21:00
2-Butanone		ND	U	0.000511	0.00783	mg/kg	1	5/19/23 21:00
2-Hexanone		ND	U	0.000293	0.00313	mg/kg	1	5/19/23 21:00
4-Methyl-2-pentanone		ND	U	0.000392	0.00313	mg/kg	1	5/19/23 21:00
Acetone		ND	U	0.000949	0.00783	mg/kg	1	5/19/23 21:00
Benzene		ND	U	0.000285	0.00313	mg/kg	1	5/19/23 21:00
Bromochloromethane		ND	U	0.000578	0.00313	mg/kg	1	5/19/23 21:00
Bromodichloromethane		ND	U	0.000393	0.00313	mg/kg	1	5/19/23 21:00
Bromoform		ND	U	0.000550	0.00313	mg/kg	1	5/19/23 21:00
Bromomethane		ND	U	0.000904	0.00313	mg/kg	1	5/19/23 21:00
Carbon disulfide		ND	U	0.000450	0.00313	mg/kg	1	5/19/23 21:00
Carbon Tetrachloride		ND	U	0.000472	0.00313	mg/kg	1	5/19/23 21:00
Chlorobenzene		ND	U	0.000454	0.00313	mg/kg	1	5/19/23 21:00
Chlorodibromomethane		ND	U	0.000385	0.00313	mg/kg	1	5/19/23 21:00
Chloroethane		ND	U	0.000534	0.00313	mg/kg	1	5/19/23 21:00
Chloroform		ND	U	0.000526	0.00313	mg/kg	1	5/19/23 21:00
Chloromethane		ND	U	0.00121	0.00313	mg/kg	1	5/19/23 21:00
cis-1,2-Dichloroethene		ND	U	0.000151	0.00313	mg/kg	1	5/19/23 21:00
cis-1,3-Dichloropropene		ND	U	0.000396	0.00313	mg/kg	1	5/19/23 21:00
Cyclohexane		ND	U	0.000694	0.00313	mg/kg	1	5/19/23 21:00
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.00106	0.00313	mg/kg	1	5/19/23 21:00
EthylBenzene		ND	U	0.000425	0.00313	mg/kg	1	5/19/23 21:00

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-01 (Soil) Sample Name: **OH-SB-14-1.0-2.0-202 30517** Collected: **5/17/2023 8:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene		ND	U	0.000492	0.00313	mg/kg	1	5/19/23 21:00
m+p-Xylenes		ND	U	0.000791	0.00627	mg/kg	1	5/19/23 21:00
Methyl Acetate	UJ, RC:Q	ND	U	0.000415	0.00313	mg/kg	1	5/19/23 21:00
Methyl tert-Butyl Ether		ND	U	0.000529	0.00313	mg/kg	1	5/19/23 21:00
Methylcyclohexane		ND	U	0.000504	0.00313	mg/kg	1	5/19/23 21:00
Methylene Chloride		ND	U	0.000941	0.00313	mg/kg	1	5/19/23 21:00
o-Xylene		ND	U	0.000403	0.00313	mg/kg	1	5/19/23 21:00
Styrene		ND	U	0.000448	0.00313	mg/kg	1	5/19/23 21:00
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00658	0.0313	mg/kg	1	5/19/23 21:00
Tetrachloroethene		ND	U	0.000310	0.00313	mg/kg	1	5/19/23 21:00
Toluene		ND	U	0.000252	0.00313	mg/kg	1	5/19/23 21:00
Total Xylenes		ND	U	0.000403	0.00313	mg/kg	1	5/19/23 21:00
trans-1,2-Dichloroethene		ND	U	0.000425	0.00313	mg/kg	1	5/19/23 21:00
trans-1,3-Dichloropropene		ND	U	0.000598	0.00313	mg/kg	1	5/19/23 21:00
Trichloroethene		ND	U	0.000461	0.00313	mg/kg	1	5/19/23 21:00
Trichlorofluoromethane		ND	U	0.000360	0.00313	mg/kg	1	5/19/23 21:00
Vinyl chloride		ND	U	0.000595	0.00313	mg/kg	1	5/19/23 21:00

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Acenaphthene	0.0403	23.33	J	mg/kg	1	5/19/23 21:00
Naphthalene, 1,7-dimethyl-	0.0145	20.85	J	mg/kg	1	5/19/23 21:00
Naphthalene, 2,6-dimethyl-	0.0185	20.21	J	mg/kg	1	5/19/23 21:00
Phenol, 4-(aminomethyl)-2-methoxy-	0.00915	18.38	J	mg/kg	1	5/19/23 21:00
TIC:Naphthalene	0.0304	23.16	J	mg/kg	1	5/19/23 21:00
TIC Total	**0.113**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.3**				**%**	**1**	**5/18/23 11:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.873**		**0.00723**	**0.0607**	**mg/kg**	**1**	**5/18/23 16:54**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-202 30517** Collected: **5/17/2023 9:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00765	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1221	ND	U	0.0150	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1232	ND	U	0.0191	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1242	ND	U	0.0112	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1248	ND	U	0.0117	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1254	ND	U	0.00920	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1260	ND	U	0.00714	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1262	ND	U	0.0153	0.0570	mg/kg	1	5/25/23 15:30
Aroclor-1268	ND	U	0.00690	0.0570	mg/kg	1	5/25/23 15:30
Total PCBs	ND	U	0.00532	0.0570	mg/kg	1	5/25/23 15:30

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0169	0.173	mg/kg	1	6/3/23 13:37
2,4-D	ND	U	0.0287	0.173	mg/kg	1	6/3/23 13:37

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.157**		**0.00864**	**0.0346**	**mg/kg**	**1**	**5/18/23 12:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**18000**		**0.261**	**4.39**	**mg/kg**	**1**	**5/31/23 12:47**
Antimony	ND	U	0.239	2.19	mg/kg	1	5/31/23 12:47
Arsenic	**9.35**		**0.156**	**2.19**	**mg/kg**	**1**	**5/31/23 12:47**
Barium	**182**		**0.0663**	**0.877**	**mg/kg**	**1**	**5/31/23 12:47**
Beryllium	**1.96**		**0.00508**	**0.0439**	**mg/kg**	**1**	**5/31/23 12:47**
Cadmium	ND	U	0.0855	0.439	mg/kg	1	5/31/23 12:47
Calcium	**2330**		**4.93**	**43.9**	**mg/kg**	**1**	**5/31/23 12:47**
Chromium	**33.9**		**0.0495**	**0.439**	**mg/kg**	**1**	**5/31/23 12:47**
Cobalt	**7.37**		**0.0448**	**0.351**	**mg/kg**	**1**	**5/31/23 12:47**
Copper	**28.7**		**0.123**	**0.439**	**mg/kg**	**1**	**5/31/23 12:47**
Iron	**28800**		**1.24**	**8.77**	**mg/kg**	**1**	**5/31/23 12:47**
Lead	**81.8**		**0.183**	**2.19**	**mg/kg**	**1**	**5/31/23 12:47**
Magnesium	**6040**		**15.5**	**87.7**	**mg/kg**	**1**	**5/31/23 12:47**
Manganese	**235**		**0.0546**	**0.439**	**mg/kg**	**1**	**5/31/23 12:47**
Nickel	**24.3**		**0.0385**	**0.219**	**mg/kg**	**1**	**5/31/23 12:47**
Potassium	**4390**		**52.2**	**175**	**mg/kg**	**1**	**5/31/23 12:47**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-20230517** Collected: **5/17/2023 9:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.421	2.19	mg/kg	1	5/31/23 12:47
Silver	**1.17**		**0.0746**	**0.263**	**mg/kg**	**1**	**5/31/23 12:47**
Sodium	**1680**		**8.36**	**87.7**	**mg/kg**	**1**	**5/31/23 12:47**
Thallium	ND	U	0.148	2.19	mg/kg	1	5/31/23 12:47
Vanadium	**40.2**		**0.101**	**0.877**	**mg/kg**	**1**	**5/31/23 12:47**
Zinc	**67.1**		**0.134**	**1.32**	**mg/kg**	**1**	**5/31/23 12:47**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	J, RC:3H,6L	**0.0131**		**0.00103**	**0.00225**	**mg/kg**	**1**	**5/25/23 22:49**
4,4'-DDE	J, RC:6L	**0.0182**		**0.00123**	**0.00225**	**mg/kg**	**1**	**5/25/23 22:49**
4,4'-DDT		**0.00423**		**0.00159**	**0.00225**	**mg/kg**	**1**	**5/25/23 22:49**
Aldrin		ND	U	0.00106	0.00225	mg/kg	1	5/25/23 22:49
alpha-BHC	UJ, RC:6L	ND	U	0.000669	0.00225	mg/kg	1	5/25/23 22:49
beta-BHC	UJ, RC:6L	ND	U	0.00107	0.00225	mg/kg	1	5/25/23 22:49
Chlordane		ND	U	0.000999	0.00225	mg/kg	1	5/25/23 22:49
delta-BHC		ND	U	0.00104	0.00225	mg/kg	1	5/25/23 22:49
Dieldrin		ND	U	0.00118	0.00225	mg/kg	1	5/25/23 22:49
Endosulfan I		ND	U	0.00106	0.00225	mg/kg	1	5/25/23 22:49
Endosulfan II	UJ, RC:6L	ND	U	0.00102	0.00225	mg/kg	1	5/25/23 22:49
Endosulfan sulfate		ND	U	0.000845	0.00225	mg/kg	1	5/25/23 22:49
Endosulfans, Total (alpha and beta)		ND	U	0.00102	0.00225	mg/kg	1	5/25/23 22:49
Endrin		ND	U	0.000776	0.00225	mg/kg	1	5/25/23 22:49
Endrin aldehyde		ND	U	0.000895	0.00225	mg/kg	1	5/25/23 22:49
Endrin ketone		ND	U	0.000792	0.00225	mg/kg	1	5/25/23 22:49
gamma-BHC (Lindane)		ND	U	0.000712	0.00225	mg/kg	1	5/25/23 22:49
Heptachlor		ND	U	0.000601	0.00225	mg/kg	1	5/25/23 22:49
Heptachlor Epoxide		ND	U	0.00113	0.00225	mg/kg	1	5/25/23 22:49
Methoxychlor		ND	U	0.000658	0.00225	mg/kg	1	5/25/23 22:49
Toxaphene		ND	U	0.108	0.114	mg/kg	1	5/25/23 22:49

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00650	0.0576	mg/kg	1	5/25/23 18:08
2,3,4,6-Tetrachlorophenol	ND	U	0.0354	0.230	mg/kg	1	5/25/23 18:08
2,4,5-Trichlorophenol	ND	U	0.0313	0.230	mg/kg	1	5/25/23 18:08
2,4,6-Trichlorophenol	ND	U	0.0144	0.230	mg/kg	1	5/25/23 18:08

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-202 30517** Collected: **5/17/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dichlorophenol		ND	U	0.0232	0.230	mg/kg	1	5/25/23 18:08
2,4-Dimethylphenol		ND	U	0.0226	0.230	mg/kg	1	5/25/23 18:08
2,4-Dinitrophenol	UJ, RC:Q	ND	U	0.0332	1.15	mg/kg	1	5/25/23 18:08
2,4-Dinitrotoluene		ND	U	0.0245	0.230	mg/kg	1	5/25/23 18:08
2,6-Dinitrotoluene		ND	U	0.0550	0.230	mg/kg	1	5/25/23 18:08
2-Chloronaphthalene		ND	U	0.0264	0.230	mg/kg	1	5/25/23 18:08
2-Chlorophenol		ND	U	0.0304	0.230	mg/kg	1	5/25/23 18:08
2-Methylnaphthalene		**0.0955**	J	**0.0551**	**0.346**	**mg/kg**	**1**	**5/25/23 18:08**
2-Methylphenol		ND	U	0.0455	0.230	mg/kg	1	5/25/23 18:08
2-Nitroaniline		ND	U	0.0185	0.230	mg/kg	1	5/25/23 18:08
2-Nitrophenol		ND	U	0.0256	0.230	mg/kg	1	5/25/23 18:08
3,3'-Dichlorobenzidine		ND	U	0.0242	0.230	mg/kg	1	5/25/23 18:08
3+4-Methylphenol		ND	U	0.0422	0.230	mg/kg	1	5/25/23 18:08
3-Nitroaniline		ND	U	0.0427	0.230	mg/kg	1	5/25/23 18:08
4,6-Dinitro-2-methylphenol		ND	U	0.0434	0.576	mg/kg	1	5/25/23 18:08
4-Bromophenyl-phenyl ether		ND	U	0.0328	0.230	mg/kg	1	5/25/23 18:08
4-Chloro-3-methylphenol		ND	U	0.0363	0.230	mg/kg	1	5/25/23 18:08
4-Chloroaniline		ND	U	0.00805	0.230	mg/kg	1	5/25/23 18:08
4-Chlorophenyl phenyl ether		ND	U	0.0124	0.230	mg/kg	1	5/25/23 18:08
4-Nitroaniline		ND	U	0.115	0.230	mg/kg	1	5/25/23 18:08
4-Nitrophenol		ND	U	0.0147	0.230	mg/kg	1	5/25/23 18:08
Acenaphthene		**0.182**	J	**0.0131**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Acenaphthylene		**0.219**	J	**0.00800**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Acetophenone		ND	U	0.0228	0.230	mg/kg	1	5/25/23 18:08
Anthracene		**0.860**		**0.0334**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Atrazine		ND	U	0.0216	0.230	mg/kg	1	5/25/23 18:08
Benzaldehyde	UJ, RC:SL	ND	U	0.0707	0.230	mg/kg	1	5/25/23 18:08
Benzo(a)anthracene		**2.71**		**0.0232**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Benzo(a)pyrene		**2.58**		**0.0401**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Benzo(b)fluoranthene		**2.91**		**0.0323**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Benzo(g,h,i)perylene		**1.21**		**0.0187**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Benzo(k)fluoranthene		**1.03**		**0.0264**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Biphenyl		ND	U	0.0202	0.230	mg/kg	1	5/25/23 18:08
bis(2-chloroethoxy)methane		ND	U	0.0318	0.230	mg/kg	1	5/25/23 18:08
bis(2-chloroethyl)ether		ND	U	0.0252	0.230	mg/kg	1	5/25/23 18:08
bis(2-chloroisopropyl)ether		ND	U	0.0828	0.230	mg/kg	1	5/25/23 18:08
bis(2-ethylhexyl)phthalate		ND	U	0.0460	0.230	mg/kg	1	5/25/23 18:08
Butylbenzylphthalate		ND	U	0.0209	0.230	mg/kg	1	5/25/23 18:08

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-202 30517** Collected: **5/17/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0297	0.230	mg/kg	1	5/25/23 18:08
Carbazole	ND	U	0.0442	0.576	mg/kg	1	5/25/23 18:08
Chrysene	**2.43**		**0.0158**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Dibenzo(a,h)anthracene	**0.436**		**0.0228**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Dibenzofuran	**0.157**	J	**0.0137**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Diethylphthalate	ND	U	0.0446	0.230	mg/kg	1	5/25/23 18:08
Dimethylphthalate	ND	U	0.0143	0.230	mg/kg	1	5/25/23 18:08
Di-n-butylphthalate	ND	U	0.0940	0.230	mg/kg	1	5/25/23 18:08
Di-n-octylphthalate	ND	U	0.0472	0.230	mg/kg	1	5/25/23 18:08
Fluoranthene	**5.61**		**0.0216**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Fluorene	**0.346**		**0.0192**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Hexachlorobenzene	ND	U	0.0301	0.230	mg/kg	1	5/25/23 18:08
Hexachlorobutadiene	ND	U	0.110	0.230	mg/kg	1	5/25/23 18:08
Hexachlorocyclopentadiene UJ, RC:SL	ND	U	0.0959	0.576	mg/kg	1	5/25/23 18:08
Hexachloroethane	ND	U	0.0252	0.230	mg/kg	1	5/25/23 18:08
Indeno(1,2,3-cd)pyrene	**1.15**		**0.0247**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Isophorone	ND	U	0.0151	0.230	mg/kg	1	5/25/23 18:08
Naphthalene	**0.710**		**0.0170**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Nitrobenzene	ND	U	0.0391	0.230	mg/kg	1	5/25/23 18:08
n-Nitroso-di-n-propylamine	ND	U	0.0123	0.230	mg/kg	1	5/25/23 18:08
n-Nitrosodiphenylamine	ND	U	0.0491	0.230	mg/kg	1	5/25/23 18:08
Pentachlorophenol	ND	U	0.0316	0.576	mg/kg	1	5/25/23 18:08
Phenanthrene	**2.35**		**0.0302**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**
Phenol	ND	U	0.0187	0.230	mg/kg	1	5/25/23 18:08
Pyrene	**4.77**		**0.0169**	**0.230**	**mg/kg**	**1**	**5/25/23 18:08**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Copper, bis(3-ethyl-2,4-pentanedionato-O	2.53	11.10	J	mg/kg	1	5/25/23 18:08
Hexadecanoic acid, butyl ester	20.6	11.80	J	mg/kg	1	5/25/23 18:08
Octadecanoic acid, butyl ester	6.13	12.59	J	mg/kg	1	5/25/23 18:08
unknown (01)	0.854	11.00	J	mg/kg	1	5/25/23 18:08
unknown (02)	0.501	12.19	J	mg/kg	1	5/25/23 18:08
unknown (03)	0.825	12.31	J	mg/kg	1	5/25/23 18:08
unknown (04)	0.686	12.39	J	mg/kg	1	5/25/23 18:08
unknown (05)	0.753	12.44	J	mg/kg	1	5/25/23 18:08
unknown (06)	1.38	13.05	J	mg/kg	1	5/25/23 18:08

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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-202 30517** Collected: **5/17/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (07)	1.30	14.52	J	mg/kg	1	5/25/23 18:08
unknown (08)	0.591	19.24	J	mg/kg	1	5/25/23 18:08
TIC Total	**36.2**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000664	0.00455	mg/kg	1	5/19/23 21:31
1,1,2,2-Tetrachloroethane	ND	U	0.000628	0.00455	mg/kg	1	5/19/23 21:31
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00195	0.00455	mg/kg	1	5/19/23 21:31
1,1,2-Trichloroethane	ND	U	0.000766	0.00455	mg/kg	1	5/19/23 21:31
1,1-Dichloroethane	ND	U	0.000664	0.00455	mg/kg	1	5/19/23 21:31
1,1-Dichloroethene	ND	U	0.000841	0.00455	mg/kg	1	5/19/23 21:31
1,2,3-Trichlorobenzene UJ, RC:Q	ND	U	0.000982	0.00455	mg/kg	1	5/19/23 21:31
1,2,4-Trichlorobenzene	ND	U	0.00121	0.00455	mg/kg	1	5/19/23 21:31
1,2,4-Trimethylbenzene	**0.00593**		**0.000628**	**0.00455**	**mg/kg**	**1**	**5/19/23 21:31**
1,2-Dibromo-3-chloropropane UJ, RC:SL	ND	U	0.00111	0.00455	mg/kg	1	5/19/23 21:31
1,2-Dibromoethane	ND	U	0.000573	0.00455	mg/kg	1	5/19/23 21:31
1,2-Dichlorobenzene	ND	U	0.000803	0.00455	mg/kg	1	5/19/23 21:31
1,2-Dichloroethane	ND	U	0.000641	0.00455	mg/kg	1	5/19/23 21:31
1,2-Dichloropropane	ND	U	0.000746	0.00455	mg/kg	1	5/19/23 21:31
1,3-Dichlorobenzene	ND	U	0.000334	0.00455	mg/kg	1	5/19/23 21:31
1,4-Dichlorobenzene	ND	U	0.000655	0.00455	mg/kg	1	5/19/23 21:31
2-Butanone J, RC:6H,SH	**0.236**		**0.000741**	**0.0114**	**mg/kg**	**1**	**5/19/23 21:31**
2-Hexanone	ND	U	0.000425	0.00455	mg/kg	1	5/19/23 21:31
4-Methyl-2-pentanone	ND	U	0.000569	0.00455	mg/kg	1	5/19/23 21:31
Acetone J, RC:6H,SH	**0.695**		**0.00138**	**0.0114**	**mg/kg**	**1**	**5/19/23 21:31**
Benzene	ND	U	0.000414	0.00455	mg/kg	1	5/19/23 21:31
Bromochloromethane	ND	U	0.000839	0.00455	mg/kg	1	5/19/23 21:31
Bromodichloromethane	ND	U	0.000571	0.00455	mg/kg	1	5/19/23 21:31
Bromoform	ND	U	0.000798	0.00455	mg/kg	1	5/19/23 21:31
Bromomethane	ND	U	0.00131	0.00455	mg/kg	1	5/19/23 21:31
Carbon disulfide	ND	U	0.000653	0.00455	mg/kg	1	5/19/23 21:31
Carbon Tetrachloride	ND	U	0.000684	0.00455	mg/kg	1	5/19/23 21:31
Chlorobenzene	ND	U	0.000659	0.00455	mg/kg	1	5/19/23 21:31
Chlorodibromomethane	ND	U	0.000559	0.00455	mg/kg	1	5/19/23 21:31
Chloroethane	ND	U	0.000775	0.00455	mg/kg	1	5/19/23 21:31
Chloroform	ND	U	0.000764	0.00455	mg/kg	1	5/19/23 21:31

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-202 30517** Collected: **5/17/2023 9:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane		ND	U	0.00175	0.00455	mg/kg	1	5/19/23 21:31
cis-1,2-Dichloroethene		ND	U	0.000220	0.00455	mg/kg	1	5/19/23 21:31
cis-1,3-Dichloropropene		ND	U	0.000575	0.00455	mg/kg	1	5/19/23 21:31
Cyclohexane		ND	U	0.00101	0.00455	mg/kg	1	5/19/23 21:31
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.00153	0.00455	mg/kg	1	5/19/23 21:31
EthylBenzene		ND	U	0.000616	0.00455	mg/kg	1	5/19/23 21:31
Isopropylbenzene		ND	U	0.000714	0.00455	mg/kg	1	5/19/23 21:31
m+p-Xylenes		**0.00508**	J	**0.00115**	**0.00910**	**mg/kg**	**1**	**5/19/23 21:31**
Methyl Acetate	UJ, RC:Q	ND	U	0.000603	0.00455	mg/kg	1	5/19/23 21:31
Methyl tert-Butyl Ether		ND	U	0.000769	0.00455	mg/kg	1	5/19/23 21:31
Methylcyclohexane		ND	U	0.000732	0.00455	mg/kg	1	5/19/23 21:31
Methylene Chloride		ND	U	0.00137	0.00455	mg/kg	1	5/19/23 21:31
o-Xylene		ND	U	0.000584	0.00455	mg/kg	1	5/19/23 21:31
Styrene		ND	U	0.000650	0.00455	mg/kg	1	5/19/23 21:31
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00955	0.0455	mg/kg	1	5/19/23 21:31
Tetrachloroethene		ND	U	0.000450	0.00455	mg/kg	1	5/19/23 21:31
Toluene		ND	U	0.000366	0.00455	mg/kg	1	5/19/23 21:31
Total Xylenes		**0.00508**		**0.000584**	**0.00455**	**mg/kg**	**1**	**5/19/23 21:31**
trans-1,2-Dichloroethene		ND	U	0.000616	0.00455	mg/kg	1	5/19/23 21:31
trans-1,3-Dichloropropene		ND	U	0.000869	0.00455	mg/kg	1	5/19/23 21:31
Trichloroethene		ND	U	0.000669	0.00455	mg/kg	1	5/19/23 21:31
Trichlorofluoromethane		ND	U	0.000523	0.00455	mg/kg	1	5/19/23 21:31
Vinyl chloride		ND	U	0.000864	0.00455	mg/kg	1	5/19/23 21:31

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
TIC:Naphthalene	0.0747	23.16	J	mg/kg	1	5/19/23 21:31
TIC Total	**0.075**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**57.9**				**%**	**1**	**5/18/23 11:00**

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-02 (Soil) Sample Name: **OH-SB-14-7.7-8.7-20230517** Collected: **5/17/2023 9:55:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.419**		**0.0126**	**0.106**	**mg/kg**	**1**	**5/18/23 16:54**

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-20230517** Collected: **5/17/2023 11:11:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00546	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1221	ND	U	0.0107	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1232	ND	U	0.0137	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1242	ND	U	0.00801	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1248	ND	U	0.00837	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1254	ND	U	0.00657	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1260	ND	U	0.00510	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1262	ND	U	0.0110	0.0407	mg/kg	1	6/1/23 21:50
Aroclor-1268	ND	U	0.00493	0.0407	mg/kg	1	6/1/23 21:50
Total PCBs	ND	U	0.00380	0.0407	mg/kg	1	6/1/23 21:50

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0121	0.123	mg/kg	1	6/3/23 14:01
2,4-D	ND	U	0.0205	0.123	mg/kg	1	6/3/23 14:01

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0979**		**0.00617**	**0.0247**	**mg/kg**	**1**	**5/18/23 12:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12200**		**0.175**	**2.95**	**mg/kg**	**1**	**5/31/23 12:49**
Antimony	**1.74**		**0.161**	**1.48**	**mg/kg**	**1**	**5/31/23 12:49**
Arsenic	**3.87**		**0.105**	**1.48**	**mg/kg**	**1**	**5/31/23 12:49**
Barium	**69.4**		**0.0447**	**0.591**	**mg/kg**	**1**	**5/31/23 12:49**
Beryllium	**1.55**		**0.00342**	**0.0295**	**mg/kg**	**1**	**5/31/23 12:49**
Cadmium	**5.02**		**0.0576**	**0.295**	**mg/kg**	**1**	**5/31/23 12:49**
Calcium	**127000**	D	**33.2**	**295**	**mg/kg**	**10**	**5/31/23 14:04**
Chromium	**17.9**		**0.0333**	**0.295**	**mg/kg**	**1**	**5/31/23 12:49**
Cobalt	**6.02**		**0.0302**	**0.236**	**mg/kg**	**1**	**5/31/23 12:49**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-20230517** Collected: **5/17/2023 11:11:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**99.8**		**0.0826**	**0.295**	**mg/kg**	**1**	**5/31/23 12:49**
Iron	**13400**		**0.837**	**5.91**	**mg/kg**	**1**	**5/31/23 12:49**
Lead	**52.1**		**0.123**	**1.48**	**mg/kg**	**1**	**5/31/23 12:49**
Magnesium	**7500**		**10.4**	**59.1**	**mg/kg**	**1**	**5/31/23 12:49**
Manganese	**157**		**0.0367**	**0.295**	**mg/kg**	**1**	**5/31/23 12:49**
Nickel	**526**	D	**0.259**	**1.48**	**mg/kg**	**10**	**5/31/23 14:04**
Potassium	**1610**		**35.1**	**118**	**mg/kg**	**1**	**5/31/23 12:49**
Selenium	ND	U	0.284	1.48	mg/kg	1	5/31/23 12:49
Silver	ND	U	0.0502	0.177	mg/kg	1	5/31/23 12:49
Sodium	**1040**		**5.63**	**59.1**	**mg/kg**	**1**	**5/31/23 12:49**
Thallium	ND	U	0.0994	1.48	mg/kg	1	5/31/23 12:49
Vanadium	**37.2**		**0.0679**	**0.591**	**mg/kg**	**1**	**5/31/23 12:49**
Zinc	**165**		**0.0902**	**0.886**	**mg/kg**	**1**	**5/31/23 12:49**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	UJ, RC:6L ND	U	0.000735	0.00160	mg/kg	1	5/25/23 23:11
4,4'-DDE [2C]	UJ, RC:6L ND	U	0.000878	0.00160	mg/kg	1	5/25/23 23:11
4,4'-DDT	**0.00672**		**0.00113**	**0.00160**	**mg/kg**	**1**	**5/25/23 23:11**
Aldrin	ND	U	0.000760	0.00160	mg/kg	1	5/25/23 23:11
alpha-BHC	UJ, RC:6L ND	U	0.000478	0.00160	mg/kg	1	5/25/23 23:11
beta-BHC	UJ, RC:6L ND	U	0.000767	0.00160	mg/kg	1	5/25/23 23:11
Chlordane	ND	U	0.000714	0.00160	mg/kg	1	5/25/23 23:11
delta-BHC	ND	U	0.000746	0.00160	mg/kg	1	5/25/23 23:11
Dieldrin	ND	U	0.000839	0.00160	mg/kg	1	5/25/23 23:11
Endosulfan I	ND	U	0.000758	0.00160	mg/kg	1	5/25/23 23:11
Endosulfan II	UJ, RC:6L ND	U	0.000730	0.00160	mg/kg	1	5/25/23 23:11
Endosulfan sulfate	ND	U	0.000604	0.00160	mg/kg	1	5/25/23 23:11
Endosulfans, Total (alpha and beta)	ND	U	0.000730	0.00160	mg/kg	1	5/25/23 23:11
Endrin	ND	U	0.000554	0.00160	mg/kg	1	5/25/23 23:11
Endrin aldehyde	ND	U	0.000639	0.00160	mg/kg	1	5/25/23 23:11
Endrin ketone	ND	U	0.000565	0.00160	mg/kg	1	5/25/23 23:11
gamma-BHC (Lindane)	ND	U	0.000509	0.00160	mg/kg	1	5/25/23 23:11
Heptachlor	ND	U	0.000430	0.00160	mg/kg	1	5/25/23 23:11
Heptachlor Epoxide	ND	U	0.000810	0.00160	mg/kg	1	5/25/23 23:11
Methoxychlor	ND	U	0.000470	0.00160	mg/kg	1	5/25/23 23:11
Toxaphene	ND	U	0.0773	0.0815	mg/kg	1	5/25/23 23:11

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-202 30517** Collected: **5/17/2023 11:11:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane		ND	U	0.00464	0.0411	mg/kg	1	5/25/23 18:40
2,3,4,6-Tetrachlorophenol		ND	U	0.0253	0.164	mg/kg	1	5/25/23 18:40
2,4,5-Trichlorophenol		ND	U	0.0223	0.164	mg/kg	1	5/25/23 18:40
2,4,6-Trichlorophenol		ND	U	0.0103	0.164	mg/kg	1	5/25/23 18:40
2,4-Dichlorophenol		ND	U	0.0165	0.164	mg/kg	1	5/25/23 18:40
2,4-Dimethylphenol		ND	U	0.0162	0.164	mg/kg	1	5/25/23 18:40
2,4-Dinitrophenol	UJ, RC:Q	ND	U	0.0237	0.823	mg/kg	1	5/25/23 18:40
2,4-Dinitrotoluene		ND	U	0.0175	0.164	mg/kg	1	5/25/23 18:40
2,6-Dinitrotoluene		ND	U	0.0393	0.164	mg/kg	1	5/25/23 18:40
2-Chloronaphthalene		ND	U	0.0189	0.164	mg/kg	1	5/25/23 18:40
2-Chlorophenol		ND	U	0.0217	0.164	mg/kg	1	5/25/23 18:40
2-Methylnaphthalene		**0.226**	J	**0.0394**	**0.247**	**mg/kg**	**1**	**5/25/23 18:40**
2-Methylphenol		ND	U	0.0325	0.164	mg/kg	1	5/25/23 18:40
2-Nitroaniline		ND	U	0.0132	0.164	mg/kg	1	5/25/23 18:40
2-Nitrophenol		ND	U	0.0183	0.164	mg/kg	1	5/25/23 18:40
3,3'-Dichlorobenzidine		ND	U	0.0173	0.164	mg/kg	1	5/25/23 18:40
3+4-Methylphenol		ND	U	0.0301	0.164	mg/kg	1	5/25/23 18:40
3-Nitroaniline		ND	U	0.0305	0.164	mg/kg	1	5/25/23 18:40
4,6-Dinitro-2-methylphenol		ND	U	0.0310	0.411	mg/kg	1	5/25/23 18:40
4-Bromophenyl-phenyl ether		ND	U	0.0235	0.164	mg/kg	1	5/25/23 18:40
4-Chloro-3-methylphenol		ND	U	0.0259	0.164	mg/kg	1	5/25/23 18:40
4-Chloroaniline		ND	U	0.00575	0.164	mg/kg	1	5/25/23 18:40
4-Chlorophenyl phenyl ether		ND	U	0.00888	0.164	mg/kg	1	5/25/23 18:40
4-Nitroaniline		ND	U	0.0822	0.164	mg/kg	1	5/25/23 18:40
4-Nitrophenol		ND	U	0.0105	0.164	mg/kg	1	5/25/23 18:40
Acenaphthene		ND	U	0.00937	0.164	mg/kg	1	5/25/23 18:40
Acenaphthylene		ND	U	0.00572	0.164	mg/kg	1	5/25/23 18:40
Acetophenone		ND	U	0.0163	0.164	mg/kg	1	5/25/23 18:40
Anthracene		**0.233**		**0.0238**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Atrazine		ND	U	0.0154	0.164	mg/kg	1	5/25/23 18:40
Benzaldehyde	UJ, RC:SL	ND	U	0.0505	0.164	mg/kg	1	5/25/23 18:40
Benzo(a)anthracene		**0.467**		**0.0165**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Benzo(a)pyrene		**0.487**		**0.0286**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Benzo(b)fluoranthene		**0.519**		**0.0231**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Benzo(g,h,i)perylene		**0.516**		**0.0133**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Benzo(k)fluoranthene		**0.371**		**0.0189**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Biphenyl		ND	U	0.0144	0.164	mg/kg	1	5/25/23 18:40
bis(2-chloroethoxy)methane		ND	U	0.0227	0.164	mg/kg	1	5/25/23 18:40

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-202 30517** Collected: **5/17/2023 11:11:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0180	0.164	mg/kg	1	5/25/23 18:40
bis(2-chloroisopropyl)ether	ND	U	0.0591	0.164	mg/kg	1	5/25/23 18:40
bis(2-ethylhexyl)phthalate	ND	U	0.0328	0.164	mg/kg	1	5/25/23 18:40
Butylbenzylphthalate	ND	U	0.0149	0.164	mg/kg	1	5/25/23 18:40
Caprolactam	ND	U	0.0212	0.164	mg/kg	1	5/25/23 18:40
Carbazole	ND	U	0.0316	0.411	mg/kg	1	5/25/23 18:40
Chrysene	**0.552**		**0.0113**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Dibenzo(a,h)anthracene	**0.141**	J	**0.0163**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Dibenzofuran	ND	U	0.00979	0.164	mg/kg	1	5/25/23 18:40
Diethylphthalate	ND	U	0.0318	0.164	mg/kg	1	5/25/23 18:40
Dimethylphthalate	ND	U	0.0102	0.164	mg/kg	1	5/25/23 18:40
Di-n-butylphthalate	ND	U	0.0672	0.164	mg/kg	1	5/25/23 18:40
Di-n-octylphthalate	ND	U	0.0337	0.164	mg/kg	1	5/25/23 18:40
Fluoranthene	**0.954**		**0.0154**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Fluorene	**0.141**	J	**0.0137**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Hexachlorobenzene	ND	U	0.0215	0.164	mg/kg	1	5/25/23 18:40
Hexachlorobutadiene	ND	U	0.0789	0.164	mg/kg	1	5/25/23 18:40
Hexachlorocyclopentadiene UJ, RC:SL	ND	U	0.0685	0.411	mg/kg	1	5/25/23 18:40
Hexachloroethane	ND	U	0.0180	0.164	mg/kg	1	5/25/23 18:40
Indeno(1,2,3-cd)pyrene	**0.359**		**0.0177**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Isophorone	ND	U	0.0108	0.164	mg/kg	1	5/25/23 18:40
Naphthalene	**0.178**		**0.0122**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Nitrobenzene	ND	U	0.0279	0.164	mg/kg	1	5/25/23 18:40
n-Nitroso-di-n-propylamine	ND	U	0.00880	0.164	mg/kg	1	5/25/23 18:40
n-Nitrosodiphenylamine	ND	U	0.0351	0.164	mg/kg	1	5/25/23 18:40
Pentachlorophenol	ND	U	0.0226	0.411	mg/kg	1	5/25/23 18:40
Phenanthrene	**0.796**		**0.0216**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**
Phenol	ND	U	0.0133	0.164	mg/kg	1	5/25/23 18:40
Pyrene	**1.00**		**0.0121**	**0.164**	**mg/kg**	**1**	**5/25/23 18:40**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Decene, 4-methyl-	1.32	8.16	J	mg/kg	1	5/25/23 18:40
Dodecane, 2,6,11-trimethyl-	1.85	8.62	J	mg/kg	1	5/25/23 18:40
Dodecane, 4,6-dimethyl- (01)	0.910	7.56	J	mg/kg	1	5/25/23 18:40
Dodecane, 4,6-dimethyl- (02)	3.99	9.82	J	mg/kg	1	5/25/23 18:40
Eicosane	1.83	8.83	J	mg/kg	1	5/25/23 18:40

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-202 30517** Collected: **5/17/2023 11:11:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Heptafluorobutyric acid,n-tridecyl ester	1.23	10.25	J	mg/kg	1	5/25/23 18:40
Hexadecanoic acid, 1,1-dimethylethyl est	2.76	11.80	J	mg/kg	1	5/25/23 18:40
Tetradecane	1.57	10.28	J	mg/kg	1	5/25/23 18:40
Tetrapentacontane, 1,54-dibromo-	1.26	8.34	J	mg/kg	1	5/25/23 18:40
unknown (01)	1.15	8.66	J	mg/kg	1	5/25/23 18:40
unknown (02)	0.943	8.73	J	mg/kg	1	5/25/23 18:40
unknown (03)	0.951	8.87	J	mg/kg	1	5/25/23 18:40
unknown (04)	1.01	9.15	J	mg/kg	1	5/25/23 18:40
unknown (05)	1.04	9.33	J	mg/kg	1	5/25/23 18:40
unknown (06)	0.982	11.08	J	mg/kg	1	5/25/23 18:40
TIC Total	**22.8**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000530	0.00363	mg/kg	1	5/19/23 22:03
1,1,2,2-Tetrachloroethane	ND	U	0.000501	0.00363	mg/kg	1	5/19/23 22:03
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00155	0.00363	mg/kg	1	5/19/23 22:03
1,1,2-Trichloroethane	ND	U	0.000612	0.00363	mg/kg	1	5/19/23 22:03
1,1-Dichloroethane	ND	U	0.000530	0.00363	mg/kg	1	5/19/23 22:03
1,1-Dichloroethene	ND	U	0.000672	0.00363	mg/kg	1	5/19/23 22:03
1,2,3-Trichlorobenzene UJ, RC:Q	ND	U	0.000784	0.00363	mg/kg	1	5/19/23 22:03
1,2,4-Trichlorobenzene	ND	U	0.000968	0.00363	mg/kg	1	5/19/23 22:03
1,2,4-Trimethylbenzene	ND	U	0.000501	0.00363	mg/kg	1	5/19/23 22:03
1,2-Dibromo-3-chloropropane UJ, RC:SL	ND	U	0.000886	0.00363	mg/kg	1	5/19/23 22:03
1,2-Dibromoethane	ND	U	0.000457	0.00363	mg/kg	1	5/19/23 22:03
1,2-Dichlorobenzene	ND	U	0.000641	0.00363	mg/kg	1	5/19/23 22:03
1,2-Dichloroethane	ND	U	0.000512	0.00363	mg/kg	1	5/19/23 22:03
1,2-Dichloropropane	ND	U	0.000595	0.00363	mg/kg	1	5/19/23 22:03
1,3-Dichlorobenzene	ND	U	0.000267	0.00363	mg/kg	1	5/19/23 22:03
1,4-Dichlorobenzene	ND	U	0.000523	0.00363	mg/kg	1	5/19/23 22:03
2-Butanone	ND	U	0.000592	0.00908	mg/kg	1	5/19/23 22:03
2-Hexanone	ND	U	0.000339	0.00363	mg/kg	1	5/19/23 22:03
4-Methyl-2-pentanone	ND	U	0.000454	0.00363	mg/kg	1	5/19/23 22:03
Acetone	ND	U	0.00110	0.00908	mg/kg	1	5/19/23 22:03
Benzene	ND	U	0.000330	0.00363	mg/kg	1	5/19/23 22:03
Bromochloromethane	ND	U	0.000670	0.00363	mg/kg	1	5/19/23 22:03

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-202 30517** Collected: **5/17/2023 11:11:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromodichloromethane		ND	U	0.000456	0.00363	mg/kg	1	5/19/23 22:03
Bromoform		ND	U	0.000637	0.00363	mg/kg	1	5/19/23 22:03
Bromomethane		ND	U	0.00105	0.00363	mg/kg	1	5/19/23 22:03
Carbon disulfide		ND	U	0.000521	0.00363	mg/kg	1	5/19/23 22:03
Carbon Tetrachloride		ND	U	0.000546	0.00363	mg/kg	1	5/19/23 22:03
Chlorobenzene		ND	U	0.000526	0.00363	mg/kg	1	5/19/23 22:03
Chlorodibromomethane		ND	U	0.000447	0.00363	mg/kg	1	5/19/23 22:03
Chloroethane		ND	U	0.000619	0.00363	mg/kg	1	5/19/23 22:03
Chloroform		ND	U	0.000610	0.00363	mg/kg	1	5/19/23 22:03
Chloromethane		ND	U	0.00140	0.00363	mg/kg	1	5/19/23 22:03
cis-1,2-Dichloroethene		ND	U	0.000176	0.00363	mg/kg	1	5/19/23 22:03
cis-1,3-Dichloropropene		ND	U	0.000459	0.00363	mg/kg	1	5/19/23 22:03
Cyclohexane		ND	U	0.000804	0.00363	mg/kg	1	5/19/23 22:03
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.00123	0.00363	mg/kg	1	5/19/23 22:03
EthylBenzene		ND	U	0.000492	0.00363	mg/kg	1	5/19/23 22:03
Isopropylbenzene		ND	U	0.000570	0.00363	mg/kg	1	5/19/23 22:03
m+p-Xylenes		ND	U	0.000917	0.00726	mg/kg	1	5/19/23 22:03
Methyl Acetate	UJ, RC:Q	ND	U	0.000481	0.00363	mg/kg	1	5/19/23 22:03
Methyl tert-Butyl Ether		ND	U	0.000614	0.00363	mg/kg	1	5/19/23 22:03
Methylcyclohexane		ND	U	0.000585	0.00363	mg/kg	1	5/19/23 22:03
Methylene Chloride		ND	U	0.00109	0.00363	mg/kg	1	5/19/23 22:03
o-Xylene		ND	U	0.000467	0.00363	mg/kg	1	5/19/23 22:03
Styrene		ND	U	0.000519	0.00363	mg/kg	1	5/19/23 22:03
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00762	0.0363	mg/kg	1	5/19/23 22:03
Tetrachloroethene		ND	U	0.000359	0.00363	mg/kg	1	5/19/23 22:03
Toluene		ND	U	0.000292	0.00363	mg/kg	1	5/19/23 22:03
Total Xylenes		ND	U	0.000467	0.00363	mg/kg	1	5/19/23 22:03
trans-1,2-Dichloroethene		ND	U	0.000492	0.00363	mg/kg	1	5/19/23 22:03
trans-1,3-Dichloropropene		ND	U	0.000693	0.00363	mg/kg	1	5/19/23 22:03
Trichloroethene		ND	U	0.000534	0.00363	mg/kg	1	5/19/23 22:03
Trichlorofluoromethane		ND	U	0.000418	0.00363	mg/kg	1	5/19/23 22:03
Vinyl chloride		ND	U	0.000690	0.00363	mg/kg	1	5/19/23 22:03

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.0101	5.39	J	mg/kg	1	5/19/23 22:03
TIC Total	**0.010**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-03 (Soil) Sample Name: **OH-SB-19-3.5-4.5-20230517** Collected: **5/17/2023 11:11:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**81.0**				**%**	**1**	**5/18/23 11:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.148**		**0.00942**	**0.0790**	**mg/kg**	**1**	**5/18/23 16:54**

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-20230517** Collected: **5/17/2023 11:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00609	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1221	ND	U	0.0120	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1232	ND	U	0.0152	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1242	ND	U	0.00892	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1248	ND	U	0.00933	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1254	ND	U	0.00733	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1260	ND	U	0.00569	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1262	ND	U	0.0122	0.0454	mg/kg	1	6/1/23 22:13
Aroclor-1268	ND	U	0.00549	0.0454	mg/kg	1	6/1/23 22:13
Total PCBs	ND	U	0.00424	0.0454	mg/kg	1	6/1/23 22:13

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0135	0.138	mg/kg	1	6/3/23 14:25
2,4-D	ND	U	0.0228	0.138	mg/kg	1	6/3/23 14:25

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.301**		**0.00688**	**0.0275**	**mg/kg**	**1**	**5/18/23 12:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**19100**		**0.209**	**3.51**	**mg/kg**	**1**	**5/31/23 12:51**
Antimony	**2.68**		**0.191**	**1.76**	**mg/kg**	**1**	**5/31/23 12:51**
Arsenic	**6.10**		**0.125**	**1.76**	**mg/kg**	**1**	**5/31/23 12:51**
Barium	**88.0**		**0.0531**	**0.702**	**mg/kg**	**1**	**5/31/23 12:51**
Beryllium	**3.05**		**0.00407**	**0.0351**	**mg/kg**	**1**	**5/31/23 12:51**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-202 30517** Collected: **5/17/2023 11:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	**18.1**		**0.0684**	**0.351**	**mg/kg**	**1**	**5/31/23 12:51**
Calcium	**16200**		**3.95**	**35.1**	**mg/kg**	**1**	**5/31/23 12:51**
Chromium	**28.2**		**0.0396**	**0.351**	**mg/kg**	**1**	**5/31/23 12:51**
Cobalt	**10.1**		**0.0359**	**0.281**	**mg/kg**	**1**	**5/31/23 12:51**
Copper	**67.4**		**0.0982**	**0.351**	**mg/kg**	**1**	**5/31/23 12:51**
Iron	**24200**		**0.994**	**7.02**	**mg/kg**	**1**	**5/31/23 12:51**
Lead	**258**		**0.146**	**1.76**	**mg/kg**	**1**	**5/31/23 12:51**
Magnesium	**6760**		**12.4**	**70.2**	**mg/kg**	**1**	**5/31/23 12:51**
Manganese	**287**		**0.0437**	**0.351**	**mg/kg**	**1**	**5/31/23 12:51**
Nickel	**425**	D	**0.308**	**1.76**	**mg/kg**	**10**	**5/31/23 14:06**
Potassium	**6090**		**41.7**	**140**	**mg/kg**	**1**	**5/31/23 12:51**
Selenium	ND	U	0.337	1.76	mg/kg	1	5/31/23 12:51
Silver	ND	U	0.0597	0.211	mg/kg	1	5/31/23 12:51
Sodium	**1120**		**6.69**	**70.2**	**mg/kg**	**1**	**5/31/23 12:51**
Thallium	ND	U	0.118	1.76	mg/kg	1	5/31/23 12:51
Vanadium	**34.1**		**0.0807**	**0.702**	**mg/kg**	**1**	**5/31/23 12:51**
Zinc	**2880**	D	**1.07**	**10.5**	**mg/kg**	**10**	**5/31/23 14:06**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	UJ, RC:6L ND	U	0.000819	0.00179	mg/kg	1	5/25/23 23:33
4,4'-DDE	UJ, RC:6L ND	U	0.000978	0.00179	mg/kg	1	5/25/23 23:33
4,4'-DDT	ND	U	0.00126	0.00179	mg/kg	1	5/25/23 23:33
Aldrin	ND	U	0.000848	0.00179	mg/kg	1	5/25/23 23:33
alpha-BHC	UJ, RC:6L ND	U	0.000533	0.00179	mg/kg	1	5/25/23 23:33
beta-BHC	UJ, RC:6L ND	U	0.000855	0.00179	mg/kg	1	5/25/23 23:33
Chlordane	ND	U	0.000795	0.00179	mg/kg	1	5/25/23 23:33
delta-BHC	ND	U	0.000831	0.00179	mg/kg	1	5/25/23 23:33
Dieldrin	ND	U	0.000936	0.00179	mg/kg	1	5/25/23 23:33
Endosulfan I	ND	U	0.000845	0.00179	mg/kg	1	5/25/23 23:33
Endosulfan II	UJ, RC:6L ND	U	0.000813	0.00179	mg/kg	1	5/25/23 23:33
Endosulfan sulfate	ND	U	0.000673	0.00179	mg/kg	1	5/25/23 23:33
Endosulfans, Total (alpha and beta)	ND	U	0.000813	0.00179	mg/kg	1	5/25/23 23:33
Endrin	ND	U	0.000618	0.00179	mg/kg	1	5/25/23 23:33
Endrin aldehyde	ND	U	0.000713	0.00179	mg/kg	1	5/25/23 23:33
Endrin ketone	ND	U	0.000630	0.00179	mg/kg	1	5/25/23 23:33
gamma-BHC (Lindane)	ND	U	0.000567	0.00179	mg/kg	1	5/25/23 23:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-20230517** Collected: **5/17/2023 11:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000479	0.00179	mg/kg	1	5/25/23 23:33
Heptachlor Epoxide	ND	U	0.000903	0.00179	mg/kg	1	5/25/23 23:33
Methoxychlor	ND	U	0.000524	0.00179	mg/kg	1	5/25/23 23:33
Toxaphene	ND	U	0.0862	0.0908	mg/kg	1	5/25/23 23:33

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane		ND	U	0.00517	0.0458	mg/kg	1	5/25/23 19:13
2,3,4,6-Tetrachlorophenol		ND	U	0.0282	0.183	mg/kg	1	5/25/23 19:13
2,4,5-Trichlorophenol		ND	U	0.0249	0.183	mg/kg	1	5/25/23 19:13
2,4,6-Trichlorophenol		ND	U	0.0115	0.183	mg/kg	1	5/25/23 19:13
2,4-Dichlorophenol		ND	U	0.0184	0.183	mg/kg	1	5/25/23 19:13
2,4-Dimethylphenol		ND	U	0.0180	0.183	mg/kg	1	5/25/23 19:13
2,4-Dinitrophenol	UJ, RC:Q	ND	U	0.0264	0.918	mg/kg	1	5/25/23 19:13
2,4-Dinitrotoluene		ND	U	0.0195	0.183	mg/kg	1	5/25/23 19:13
2,6-Dinitrotoluene		ND	U	0.0438	0.183	mg/kg	1	5/25/23 19:13
2-Chloronaphthalene		ND	U	0.0211	0.183	mg/kg	1	5/25/23 19:13
2-Chlorophenol		ND	U	0.0242	0.183	mg/kg	1	5/25/23 19:13
2-Methylnaphthalene		**0.0746**	J	**0.0439**	**0.275**	**mg/kg**	**1**	**5/25/23 19:13**
2-Methylphenol		ND	U	0.0362	0.183	mg/kg	1	5/25/23 19:13
2-Nitroaniline		ND	U	0.0147	0.183	mg/kg	1	5/25/23 19:13
2-Nitrophenol		ND	U	0.0204	0.183	mg/kg	1	5/25/23 19:13
3,3'-Dichlorobenzidine		ND	U	0.0193	0.183	mg/kg	1	5/25/23 19:13
3+4-Methylphenol		ND	U	0.0336	0.183	mg/kg	1	5/25/23 19:13
3-Nitroaniline		ND	U	0.0340	0.183	mg/kg	1	5/25/23 19:13
4,6-Dinitro-2-methylphenol		ND	U	0.0345	0.458	mg/kg	1	5/25/23 19:13
4-Bromophenyl-phenyl ether		ND	U	0.0261	0.183	mg/kg	1	5/25/23 19:13
4-Chloro-3-methylphenol		ND	U	0.0289	0.183	mg/kg	1	5/25/23 19:13
4-Chloroaniline		ND	U	0.00641	0.183	mg/kg	1	5/25/23 19:13
4-Chlorophenyl phenyl ether		ND	U	0.00989	0.183	mg/kg	1	5/25/23 19:13
4-Nitroaniline		ND	U	0.0917	0.183	mg/kg	1	5/25/23 19:13
4-Nitrophenol		ND	U	0.0117	0.183	mg/kg	1	5/25/23 19:13
Acenaphthene		**0.305**		**0.0104**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Acenaphthylene		ND	U	0.00637	0.183	mg/kg	1	5/25/23 19:13
Acetophenone		ND	U	0.0182	0.183	mg/kg	1	5/25/23 19:13
Anthracene		**0.270**		**0.0266**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Atrazine		ND	U	0.0172	0.183	mg/kg	1	5/25/23 19:13
Benzaldehyde	UJ, RC:SL	ND	U	0.0563	0.183	mg/kg	1	5/25/23 19:13

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-202 30517** Collected: **5/17/2023 11:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	**0.407**		**0.0184**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Benzo(a)pyrene	**0.539**		**0.0319**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Benzo(b)fluoranthene	**0.562**		**0.0257**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Benzo(g,h,i)perylene	**0.435**		**0.0149**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Benzo(k)fluoranthene	**0.334**		**0.0211**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Biphenyl	ND	U	0.0161	0.183	mg/kg	1	5/25/23 19:13
bis(2-chloroethoxy)methane	ND	U	0.0253	0.183	mg/kg	1	5/25/23 19:13
bis(2-chloroethyl)ether	ND	U	0.0201	0.183	mg/kg	1	5/25/23 19:13
bis(2-chloroisopropyl)ether	ND	U	0.0659	0.183	mg/kg	1	5/25/23 19:13
bis(2-ethylhexyl)phthalate	ND	U	0.0366	0.183	mg/kg	1	5/25/23 19:13
Butylbenzylphthalate	ND	U	0.0167	0.183	mg/kg	1	5/25/23 19:13
Caprolactam	ND	U	0.0237	0.183	mg/kg	1	5/25/23 19:13
Carbazole	ND	U	0.0352	0.458	mg/kg	1	5/25/23 19:13
Chrysene	**0.400**		**0.0126**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Dibenzo(a,h)anthracene	**0.0445**	J	**0.0182**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Dibenzofuran	ND	U	0.0109	0.183	mg/kg	1	5/25/23 19:13
Diethylphthalate	ND	U	0.0355	0.183	mg/kg	1	5/25/23 19:13
Dimethylphthalate	ND	U	0.0114	0.183	mg/kg	1	5/25/23 19:13
Di-n-butylphthalate	ND	U	0.0749	0.183	mg/kg	1	5/25/23 19:13
Di-n-octylphthalate	ND	U	0.0376	0.183	mg/kg	1	5/25/23 19:13
Fluoranthene	**0.816**		**0.0172**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Fluorene	**0.171**	J	**0.0153**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Hexachlorobenzene	ND	U	0.0239	0.183	mg/kg	1	5/25/23 19:13
Hexachlorobutadiene	ND	U	0.0879	0.183	mg/kg	1	5/25/23 19:13
Hexachlorocyclopentadiene UJ, RC:SL	ND	U	0.0764	0.458	mg/kg	1	5/25/23 19:13
Hexachloroethane	ND	U	0.0201	0.183	mg/kg	1	5/25/23 19:13
Indeno(1,2,3-cd)pyrene	**0.297**		**0.0197**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Isophorone	ND	U	0.0120	0.183	mg/kg	1	5/25/23 19:13
Naphthalene	**0.209**		**0.0136**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Nitrobenzene	ND	U	0.0311	0.183	mg/kg	1	5/25/23 19:13
n-Nitroso-di-n-propylamine	ND	U	0.00981	0.183	mg/kg	1	5/25/23 19:13
n-Nitrosodiphenylamine	ND	U	0.0391	0.183	mg/kg	1	5/25/23 19:13
Pentachlorophenol	ND	U	0.0252	0.458	mg/kg	1	5/25/23 19:13
Phenanthrene	**0.552**		**0.0241**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**
Phenol	ND	U	0.0149	0.183	mg/kg	1	5/25/23 19:13
Pyrene	**0.735**		**0.0135**	**0.183**	**mg/kg**	**1**	**5/25/23 19:13**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-20230517** Collected: **5/17/2023 11:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	9.54	11.80	J	mg/kg	1	5/25/23 19:13
Octadecanoic acid, butyl ester	4.40	12.59	J	mg/kg	1	5/25/23 19:13
unknown (01)	0.528	8.66	J	mg/kg	1	5/25/23 19:13
unknown (02)	0.420	8.87	J	mg/kg	1	5/25/23 19:13
unknown (03)	0.436	9.38	J	mg/kg	1	5/25/23 19:13
unknown (04)	0.877	13.05	J	mg/kg	1	5/25/23 19:13
TIC Total	**16.2**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000335	0.00229	mg/kg	1	5/19/23 22:35
1,1,2,2-Tetrachloroethane	ND	U	0.000317	0.00229	mg/kg	1	5/19/23 22:35
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000982	0.00229	mg/kg	1	5/19/23 22:35
1,1,2-Trichloroethane	ND	U	0.000386	0.00229	mg/kg	1	5/19/23 22:35
1,1-Dichloroethane	ND	U	0.000335	0.00229	mg/kg	1	5/19/23 22:35
1,1-Dichloroethene	ND	U	0.000424	0.00229	mg/kg	1	5/19/23 22:35
1,2,3-Trichlorobenzene UJ, RC:Q	ND	U	0.000495	0.00229	mg/kg	1	5/19/23 22:35
1,2,4-Trichlorobenzene	ND	U	0.000611	0.00229	mg/kg	1	5/19/23 22:35
1,2,4-Trimethylbenzene	ND	U	0.000317	0.00229	mg/kg	1	5/19/23 22:35
1,2-Dibromo-3-chloropropane UJ, RC:SL	ND	U	0.000560	0.00229	mg/kg	1	5/19/23 22:35
1,2-Dibromoethane	ND	U	0.000289	0.00229	mg/kg	1	5/19/23 22:35
1,2-Dichlorobenzene	ND	U	0.000405	0.00229	mg/kg	1	5/19/23 22:35
1,2-Dichloroethane	ND	U	0.000323	0.00229	mg/kg	1	5/19/23 22:35
1,2-Dichloropropane	ND	U	0.000376	0.00229	mg/kg	1	5/19/23 22:35
1,3-Dichlorobenzene	ND	U	0.000169	0.00229	mg/kg	1	5/19/23 22:35
1,4-Dichlorobenzene	ND	U	0.000330	0.00229	mg/kg	1	5/19/23 22:35
2-Butanone	ND	U	0.000374	0.00573	mg/kg	1	5/19/23 22:35
2-Hexanone	ND	U	0.000214	0.00229	mg/kg	1	5/19/23 22:35
4-Methyl-2-pentanone	ND	U	0.000287	0.00229	mg/kg	1	5/19/23 22:35
Acetone	ND	U	0.000695	0.00573	mg/kg	1	5/19/23 22:35
Benzene	ND	U	0.000209	0.00229	mg/kg	1	5/19/23 22:35
Bromochloromethane	ND	U	0.000423	0.00229	mg/kg	1	5/19/23 22:35
Bromodichloromethane	ND	U	0.000288	0.00229	mg/kg	1	5/19/23 22:35
Bromoform	ND	U	0.000403	0.00229	mg/kg	1	5/19/23 22:35
Bromomethane	ND	U	0.000662	0.00229	mg/kg	1	5/19/23 22:35
Carbon disulfide	ND	U	0.000329	0.00229	mg/kg	1	5/19/23 22:35
Carbon Tetrachloride	ND	U	0.000345	0.00229	mg/kg	1	5/19/23 22:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-04 (Soil) Sample Name: **OH-SB-19-5.5-6.5-202 30517** Collected: **5/17/2023 11:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene		ND	U	0.000333	0.00229	mg/kg	1	5/19/23 22:35
Chlorodibromomethane		ND	U	0.000282	0.00229	mg/kg	1	5/19/23 22:35
Chloroethane		ND	U	0.000391	0.00229	mg/kg	1	5/19/23 22:35
Chloroform		ND	U	0.000385	0.00229	mg/kg	1	5/19/23 22:35
Chloromethane		ND	U	0.000883	0.00229	mg/kg	1	5/19/23 22:35
cis-1,2-Dichloroethene		ND	U	0.000111	0.00229	mg/kg	1	5/19/23 22:35
cis-1,3-Dichloropropene		ND	U	0.000290	0.00229	mg/kg	1	5/19/23 22:35
Cyclohexane		ND	U	0.000508	0.00229	mg/kg	1	5/19/23 22:35
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.000774	0.00229	mg/kg	1	5/19/23 22:35
EthylBenzene		ND	U	0.000311	0.00229	mg/kg	1	5/19/23 22:35
Isopropylbenzene		ND	U	0.000360	0.00229	mg/kg	1	5/19/23 22:35
m+p-Xylenes		ND	U	0.000579	0.00459	mg/kg	1	5/19/23 22:35
Methyl Acetate	UJ, RC:Q	ND	U	0.000304	0.00229	mg/kg	1	5/19/23 22:35
Methyl tert-Butyl Ether		ND	U	0.000388	0.00229	mg/kg	1	5/19/23 22:35
Methylcyclohexane		ND	U	0.000369	0.00229	mg/kg	1	5/19/23 22:35
Methylene Chloride		ND	U	0.000689	0.00229	mg/kg	1	5/19/23 22:35
o-Xylene		ND	U	0.000295	0.00229	mg/kg	1	5/19/23 22:35
Styrene		ND	U	0.000328	0.00229	mg/kg	1	5/19/23 22:35
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00482	0.0229	mg/kg	1	5/19/23 22:35
Tetrachloroethene		ND	U	0.000227	0.00229	mg/kg	1	5/19/23 22:35
Toluene		ND	U	0.000185	0.00229	mg/kg	1	5/19/23 22:35
Total Xylenes		ND	U	0.000295	0.00229	mg/kg	1	5/19/23 22:35
trans-1,2-Dichloroethene		ND	U	0.000311	0.00229	mg/kg	1	5/19/23 22:35
trans-1,3-Dichloropropene		ND	U	0.000438	0.00229	mg/kg	1	5/19/23 22:35
Trichloroethene		ND	U	0.000337	0.00229	mg/kg	1	5/19/23 22:35
Trichlorofluoromethane		ND	U	0.000264	0.00229	mg/kg	1	5/19/23 22:35
Vinyl chloride		ND	U	0.000436	0.00229	mg/kg	1	5/19/23 22:35

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Butane	0.00649	4.45	J	mg/kg	1	5/19/23 22:35
TIC Total	**0.006**					

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-04 (Soil)

Sample Name: **OH-SB-19-5.5-6.5-20230517**
Collected: **5/17/2023 11:35:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**72.7**				**%**	**1**	**5/18/23 11:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00891	0.0748	mg/kg	1	5/18/23 16:54

23E0866-05 (Ground Water)

Sample Name: **FB_20230517**
Collected: **5/17/2023 12:45:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	UJ, RC:3L ND	U	0.0497	0.500	ug/L	1	5/25/23 11:18
Aroclor-1221	UJ, RC:3L ND	U	0.352	0.500	ug/L	1	5/25/23 11:18
Aroclor-1232	UJ, RC:3L ND	U	0.109	0.500	ug/L	1	5/25/23 11:18
Aroclor-1242	UJ, RC:3L ND	U	0.185	0.500	ug/L	1	5/25/23 11:18
Aroclor-1248	UJ, RC:3L ND	U	0.0933	0.500	ug/L	1	5/25/23 11:18
Aroclor-1254	UJ, RC:3L ND	U	0.103	0.500	ug/L	1	5/25/23 11:18
Aroclor-1260	UJ, RC:3L ND	U	0.0784	0.500	ug/L	1	5/25/23 11:18
Aroclor-1262	UJ, RC:3L ND	U	0.169	0.500	ug/L	1	5/25/23 11:18
Aroclor-1268	UJ, RC:3L ND	U	0.159	0.500	ug/L	1	5/25/23 11:18
Total PCBs	UJ, RC:3L ND	U	0.0497	0.500	ug/L	1	5/25/23 11:18

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/6/23 0:46
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/6/23 0:46
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/6/23 0:46

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/23/23 15:32

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/31/23 9:54
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/31/23 9:54
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/31/23 9:54
Barium	ND	U	0.000558	0.0200	mg/L	1	5/31/23 9:54

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-05 (Ground Water) Sample Name: **FB_20230517** Collected: **5/17/2023 12:45:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/31/23 9:54
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/31/23 9:54
Calcium	ND	U	0.256	1.00	mg/L	1	5/31/23 9:54
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/31/23 9:54
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/31/23 9:54
Copper	ND	U	0.00177	0.0100	mg/L	1	5/31/23 9:54
Iron	ND	U	0.0580	0.200	mg/L	1	5/31/23 9:54
Lead	ND	U	0.00510	0.0500	mg/L	1	5/31/23 9:54
Magnesium	ND	U	0.681	2.00	mg/L	1	5/31/23 9:54
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/31/23 9:54
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/31/23 9:54
Potassium	ND	U	2.41	4.00	mg/L	1	5/31/23 9:54
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/31/23 9:54
Silver	UJ, RC:6L ND	U	0.00465	0.0200	mg/L	1	5/31/23 9:54
Sodium	ND	U	0.205	2.00	mg/L	1	5/31/23 9:54
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/31/23 9:54
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/31/23 9:54
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/31/23 9:54

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/25/23 19:29
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/25/23 19:29
4,4'-DDT	UJ, RC:6L ND	U	0.000319	0.0200	ug/L	1	5/25/23 19:29
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/25/23 19:29
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/25/23 19:29
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/25/23 19:29
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/25/23 19:29
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/25/23 19:29
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/25/23 19:29
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/25/23 19:29
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/25/23 19:29
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/25/23 19:29
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/25/23 19:29
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/25/23 19:29
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/25/23 19:29
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/25/23 19:29
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/25/23 19:29
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/25/23 19:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-05 (Ground Water) Sample Name: **FB_20230517** Collected: **5/17/2023 12:45:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/25/23 19:29
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/25/23 19:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/22/23 16:25
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/22/23 16:25
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/22/23 16:25
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/22/23 16:25
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/22/23 16:25
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/22/23 16:25
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/22/23 16:25
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/22/23 16:25
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/22/23 16:25
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/22/23 16:25
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/22/23 16:25
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/22/23 16:25
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/22/23 16:25
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/22/23 16:25
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/22/23 16:25
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/22/23 16:25
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/22/23 16:25
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/22/23 16:25
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/22/23 16:25
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/22/23 16:25
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/22/23 16:25
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/22/23 16:25
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/22/23 16:25
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/22/23 16:25
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/22/23 16:25
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/22/23 16:25
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/22/23 16:25
Anthracene	ND	U	0.121	2.00	ug/L	1	5/22/23 16:25
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/22/23 16:25
Benzaldehyde UJ, RC:Q	ND	U	0.134	2.00	ug/L	1	5/22/23 16:25
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/22/23 16:25
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/22/23 16:25
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/22/23 16:25
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/22/23 16:25

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-05 (Ground Water) Sample Name: **FB_20230517** Collected: **5/17/2023 12:45:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/22/23 16:25
bis(2-ethylhexyl)phthalate	**0.510**	J	**0.183**	**2.00**	**ug/L**	**1**	**5/22/23 16:25**
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/22/23 16:25
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/22/23 16:25
Carbazole	ND	U	0.188	2.00	ug/L	1	5/22/23 16:25
Chrysene	ND	U	0.129	2.00	ug/L	1	5/22/23 16:25
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/22/23 16:25
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/22/23 16:25
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/22/23 16:25
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/22/23 16:25
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/22/23 16:25
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/22/23 16:25
Fluorene	ND	U	0.109	2.00	ug/L	1	5/22/23 16:25
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/22/23 16:25
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/22/23 16:25
Isophorone	ND	U	0.111	2.00	ug/L	1	5/22/23 16:25
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/22/23 16:25
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/22/23 16:25
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/22/23 16:25
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/22/23 16:25
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/22/23 16:25
Phenol	ND	U	0.0973	2.00	ug/L	1	5/22/23 16:25
Pyrene	ND	U	0.115	2.00	ug/L	1	5/22/23 16:25

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentanecarboxylic acid, 1-methyl-	4.94	7.58	J	ug/L	1	5/22/23 16:25
Ethane, 1,1,2,2-tetrachloro-	5.08	5.23	J	ug/L	1	5/22/23 16:25
unknown	4.13	7.62	J	ug/L	1	5/22/23 16:25
TIC Total	**14.2**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/25/23 13:30
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/25/23 13:30
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/25/23 13:30
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/25/23 13:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-05 (Ground Water) Sample Name: **FB_20230517** Collected: **5/17/2023 12:45:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethane		ND	U	0.393	1.00	ug/L	1	5/25/23 13:30
1,1-Dichloroethene		ND	U	0.149	1.00	ug/L	1	5/25/23 13:30
1,2,3-Trichlorobenzene	UJ, RC:Q	ND	U	0.488	1.00	ug/L	1	5/25/23 13:30
1,2,4-Trichlorobenzene		ND	U	0.437	1.00	ug/L	1	5/25/23 13:30
1,2,4-Trimethylbenzene		ND	U	0.155	1.00	ug/L	1	5/25/23 13:30
1,2-Dibromo-3-chloropropane		ND	U	1.09	2.00	ug/L	1	5/25/23 13:30
1,2-Dibromoethane		ND	U	0.320	1.00	ug/L	1	5/25/23 13:30
1,2-Dichlorobenzene		ND	U	0.210	1.00	ug/L	1	5/25/23 13:30
1,2-Dichloroethane		ND	U	0.306	1.00	ug/L	1	5/25/23 13:30
1,2-Dichloropropane		ND	U	0.267	1.00	ug/L	1	5/25/23 13:30
1,3-Dichlorobenzene		ND	U	0.287	1.00	ug/L	1	5/25/23 13:30
1,4-Dichlorobenzene		ND	U	0.238	1.00	ug/L	1	5/25/23 13:30
2-Butanone		ND	U	10.0	10.0	ug/L	1	5/25/23 13:30
2-Hexanone	UJ, RC:SL	ND	U	0.635	2.00	ug/L	1	5/25/23 13:30
4-Methyl-2-pentanone		ND	U	0.638	2.00	ug/L	1	5/25/23 13:30
Acetone		ND	U	10.0	10.0	ug/L	1	5/25/23 13:30
Benzene		ND	U	0.129	1.00	ug/L	1	5/25/23 13:30
Bromochloromethane		ND	U	0.307	1.00	ug/L	1	5/25/23 13:30
Bromodichloromethane		ND	U	0.258	1.00	ug/L	1	5/25/23 13:30
Bromoform		ND	U	0.421	1.00	ug/L	1	5/25/23 13:30
Bromomethane	UJ, RC:6L,SL	ND	U	0.702	10.0	ug/L	1	5/25/23 13:30
Carbon disulfide		ND	U	0.477	1.00	ug/L	1	5/25/23 13:30
Carbon Tetrachloride		ND	U	0.372	1.00	ug/L	1	5/25/23 13:30
Chlorobenzene		ND	U	0.300	1.00	ug/L	1	5/25/23 13:30
Chlorodibromomethane		ND	U	0.504	1.00	ug/L	1	5/25/23 13:30
Chloroethane		ND	U	0.299	2.00	ug/L	1	5/25/23 13:30
Chloroform		ND	U	0.365	1.00	ug/L	1	5/25/23 13:30
Chloromethane		ND	U	0.758	1.00	ug/L	1	5/25/23 13:30
cis-1,2-Dichloroethene		ND	U	0.352	1.00	ug/L	1	5/25/23 13:30
cis-1,3-Dichloropropene		ND	U	0.294	1.00	ug/L	1	5/25/23 13:30
Cyclohexane		ND	U	0.298	2.00	ug/L	1	5/25/23 13:30
Dichlorodifluoromethane		ND	U	0.328	2.00	ug/L	1	5/25/23 13:30
EthylBenzene		ND	U	0.244	1.00	ug/L	1	5/25/23 13:30
Isopropylbenzene		ND	U	0.275	1.00	ug/L	1	5/25/23 13:30
m+p-Xylenes		ND	U	0.461	2.00	ug/L	1	5/25/23 13:30
Methyl Acetate		ND	U	0.373	1.00	ug/L	1	5/25/23 13:30
Methyl tert-Butyl Ether		ND	U	0.596	1.00	ug/L	1	5/25/23 13:30
Methylcyclohexane		ND	U	0.222	1.00	ug/L	1	5/25/23 13:30
Methylene Chloride		ND	U	3.00	3.00	ug/L	1	5/25/23 13:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-05 (Ground Water) Sample Name: FB_20230517 Collected: 5/17/2023 12:45:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene		ND	U	0.244	1.00	ug/L	1	5/25/23 13:30
Styrene		ND	U	0.176	1.00	ug/L	1	5/25/23 13:30
tert-Butyl alcohol	UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	5/25/23 13:30
Tetrachloroethene		ND	U	0.466	1.00	ug/L	1	5/25/23 13:30
Toluene		ND	U	0.205	1.00	ug/L	1	5/25/23 13:30
Total Xylenes		ND	U	0.244	1.00	ug/L	1	5/25/23 13:30
trans-1,2-Dichloroethene		ND	U	0.241	1.00	ug/L	1	5/25/23 13:30
trans-1,3-Dichloropropene		ND	U	0.279	1.00	ug/L	1	5/25/23 13:30
Trichloroethene		ND	U	0.146	1.00	ug/L	1	5/25/23 13:30
Trichlorofluoromethane		ND	U	0.413	1.00	ug/L	1	5/25/23 13:30
Vinyl chloride		ND	U	0.157	1.00	ug/L	1	5/25/23 13:30

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/24/23 16:53

23E0866-06 (Ground Water) Sample Name: TB_20230517 Collected: 5/17/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane		ND	U	0.216	1.00	ug/L	1	5/18/23 13:12
1,1,2,2-Tetrachloroethane		ND	U	0.218	1.00	ug/L	1	5/18/23 13:12
1,1,2-Trichloro-1,2,2 Trifluoroethane		ND	U	0.546	1.00	ug/L	1	5/18/23 13:12
1,1,2-Trichloroethane		ND	U	0.476	1.00	ug/L	1	5/18/23 13:12
1,1-Dichloroethane		ND	U	0.393	1.00	ug/L	1	5/18/23 13:12
1,1-Dichloroethene		ND	U	0.149	1.00	ug/L	1	5/18/23 13:12
1,2,3-Trichlorobenzene		ND	U	0.488	1.00	ug/L	1	5/18/23 13:12
1,2,4-Trichlorobenzene		ND	U	0.437	1.00	ug/L	1	5/18/23 13:12
1,2,4-Trimethylbenzene	UJ, RC:Q,SL	ND	U	0.155	1.00	ug/L	1	5/18/23 13:12
1,2-Dibromo-3-chloropropane		ND	U	1.09	2.00	ug/L	1	5/18/23 13:12
1,2-Dibromoethane		ND	U	0.320	1.00	ug/L	1	5/18/23 13:12
1,2-Dichlorobenzene		ND	U	0.210	1.00	ug/L	1	5/18/23 13:12
1,2-Dichloroethane		ND	U	0.306	1.00	ug/L	1	5/18/23 13:12
1,2-Dichloropropane		ND	U	0.267	1.00	ug/L	1	5/18/23 13:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-06 (Ground Water) Sample Name: **TB_20230517** Collected: **5/17/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,3-Dichlorobenzene		ND	U	0.287	1.00	ug/L	1	5/18/23 13:12
1,4-Dichlorobenzene		ND	U	0.238	1.00	ug/L	1	5/18/23 13:12
2-Butanone		ND	U	10.0	10.0	ug/L	1	5/18/23 13:12
2-Hexanone		ND	U	0.635	2.00	ug/L	1	5/18/23 13:12
4-Methyl-2-pentanone	UJ, RC:SL	ND	U	0.638	2.00	ug/L	1	5/18/23 13:12
Acetone		ND	U	10.0	10.0	ug/L	1	5/18/23 13:12
Benzene		ND	U	0.129	1.00	ug/L	1	5/18/23 13:12
Bromochloromethane		ND	U	0.307	1.00	ug/L	1	5/18/23 13:12
Bromodichloromethane		ND	U	0.258	1.00	ug/L	1	5/18/23 13:12
Bromoform		ND	U	0.421	1.00	ug/L	1	5/18/23 13:12
Bromomethane		ND	U	0.702	10.0	ug/L	1	5/18/23 13:12
Carbon disulfide		ND	U	0.477	1.00	ug/L	1	5/18/23 13:12
Carbon Tetrachloride		ND	U	0.372	1.00	ug/L	1	5/18/23 13:12
Chlorobenzene		ND	U	0.300	1.00	ug/L	1	5/18/23 13:12
Chlorodibromomethane		ND	U	0.504	1.00	ug/L	1	5/18/23 13:12
Chloroethane		ND	U	0.299	2.00	ug/L	1	5/18/23 13:12
Chloroform		ND	U	0.365	1.00	ug/L	1	5/18/23 13:12
Chloromethane	UJ, RC:SL	ND	U	0.758	1.00	ug/L	1	5/18/23 13:12
cis-1,2-Dichloroethene		ND	U	0.352	1.00	ug/L	1	5/18/23 13:12
cis-1,3-Dichloropropene		ND	U	0.294	1.00	ug/L	1	5/18/23 13:12
Cyclohexane		ND	U	0.298	2.00	ug/L	1	5/18/23 13:12
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.328	2.00	ug/L	1	5/18/23 13:12
EthylBenzene		ND	U	0.244	1.00	ug/L	1	5/18/23 13:12
Isopropylbenzene		ND	U	0.275	1.00	ug/L	1	5/18/23 13:12
m+p-Xylenes		ND	U	0.461	2.00	ug/L	1	5/18/23 13:12
Methyl Acetate		ND	U	0.373	1.00	ug/L	1	5/18/23 13:12
Methyl tert-Butyl Ether		ND	U	0.596	1.00	ug/L	1	5/18/23 13:12
Methylcyclohexane		ND	U	0.222	1.00	ug/L	1	5/18/23 13:12
Methylene Chloride		ND	U	3.00	3.00	ug/L	1	5/18/23 13:12
o-Xylene		ND	U	0.244	1.00	ug/L	1	5/18/23 13:12
Styrene		ND	U	0.176	1.00	ug/L	1	5/18/23 13:12
tert-Butyl alcohol		ND	U	8.17	10.0	ug/L	1	5/18/23 13:12
Tetrachloroethene		ND	U	0.466	1.00	ug/L	1	5/18/23 13:12
Toluene		ND	U	0.205	1.00	ug/L	1	5/18/23 13:12
Total Xylenes		ND	U	0.244	1.00	ug/L	1	5/18/23 13:12
trans-1,2-Dichloroethene		ND	U	0.241	1.00	ug/L	1	5/18/23 13:12
trans-1,3-Dichloropropene		ND	U	0.279	1.00	ug/L	1	5/18/23 13:12
Trichloroethene		ND	U	0.146	1.00	ug/L	1	5/18/23 13:12
Trichlorofluoromethane		ND	U	0.413	1.00	ug/L	1	5/18/23 13:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates **Work Order:** 23E0866
Project: Owls Head Phase 2 **Date to Lab:** 5/17/2023 4:58:00PM

23E0866-06 (Ground Water) Sample Name: **TB_20230517** Collected: **5/17/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/18/23 13:12

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-20230517** Collected: **5/17/2023 1:55:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00578	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1221	ND	U	0.0114	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1232	ND	U	0.0145	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1242	ND	U	0.00846	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1248	ND	U	0.00885	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1254	ND	U	0.00695	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1260	ND	U	0.00539	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1262	ND	U	0.0116	0.0431	mg/kg	1	6/1/23 22:35
Aroclor-1268	ND	U	0.00521	0.0431	mg/kg	1	6/1/23 22:35
Total PCBs	ND	U	0.00402	0.0431	mg/kg	1	6/1/23 22:35

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0128	0.131	mg/kg	1	6/3/23 14:49
2,4-D	ND	U	0.0217	0.131	mg/kg	1	6/3/23 14:49

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**6.71**		**0.00653**	**0.0261**	**mg/kg**	**1**	**5/18/23 12:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4210**		**0.198**	**3.33**	**mg/kg**	**1**	**5/31/23 12:54**
Antimony	**7.17**		**0.181**	**1.66**	**mg/kg**	**1**	**5/31/23 12:54**
Arsenic	**7.49**		**0.119**	**1.66**	**mg/kg**	**1**	**5/31/23 12:54**
Barium	**107**		**0.0503**	**0.666**	**mg/kg**	**1**	**5/31/23 12:54**
Beryllium	**1.14**		**0.00386**	**0.0333**	**mg/kg**	**1**	**5/31/23 12:54**
Cadmium	**1.02**		**0.0649**	**0.333**	**mg/kg**	**1**	**5/31/23 12:54**

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-202 30517** Collected: **5/17/2023 1:55:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	**8990**		**3.75**	**33.3**	**mg/kg**	**1**	**5/31/23 12:54**
Chromium	**27.0**		**0.0376**	**0.333**	**mg/kg**	**1**	**5/31/23 12:54**
Cobalt	**6.79**		**0.0340**	**0.266**	**mg/kg**	**1**	**5/31/23 12:54**
Copper	**125**		**0.0932**	**0.333**	**mg/kg**	**1**	**5/31/23 12:54**
Iron	**14100**		**0.943**	**6.66**	**mg/kg**	**1**	**5/31/23 12:54**
Lead	**491**		**0.139**	**1.66**	**mg/kg**	**1**	**5/31/23 12:54**
Magnesium	**2480**		**11.8**	**66.6**	**mg/kg**	**1**	**5/31/23 12:54**
Manganese	**122**		**0.0414**	**0.333**	**mg/kg**	**1**	**5/31/23 12:54**
Nickel	**23.7**		**0.0292**	**0.166**	**mg/kg**	**1**	**5/31/23 12:54**
Potassium	**816**		**39.6**	**133**	**mg/kg**	**1**	**5/31/23 12:54**
Selenium	ND	U	0.320	1.66	mg/kg	1	5/31/23 12:54
Silver	ND	U	0.0566	0.200	mg/kg	1	5/31/23 12:54
Sodium	**3540**		**6.35**	**66.6**	**mg/kg**	**1**	**5/31/23 12:54**
Thallium	ND	U	0.112	1.66	mg/kg	1	5/31/23 12:54
Vanadium	**19.9**		**0.0766**	**0.666**	**mg/kg**	**1**	**5/31/23 12:54**
Zinc	**177**		**0.102**	**0.999**	**mg/kg**	**1**	**5/31/23 12:54**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	J, RC:3H,6L	**0.00892**		**0.000777**	**0.00170**	**mg/kg**	**1**	**5/25/23 23:55**
4,4'-DDE	J, RC:6L	**0.00915**		**0.000928**	**0.00170**	**mg/kg**	**1**	**5/25/23 23:55**
4,4'-DDT [2C]	J, RC:3H	**0.00497**		**0.00120**	**0.00170**	**mg/kg**	**1**	**5/25/23 23:55**
Aldrin		ND	U	0.000804	0.00170	mg/kg	1	5/25/23 23:55
alpha-BHC	UJ, RC:6L	ND	U	0.000505	0.00170	mg/kg	1	5/25/23 23:55
beta-BHC	UJ, RC:6L	ND	U	0.000811	0.00170	mg/kg	1	5/25/23 23:55
Chlordane		ND	U	0.000754	0.00170	mg/kg	1	5/25/23 23:55
delta-BHC		ND	U	0.000788	0.00170	mg/kg	1	5/25/23 23:55
Dieldrin		ND	U	0.000888	0.00170	mg/kg	1	5/25/23 23:55
Endosulfan I		ND	U	0.000801	0.00170	mg/kg	1	5/25/23 23:55
Endosulfan II	UJ, RC:6L	ND	U	0.000771	0.00170	mg/kg	1	5/25/23 23:55
Endosulfan sulfate		ND	U	0.000638	0.00170	mg/kg	1	5/25/23 23:55
Endosulfans, Total (alpha and beta)		ND	U	0.000771	0.00170	mg/kg	1	5/25/23 23:55
Endrin		ND	U	0.000586	0.00170	mg/kg	1	5/25/23 23:55
Endrin aldehyde		ND	U	0.000676	0.00170	mg/kg	1	5/25/23 23:55
Endrin ketone		ND	U	0.000598	0.00170	mg/kg	1	5/25/23 23:55
gamma-BHC (Lindane)		ND	U	0.000538	0.00170	mg/kg	1	5/25/23 23:55
Heptachlor		ND	U	0.000454	0.00170	mg/kg	1	5/25/23 23:55

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-202 30517** Collected: **5/17/2023 1:55:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor Epoxide	ND	U	0.000856	0.00170	mg/kg	1	5/25/23 23:55
Methoxychlor	ND	U	0.000497	0.00170	mg/kg	1	5/25/23 23:55
Toxaphene	ND	U	0.0817	0.0861	mg/kg	1	5/25/23 23:55

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane		ND	U	0.00491	0.0435	mg/kg	1	5/25/23 19:45
2,3,4,6-Tetrachlorophenol		ND	U	0.0268	0.174	mg/kg	1	5/25/23 19:45
2,4,5-Trichlorophenol		ND	U	0.0236	0.174	mg/kg	1	5/25/23 19:45
2,4,6-Trichlorophenol		ND	U	0.0109	0.174	mg/kg	1	5/25/23 19:45
2,4-Dichlorophenol		ND	U	0.0175	0.174	mg/kg	1	5/25/23 19:45
2,4-Dimethylphenol	J, RC:6H	**0.524**		**0.0171**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
2,4-Dinitrophenol	UJ, RC:Q	ND	U	0.0251	0.871	mg/kg	1	5/25/23 19:45
2,4-Dinitrotoluene		ND	U	0.0185	0.174	mg/kg	1	5/25/23 19:45
2,6-Dinitrotoluene		ND	U	0.0415	0.174	mg/kg	1	5/25/23 19:45
2-Chloronaphthalene		ND	U	0.0200	0.174	mg/kg	1	5/25/23 19:45
2-Chlorophenol		ND	U	0.0230	0.174	mg/kg	1	5/25/23 19:45
2-Methylnaphthalene		**0.616**		**0.0416**	**0.261**	**mg/kg**	**1**	**5/25/23 19:45**
2-Methylphenol		ND	U	0.0343	0.174	mg/kg	1	5/25/23 19:45
2-Nitroaniline		ND	U	0.0140	0.174	mg/kg	1	5/25/23 19:45
2-Nitrophenol		ND	U	0.0193	0.174	mg/kg	1	5/25/23 19:45
3,3'-Dichlorobenzidine		ND	U	0.0183	0.174	mg/kg	1	5/25/23 19:45
3+4-Methylphenol		**0.500**		**0.0318**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
3-Nitroaniline		ND	U	0.0322	0.174	mg/kg	1	5/25/23 19:45
4,6-Dinitro-2-methylphenol		ND	U	0.0328	0.435	mg/kg	1	5/25/23 19:45
4-Bromophenyl-phenyl ether		ND	U	0.0248	0.174	mg/kg	1	5/25/23 19:45
4-Chloro-3-methylphenol		ND	U	0.0274	0.174	mg/kg	1	5/25/23 19:45
4-Chloroaniline		ND	U	0.00608	0.174	mg/kg	1	5/25/23 19:45
4-Chlorophenyl phenyl ether		ND	U	0.00938	0.174	mg/kg	1	5/25/23 19:45
4-Nitroaniline		ND	U	0.0869	0.174	mg/kg	1	5/25/23 19:45
4-Nitrophenol		ND	U	0.0111	0.174	mg/kg	1	5/25/23 19:45
Acenaphthene		**3.51**		**0.00991**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Acenaphthylene		**0.989**		**0.00604**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Acetophenone		ND	U	0.0172	0.174	mg/kg	1	5/25/23 19:45
Anthracene		**5.54**		**0.0252**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Atrazine		ND	U	0.0163	0.174	mg/kg	1	5/25/23 19:45
Benzaldehyde	UJ, RC:SL	ND	U	0.0534	0.174	mg/kg	1	5/25/23 19:45
Benzo(a)anthracene		**4.52**		**0.0175**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-202 30517** Collected: **5/17/2023 1:55:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)pyrene	**4.54**		**0.0303**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Benzo(b)fluoranthene	**5.51**		**0.0244**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Benzo(g,h,i)perylene	**3.94**		**0.0141**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Benzo(k)fluoranthene	**2.40**		**0.0200**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Biphenyl	ND	U	0.0153	0.174	mg/kg	1	5/25/23 19:45
bis(2-chloroethoxy)methane	ND	U	0.0240	0.174	mg/kg	1	5/25/23 19:45
bis(2-chloroethyl)ether	ND	U	0.0191	0.174	mg/kg	1	5/25/23 19:45
bis(2-chloroisopropyl)ether	ND	U	0.0625	0.174	mg/kg	1	5/25/23 19:45
bis(2-ethylhexyl)phthalate	ND	U	0.0347	0.174	mg/kg	1	5/25/23 19:45
Butylbenzylphthalate	ND	U	0.0158	0.174	mg/kg	1	5/25/23 19:45
Caprolactam	ND	U	0.0225	0.174	mg/kg	1	5/25/23 19:45
Carbazole	**0.828**		**0.0334**	**0.435**	**mg/kg**	**1**	**5/25/23 19:45**
Chrysene	**4.57**		**0.0119**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Dibenzo(a,h)anthracene	**0.999**		**0.0172**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Dibenzofuran	**1.49**		**0.0104**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Diethylphthalate	ND	U	0.0337	0.174	mg/kg	1	5/25/23 19:45
Dimethylphthalate	ND	U	0.0108	0.174	mg/kg	1	5/25/23 19:45
Di-n-butylphthalate	ND	U	0.0710	0.174	mg/kg	1	5/25/23 19:45
Di-n-octylphthalate	ND	U	0.0356	0.174	mg/kg	1	5/25/23 19:45
Fluoranthene	**9.94**		**0.0163**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Fluorene	**2.11**		**0.0145**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Hexachlorobenzene	ND	U	0.0227	0.174	mg/kg	1	5/25/23 19:45
Hexachlorobutadiene	ND	U	0.0834	0.174	mg/kg	1	5/25/23 19:45
Hexachlorocyclopentadiene UJ, RC:SL	ND	U	0.0724	0.435	mg/kg	1	5/25/23 19:45
Hexachloroethane	ND	U	0.0191	0.174	mg/kg	1	5/25/23 19:45
Indeno(1,2,3-cd)pyrene	**2.84**		**0.0187**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Isophorone	ND	U	0.0114	0.174	mg/kg	1	5/25/23 19:45
Naphthalene	**2.25**		**0.0129**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Nitrobenzene	ND	U	0.0295	0.174	mg/kg	1	5/25/23 19:45
n-Nitroso-di-n-propylamine	ND	U	0.00931	0.174	mg/kg	1	5/25/23 19:45
n-Nitrosodiphenylamine	ND	U	0.0371	0.174	mg/kg	1	5/25/23 19:45
Pentachlorophenol	ND	U	0.0239	0.435	mg/kg	1	5/25/23 19:45
Phenanthrene	**7.31**		**0.0228**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**
Phenol	ND	U	0.0141	0.174	mg/kg	1	5/25/23 19:45
Pyrene	**9.80**		**0.0128**	**0.174**	**mg/kg**	**1**	**5/25/23 19:45**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-202 30517** Collected: **5/17/2023 1:55:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, [1-(methoxymethoxy)-2-propynyl]	1.20	9.05	J	mg/kg	1	5/25/23 19:45
Benzene, 1-methyl-4-[(2-methylpropyl)thi	1.19	10.09	J	mg/kg	1	5/25/23 19:45
Cycloeicosane	1.32	13.04	J	mg/kg	1	5/25/23 19:45
Cyclohexadecane	3.02	13.88	J	mg/kg	1	5/25/23 19:45
Indolizine	1.22	7.82	J	mg/kg	1	5/25/23 19:45
Tricyclo[8.2.2.2(4,7)]hexadeca-2,4,6,8,1	1.45	11.26	J	mg/kg	1	5/25/23 19:45
unknown (01)	1.16	9.67	J	mg/kg	1	5/25/23 19:45
unknown (02)	1.63	10.37	J	mg/kg	1	5/25/23 19:45
unknown (03)	1.37	10.97	J	mg/kg	1	5/25/23 19:45
unknown (04)	1.62	11.00	J	mg/kg	1	5/25/23 19:45
unknown (05)	1.23	11.05	J	mg/kg	1	5/25/23 19:45
unknown (06)	4.96	11.10	J	mg/kg	1	5/25/23 19:45
unknown (07)	1.46	11.80	J	mg/kg	1	5/25/23 19:45
unknown (08)	1.76	12.48	J	mg/kg	1	5/25/23 19:45
unknown (09)	4.84	15.33	J	mg/kg	1	5/25/23 19:45
TIC Total	**29.4**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000762	0.00522	mg/kg	1	5/19/23 23:06
1,1,2,2-Tetrachloroethane	ND	U	0.000721	0.00522	mg/kg	1	5/19/23 23:06
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00223	0.00522	mg/kg	1	5/19/23 23:06
1,1,2-Trichloroethane	ND	U	0.000880	0.00522	mg/kg	1	5/19/23 23:06
1,1-Dichloroethane	ND	U	0.000762	0.00522	mg/kg	1	5/19/23 23:06
1,1-Dichloroethene	ND	U	0.000966	0.00522	mg/kg	1	5/19/23 23:06
1,2,3-Trichlorobenzene UJ, RC:Q	ND	U	0.00113	0.00522	mg/kg	1	5/19/23 23:06
1,2,4-Trichlorobenzene	ND	U	0.00139	0.00522	mg/kg	1	5/19/23 23:06
1,2,4-Trimethylbenzene	ND	U	0.000721	0.00522	mg/kg	1	5/19/23 23:06
1,2-Dibromo-3-chloropropane UJ, RC:SL	ND	U	0.00127	0.00522	mg/kg	1	5/19/23 23:06
1,2-Dibromoethane	ND	U	0.000658	0.00522	mg/kg	1	5/19/23 23:06
1,2-Dichlorobenzene	ND	U	0.000922	0.00522	mg/kg	1	5/19/23 23:06
1,2-Dichloroethane	ND	U	0.000736	0.00522	mg/kg	1	5/19/23 23:06
1,2-Dichloropropane	ND	U	0.000856	0.00522	mg/kg	1	5/19/23 23:06
1,3-Dichlorobenzene	ND	U	0.000384	0.00522	mg/kg	1	5/19/23 23:06
1,4-Dichlorobenzene	ND	U	0.000752	0.00522	mg/kg	1	5/19/23 23:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0866
Date to Lab: 5/17/2023 4:58:00PM

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-202 30517** Collected: **5/17/2023 1:55:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Butanone		ND	U	0.000851	0.0131	mg/kg	1	5/19/23 23:06
2-Hexanone		ND	U	0.000488	0.00522	mg/kg	1	5/19/23 23:06
4-Methyl-2-pentanone		ND	U	0.000653	0.00522	mg/kg	1	5/19/23 23:06
Acetone	J, RC:6H	**0.364**		**0.00158**	**0.0131**	**mg/kg**	**1**	**5/19/23 23:06**
Benzene		ND	U	0.000475	0.00522	mg/kg	1	5/19/23 23:06
Bromochloromethane		ND	U	0.000963	0.00522	mg/kg	1	5/19/23 23:06
Bromodichloromethane		ND	U	0.000655	0.00522	mg/kg	1	5/19/23 23:06
Bromoform		ND	U	0.000916	0.00522	mg/kg	1	5/19/23 23:06
Bromomethane		ND	U	0.00151	0.00522	mg/kg	1	5/19/23 23:06
Carbon disulfide		ND	U	0.000749	0.00522	mg/kg	1	5/19/23 23:06
Carbon Tetrachloride		ND	U	0.000786	0.00522	mg/kg	1	5/19/23 23:06
Chlorobenzene		ND	U	0.000757	0.00522	mg/kg	1	5/19/23 23:06
Chlorodibromomethane		ND	U	0.000642	0.00522	mg/kg	1	5/19/23 23:06
Chloroethane		ND	U	0.000890	0.00522	mg/kg	1	5/19/23 23:06
Chloroform		ND	U	0.000877	0.00522	mg/kg	1	5/19/23 23:06
Chloromethane		ND	U	0.00201	0.00522	mg/kg	1	5/19/23 23:06
cis-1,2-Dichloroethene		ND	U	0.000252	0.00522	mg/kg	1	5/19/23 23:06
cis-1,3-Dichloropropene		ND	U	0.000660	0.00522	mg/kg	1	5/19/23 23:06
Cyclohexane		ND	U	0.00116	0.00522	mg/kg	1	5/19/23 23:06
Dichlorodifluoromethane	UJ, RC:SL	ND	U	0.00176	0.00522	mg/kg	1	5/19/23 23:06
EthylBenzene		ND	U	0.000707	0.00522	mg/kg	1	5/19/23 23:06
Isopropylbenzene		ND	U	0.000820	0.00522	mg/kg	1	5/19/23 23:06
m+p-Xylenes		ND	U	0.00132	0.0104	mg/kg	1	5/19/23 23:06
Methyl Acetate	UJ, RC:Q	ND	U	0.000692	0.00522	mg/kg	1	5/19/23 23:06
Methyl tert-Butyl Ether		ND	U	0.000882	0.00522	mg/kg	1	5/19/23 23:06
Methylcyclohexane		ND	U	0.000841	0.00522	mg/kg	1	5/19/23 23:06
Methylene Chloride		ND	U	0.00157	0.00522	mg/kg	1	5/19/23 23:06
o-Xylene		ND	U	0.000671	0.00522	mg/kg	1	5/19/23 23:06
Styrene		ND	U	0.000747	0.00522	mg/kg	1	5/19/23 23:06
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.0110	0.0522	mg/kg	1	5/19/23 23:06
Tetrachloroethene		ND	U	0.000517	0.00522	mg/kg	1	5/19/23 23:06
Toluene		ND	U	0.000420	0.00522	mg/kg	1	5/19/23 23:06
Total Xylenes		ND	U	0.000671	0.00522	mg/kg	1	5/19/23 23:06
trans-1,2-Dichloroethene		ND	U	0.000707	0.00522	mg/kg	1	5/19/23 23:06
trans-1,3-Dichloropropene		ND	U	0.000997	0.00522	mg/kg	1	5/19/23 23:06
Trichloroethene		ND	U	0.000767	0.00522	mg/kg	1	5/19/23 23:06
Trichlorofluoromethane		ND	U	0.000600	0.00522	mg/kg	1	5/19/23 23:06
Vinyl chloride		ND	U	0.000992	0.00522	mg/kg	1	5/19/23 23:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client:	Yu & Associates	**Work Order:**	23E0866
Project:	Owls Head Phase 2	**Date to Lab:**	5/17/2023 4:58:00PM

23E0866-07 (Soil) Sample Name: **OH-SB-18-3.5-4.5-202 30517** Collected: **5/17/2023 1:55:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Butanol, 2-methyl-	0.0243	11.12	J	mg/kg	1	5/19/23 23:06
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	0.0253	11.64	J	mg/kg	1	5/19/23 23:06
TIC Total	**0.050**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**76.6**				**%**	**1**	**5/18/23 11:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**7.02**	D	**0.0332**	**0.278**	**mg/kg**	**4**	**5/18/23 16:54**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2327930

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Project Name: 23E0866
Project Number: 23E0866

Lab Number: L2327930
Report Date: 10/23/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2327930-01	OH-SB-14-1.0-2.0-20230517	SOIL	Not Specified	05/17/23 08:35	05/18/23
L2327930-02	OH-SB-14-7.7-8.7-20230517	SOIL	Not Specified	05/17/23 09:55	05/18/23
L2327930-03	OH-SB-19-3.5-4.5-20230517	SOIL	Not Specified	05/17/23 11:11	05/18/23
L2327930-04	OH-SB-19-5.5-6.5-20230517	SOIL	Not Specified	05/17/23 11:35	05/18/23
L2327930-05	OH-SB-18-3.5-4.5-20230517	SOIL	Not Specified	05/17/23 13:55	05/18/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Revision

October 23, 2023: The Client IDs were amended on L2327930-01 through -05.

Report Submission

June 16, 2023: This final report includes the results of all requested analyses.

June 02, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Alkylated PAHs

The WG1782800-1 Method Blank, associated with L2327930-01, -02D, -03, -04, and -05, has a concentration above the reporting limit for Naphthalene. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 10/23/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2327930

Account Name : Aqua Pro-Tech Laboratories
Project Number : 23E0866
Project Name : 23E0866

Received : 18-MAY-2023
Reviewer : Taryn Dellicker

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	3.3	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Oct 25 2023, 06:18 pm

Login Number: L2327930
Account: AQUAPROTECH Aqua Pro-Tech LaboratoriesProject: 23E0866
Received: 18MAY23 Due Date: 16JUN23

Sample #	Client ID	Mat	PR	Collected
L2327930-01	OH-SB-14-1.0-2.0-20230517	3	S0	17MAY23 08:35

8270- reporting list created ASP-B Package Due Date: 10/25/23

A2-ALKPAH,A2-TS,ASP-B,FCN

L2327930-02	OH-SB-14-7.7-8.7-20230517	3	S0	17MAY23 09:55

8270- reporting list created Package Due Date: 10/25/23

A2-ALKPAH,A2-TS,FCN

L2327930-03	OH-SB-19-3.5-4.5-20230517	3	S0	17MAY23 11:11

8270- reporting list created Package Due Date: 10/25/23

A2-ALKPAH,A2-TS,FCN

L2327930-04	OH-SB-19-5.5-6.5-20230517	3	S0	17MAY23 11:35

8270- reporting list created Package Due Date: 10/25/23

A2-ALKPAH,A2-TS,FCN

L2327930-05	OH-SB-18-3.5-4.5-20230517	3	S0	17MAY23 13:55

8270- reporting list created Package Due Date: 10/25/23

A2-ALKPAH,A2-TS,FCN

Logged By: Melissa Sturgis

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

SUBCONTRACT ORDER

L2337930

NY State Category B

SENDING LABORATORY:

Aqua Pro-Tech Laboratories
1275 Bloomfield Ave, Bldg 6
Fairfield, NJ 07004
Phone: (973) 227-0422
Fax: (973) 227-2183

Project Mgr: Tom Cady
Email: tcady@aquaprotechlabs.com
Send Invoice to: AP@AquaProTechLabs.com
Send Report to: Reporting@AquaProTechLabs.com

RECEIVING LABORATORY:

Alpha Analytical- Mahwah Service Cente
35 Whitney Road, Suite 5
Mahwah, NJ 07430
Phone: (201) 847-9100
Fax:

Turn-Around Time
- [X] APL Standard 2 Weeks
- [ ] Rush (Choose One Below)
  - [ ] 24 Hr.
  - [ ] 48 Hr.
  - [ ] 72 Hr.
  - [ ] 1 Week
- [ ] **Other (provide Date/Time)

Date _____ Time _____
**May Need Lab Approval

Report / Electronic Format
- [ ] Results Only
- [ ] NJ DEP Reduced
- [ ] NJ DEP Full
- [ ] State Forms/E2 Reporting
- [ ] Email Delivery
- [ ] Hazsite EDD
- [ ] Excel

PWSID # _____ SRP# _____

APL Order ID: 23E0866

Laboratory ID	APL Lab ID	Sampled	SampleType	Matrix	Analysis Requested	[Comments]
	23E0866-01	05/17/2023 08:35	Grab	S	Alk PAH & Free Cyanide [Alk PAH & Free Cyanide]	
	Sample Name/Location: OH-SB-14-1.0-2.0-20230517				*Containers Supplied:* Subcontract Container (E)	
	Comments:					
	23E0866-02	05/17/2023 09:55	Grab	S	Alk PAH & Free Cyanide [Alk PAH & Free Cyanide]	
	Sample Name/Location: OH-SB-14-7.7-8.7-20230517				*Containers Supplied:* Subcontract Container (E)	
	Comments:					
	23E0866-03	05/17/2023 11:11	Grab	S	Alk PAH & Free Cyanide [Alk PAH & Free Cyanide]	
	Sample Name/Location: OH-SB-19-3.5-4.5-20230517				*Containers Supplied:* Subcontract Container (E)	
	Comments:					
	23E0866-04	05/17/2023 11:35	Grab	S	Alk PAH & Free Cyanide [Alk PAH & Free Cyanide]	
	Sample Name/Location: OH-SB-19-5.5-6.5-20230517				*Containers Supplied:* Subcontract Container (E)	
	Comments:					

Released By _____ Date / Time 5/18/23 1635 Received By _____ (AAL) Date / Time 5/18/23 1640

Released By _____ (AAL) Date / Time 5/18/23 1800 Received By _____ Date / Time 5/18/23 1830
5/18/23. 5/18/23 22:00

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

SUBCONTRACT ORDER

L0327930

APL Order ID: 23E0866

Laboratory ID	APL Lab ID	Sampled	SampleType	Matrix	Analysis Requested	[Comments]
	23E0866-07	05/17/2023 13:55	Grab	S	Alk PAH & Free Cyanide [Alk PAH & Free Cyanide]	

Sample Name/Location: OH-SB-18-3.5-4.5-20230517

Containers Supplied: Subcontract Container (E)

Comments:

Released By		Date / Time	5/18/23 1635	Received By	(AAL)	Date / Time	5/18/23 1640
Released By	(AAL)	Date / Time	5/18/23 1800	Received By	AAL	Date / Time	5/18/23 22:00

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2327930
Project Name	: 23E0866	Project Number	: 23E0866
Lab ID	: L2327930-01	Date Collected	: 05/17/23 08:35
Client ID	: OH-SB-14-1.0-2.0-20230517	Date Received	: 05/18/23
Sample Location	:	Date Analyzed	: 06/10/23 06:53
Sample Matrix	: SOIL	Date Extracted	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206092316	Analyst	: CNC
Sample Amount	: 2.52 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	169	32.3	9.28	
91-20-3C1	C1-Naphthalenes	114	32.3	9.28	
91-20-3C2	C2-Naphthalenes	191	32.3	9.28	
91-20-3C3	C3-Naphthalenes	221	32.3	9.28	
91-20-3C4	C4-Naphthalenes	214	32.3	9.28	
208-96-8	Acenaphthylene	219	32.3	6.16	J, RC:SL
83-32-9	Acenaphthene	64.9	32.3	5.69	J, RC:SL
86-73-7	Fluorene	67.2	32.3	8.62	
86-73-7C1	C1-Fluorenes	61.8	32.3	8.62	
86-73-7C2	C2-Fluorenes	224	32.3	8.62	
86-73-7C3	C3-Fluorenes	426	32.3	8.62	
85-01-8	Phenanthrene	935	32.3	10.7	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	703	32.3	10.7	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	656	32.3	10.7	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	436	32.3	10.7	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	261	32.3	10.7	
120-12-7	Anthracene	320	32.3	6.66	
206-44-0	Fluoranthene	1820	32.3	10.3	
129-00-0	Pyrene	1790	32.3	8.50	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1020	32.3	8.50	
56-55-3	Benz(a)anthracene	856	32.3	6.58	
218-01-9	Chrysene	986	32.3	6.53	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-01	**Date Collected**	: 05/17/23 08:35
Client ID	: OH-SB-14-1.0-2.0-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 06:53
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092316	**Analyst**	: CNC
Sample Amount	: 2.52 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	546	32.3	6.53	
218-01-9C2	C2-Chrysenes BS	378	32.3	6.53	
218-01-9C3	C3-Chrysenes	786	32.3	6.53	
218-01-9C4	C4-Chrysenes	757	32.3	6.53	
205-99-2	Benzo(b)fluoranthene	1020	32.3	8.40	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	995	32.3	6.41	
192-97-2	Benzo(e)pyrene	1050	32.3	6.66	
50-32-8	Benzo(a)pyrene	1170	32.3	9.22	
198-55-0	Perylene	363	32.3	6.23	
193-39-5	Indeno(1,2,3-cd)pyrene	1160	32.3	8.77	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	273	32.3	8.72	
191-24-2	Benzo(g,h,i)perylene	1680	32.3	8.58	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-02D	**Date Collected**	: 05/17/23 09:55
Client ID	: OH-SB-14-7.7-8.7-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/13/23 01:29
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F206122312	**Analyst**	: CNC
Sample Amount	: 15.51 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 52
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1830	29.9	8.60	
91-20-3C1	C1-Naphthalenes	461	29.9	8.60	
91-20-3C2	C2-Naphthalenes	1100	29.9	8.60	
91-20-3C3	C3-Naphthalenes	1560	29.9	8.60	
91-20-3C4	C4-Naphthalenes	997	29.9	8.60	
208-96-8	Acenaphthylene	904	29.9	5.71	
83-32-9	Acenaphthene	401	29.9	5.28	
86-73-7	Fluorene	1150	29.9	7.98	
86-73-7C1	C1-Fluorenes	1190	29.9	7.98	
86-73-7C2	C2-Fluorenes	1530	29.9	7.98	
86-73-7C3	C3-Fluorenes	1250	29.9	7.98	
85-01-8	Phenanthrene	11200	29.9	9.92	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	9650	29.9	9.92	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	6690	29.9	9.92	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	2700	29.9	9.92	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	874	29.9	9.92	
120-12-7	Anthracene	4300	29.9	6.17	
206-44-0	Fluoranthene	28000	29.9	9.51	
129-00-0	Pyrene	24100	29.9	7.87	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	16100	29.9	7.87	
56-55-3	Benz(a)anthracene	13800	29.9	6.10	
218-01-9	Chrysene	14500	29.9	6.05	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-02D	**Date Collected**	: 05/17/23 09:55
Client ID	: OH-SB-14-7.7-8.7-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/13/23 01:29
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F206122312	**Analyst**	: CNC
Sample Amount	: 15.51 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 52
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	6840	29.9	6.05	
218-01-9C2	C2-Chrysenes BS	3120	29.9	6.05	
218-01-9C3	C3-Chrysenes	2230	29.9	6.05	
218-01-9C4	C4-Chrysenes	1030	29.9	6.05	
205-99-2	Benzo(b)fluoranthene	11000	29.9	7.78	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	12100	29.9	5.94	
192-97-2	Benzo(e)pyrene	9180	29.9	6.18	
50-32-8	Benzo(a)pyrene	13800	29.9	8.54	
198-55-0	Perylene	3770	29.9	5.78	
193-39-5	Indeno(1,2,3-cd)pyrene	8420	29.9	8.12	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	2640	29.9	8.08	
191-24-2	Benzo(g,h,i)perylene	7970	29.9	7.95	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-03	**Date Collected**	: 05/17/23 11:11
Client ID	: OH-SB-19-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 09:48
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092318	**Analyst**	: CNC
Sample Amount	: 5.22 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 72
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	83.7	7.95	2.28	
91-20-3C1	C1-Naphthalenes	144	7.95	2.28	
91-20-3C2	C2-Naphthalenes	329	7.95	2.28	
91-20-3C3	C3-Naphthalenes	616	7.95	2.28	
91-20-3C4	C4-Naphthalenes	702	7.95	2.28	
208-96-8	Acenaphthylene	27.4	7.95	1.52	
83-32-9	Acenaphthene	16.3	7.95	1.40	
86-73-7	Fluorene	21.8	7.95	2.12	
86-73-7C1	C1-Fluorenes	101	7.95	2.12	
86-73-7C2	C2-Fluorenes	362	7.95	2.12	
86-73-7C3	C3-Fluorenes	458	7.95	2.12	
85-01-8	Phenanthrene	194	7.95	2.63	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	367	7.95	2.63	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	647	7.95	2.63	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	472	7.95	2.63	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	216	7.95	2.63	
120-12-7	Anthracene	39.9	7.95	1.64	
206-44-0	Fluoranthene	138	7.95	2.52	
129-00-0	Pyrene	176	7.95	2.09	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	195	7.95	2.09	
56-55-3	Benz(a)anthracene	77.7	7.95	1.62	
218-01-9	Chrysene	117	7.95	1.61	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-03	**Date Collected**	: 05/17/23 11:11
Client ID	: OH-SB-19-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 09:48
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092318	**Analyst**	: CNC
Sample Amount	: 5.22 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 72
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	133	7.95	1.61	
218-01-9C2	C2-Chrysenes BS	139	7.95	1.61	
218-01-9C3	C3-Chrysenes	197	7.95	1.61	
218-01-9C4	C4-Chrysenes	139	7.95	1.61	
205-99-2	Benzo(b)fluoranthene	95.7	7.95	2.07	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	75.6	7.95	1.58	
192-97-2	Benzo(e)pyrene	116	7.95	1.64	
50-32-8	Benzo(a)pyrene	93.2	7.95	2.27	
198-55-0	Perylene	42.4	7.95	1.53	
193-39-5	Indeno(1,2,3-cd)pyrene	104	7.95	2.16	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	27.2	7.95	2.15	
191-24-2	Benzo(g,h,i)perylene	173	7.95	2.11	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-04	**Date Collected**	: 05/17/23 11:35
Client ID	: OH-SB-19-5.5-6.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 11:15
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092319	**Analyst**	: CNC
Sample Amount	: 30.04 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 72
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	540	1.39	0.400	
91-20-3C1	C1-Naphthalenes	109	1.39	0.400	
91-20-3C2	C2-Naphthalenes	78.3	1.39	0.400	
91-20-3C3	C3-Naphthalenes	37.9	1.39	0.400	
91-20-3C4	C4-Naphthalenes	20.4	1.39	0.400	
208-96-8	Acenaphthylene	4.97	1.39	0.266	
83-32-9	Acenaphthene	474	1.39	0.246	
86-73-7	Fluorene	117	1.39	0.372	
86-73-7C1	C1-Fluorenes	30.2	1.39	0.372	
86-73-7C2	C2-Fluorenes	24.2	1.39	0.372	
86-73-7C3	C3-Fluorenes	26.1	1.39	0.372	
85-01-8	Phenanthrene	159	1.39	0.461	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	65.9	1.39	0.461	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	42.9	1.39	0.461	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	25.6	1.39	0.461	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	16.1	1.39	0.461	
120-12-7	Anthracene	49.4	1.39	0.287	
206-44-0	Fluoranthene	132	1.39	0.442	
129-00-0	Pyrene	146	1.39	0.366	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	85.8	1.39	0.366	
56-55-3	Benz(a)anthracene	52.5	1.39	0.284	
218-01-9	Chrysene	65.3	1.39	0.282	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-04	**Date Collected**	: 05/17/23 11:35
Client ID	: OH-SB-19-5.5-6.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 11:15
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092319	**Analyst**	: CNC
Sample Amount	: 30.04 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 72
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	35.9	1.39	0.282	
218-01-9C2	C2-Chrysenes BS	21.2	1.39	0.282	
218-01-9C3	C3-Chrysenes	18.0	1.39	0.282	
218-01-9C4	C4-Chrysenes	10.4	1.39	0.282	
205-99-2	Benzo(b)fluoranthene	60.9	1.39	0.362	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	48.0	1.39	0.276	
192-97-2	Benzo(e)pyrene	48.8	1.39	0.287	
50-32-8	Benzo(a)pyrene	60.1	1.39	0.398	
198-55-0	Perylene	17.1	1.39	0.269	
193-39-5	Indeno(1,2,3-cd)pyrene	42.8	1.39	0.378	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	11.0	1.39	0.376	
191-24-2	Benzo(g,h,i)perylene	44.1	1.39	0.370	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-05	**Date Collected**	: 05/17/23 13:55
Client ID	: OH-SB-18-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 12:43
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092320	**Analyst**	: CNC
Sample Amount	: 15.09 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 65
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1850	10.2	2.95	
91-20-3C1	C1-Naphthalenes	582	10.2	2.95	
91-20-3C2	C2-Naphthalenes	970	10.2	2.95	
91-20-3C3	C3-Naphthalenes	1770	10.2	2.95	
91-20-3C4	C4-Naphthalenes	1230	10.2	2.95	
208-96-8	Acenaphthylene	837	10.2	1.96	
83-32-9	Acenaphthene	2320	10.2	1.81	
86-73-7	Fluorene	1270	10.2	2.74	
86-73-7C1	C1-Fluorenes	1340	10.2	2.74	
86-73-7C2	C2-Fluorenes	1260	10.2	2.74	
86-73-7C3	C3-Fluorenes	1510	10.2	2.74	
85-01-8	Phenanthrene	6940	10.2	3.40	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	5360	10.2	3.40	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	3640	10.2	3.40	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1650	10.2	3.40	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	632	10.2	3.40	
120-12-7	Anthracene	4780	10.2	2.11	
206-44-0	Fluoranthene	12400	10.2	3.26	
129-00-0	Pyrene	12200	10.2	2.70	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	7240	10.2	2.70	
56-55-3	Benz(a)anthracene	4420	10.2	2.09	
218-01-9	Chrysene	4850	10.2	2.07	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-05	**Date Collected**	: 05/17/23 13:55
Client ID	: OH-SB-18-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 06/10/23 12:43
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092320	**Analyst**	: CNC
Sample Amount	: 15.09 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 65
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	2820	10.2	2.07	
218-01-9C2	C2-Chrysenes BS	1550	10.2	2.07	
218-01-9C3	C3-Chrysenes	1180	10.2	2.07	
218-01-9C4	C4-Chrysenes	673	10.2	2.07	
205-99-2	Benzo(b)fluoranthene	4190	10.2	2.67	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3670	10.2	2.04	
192-97-2	Benzo(e)pyrene	4130	10.2	2.12	
50-32-8	Benzo(a)pyrene	4580	10.2	2.93	
198-55-0	Perylene	1260	10.2	1.98	
193-39-5	Indeno(1,2,3-cd)pyrene	3660	10.2	2.78	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1010	10.2	2.77	
191-24-2	Benzo(g,h,i)perylene	4500	10.2	2.72	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: WG1782800-1	**Date Collected**	: NA
Client ID	: WG1782800-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/09/23 16:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2.98	1.00	0.287	
91-20-3C1	C1-Naphthalenes	0.393	1.00	0.287	J
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	ND	1.00	0.263	U
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: WG1782800-1	**Date Collected**	: NA
Client ID	: WG1782800-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/09/23 16:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/24/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206092306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-01	**Date Collected**	: 05/17/23 08:35
Client ID	: OH-SB-14-1.0-2.0-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-02	**Date Collected**	: 05/17/23 09:55
Client ID	: OH-SB-14-7.7-8.7-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 52
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.9	1.9	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-03	**Date Collected**	: 05/17/23 11:11
Client ID	: OH-SB-19-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 72
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-04	**Date Collected**	: 05/17/23 11:35
Client ID	: OH-SB-19-5.5-6.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 72
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-05	**Date Collected**	: 05/17/23 13:55
Client ID	: OH-SB-18-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 65
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.5	1.5	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: WG1784279-1	**Date Collected**	: NA
Client ID	: WG1784279-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: WG1784279-3	**Date Collected**	: 05/18/23 12:48
Client ID	: WG1784279-3 DUP	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: WG1784279_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-01	**Date Collected**	: 05/17/23 08:35
Client ID	: OH-SB-14-1.0-2.0-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/24/23 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1782967.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.9**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-02	**Date Collected**	: 05/17/23 09:55
Client ID	: OH-SB-14-7.7-8.7-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/24/23 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1782967.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 52
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**51.7**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-03	**Date Collected**	: 05/17/23 11:11
Client ID	: OH-SB-19-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/24/23 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1782967.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 72
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**72.3**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-04	**Date Collected**	: 05/17/23 11:35
Client ID	: OH-SB-19-5.5-6.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/24/23 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1782967.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 72
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**71.7**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: L2327930-05	**Date Collected**	: 05/17/23 13:55
Client ID	: OH-SB-18-3.5-4.5-20230517	**Date Received**	: 05/18/23
Sample Location	:	**Date Analyzed**	: 05/24/23 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1782967.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 65
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**64.6**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2327930
Project Name	: 23E0866	**Project Number**	: 23E0866
Lab ID	: WG1782967-1	**Date Collected**	: 05/09/23 14:30
Client ID	: WG1782967-1 DUP	**Date Received**	: 05/12/23
Sample Location	:	**Date Analyzed**	: 05/24/23 19:29
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: MSA
Lab File ID	: WG1782967.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 99
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**98.8**	**0.100**	**0.100**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2328286 and 23E0932
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 29, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-18-5.0-6.0-20230518	23E0932-01	5/18/2023	Soil
OH-SB-17-1.5-2.5-20230518	23E0932-02	5/18/2023	Soil
OH-SB-17-10.8-11.8-20230518	23E0932-03	5/18/2023	Soil
OH-SB-23-1.0-2.0-20230518	23E0932-04	5/18/2023	Soil
OH-SB-23-7.3-8.3-20230518	23E0932-05	5/18/2023	Soil
OH-SB-23-14.8-15.8-20230518	23E0932-06	5/18/2023	Soil
FB-20230518	23E0932-07	5/18/2023	Water
OH-SB-29-1.5-2.5-20230518	23E0932-08	5/18/2023	Soil
DUP-20230518	23E0932-09	5/18/2023	Soil
TB-20230518	23E0932-10	5/18/2023	Water

Data validation was performed on the analytical data for ten (10) samples collected May 18, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, surrogates, lab duplicates, serial dilution, matrix spike samples, laboratory control samples and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- The depth interval was logged in incorrectly and updated in the database and data validation report for the following Sample ID: “OH-SB-23-7.5-8.3-20230518” was updated to “OH-SB-23-7.3-8.3-20230518.”
- Sample FB-20230518 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	FB-20230518 TB-20230518	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230518 TB-20230518	Bromomethane	10% < %R < CL	J (Detects) UJ (NDs)	6L
	OH-SB-18-5.0-6.0-20230518 OH-SB-17-1.5-2.5-20230518 OH-SB-17-10.8-11.8-20230518 OH-SB-23-7.3-8.3-20230518 OH-SB-23-14.8-15.8-20230518	Cyclohexane	%R > CL	J (Detects) No action (NDs)	6H
	OH-SB-23-1.0-2.0-20230518 OH-SB-29-1.5-2.5-20230518 DUP-20230518	Benzene Carbon disulfide	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-SB-18-5.0-6.0-20230518	1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	4L
		Chlorobenzene m+p-Xylenes Methyl Acetate o-Xylene	%R > CL	J (Detects) No action (NDs)	4H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230518 is the sample duplicate for OH-SB-23-1.0-2.0-20230518. All RPDs were within control limits.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce

quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230518 TB-20230518	1,2,3-Trichlorobenzene Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	OH-SB-18-5.0-6.0-20230518 OH-SB-17-1.5-2.5-20230518 OH-SB-17-10.8-11.8-20230518 OH-SB-23-7.3-8.3-20230518 OH-SB-23-14.8-15.8-20230518	Cyclohexane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	OH-SB-23-1.0-2.0-20230518 OH-SB-29-1.5-2.5-20230518 DUP-20230518	2-Hexanone Acetone Cyclohexane Methyl acetate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester and 4-hydroxy-4-methyl-2-Pentanone. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates associated with the original (undiluted) analyses exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	OH-SB-18-5.0-6.0-20230518	2,4-Dimethylphenol 2,6-Dinitrotoluene Dimethylphthalate	%R > CL	J (Detects) No action (NDs)	6H
	OH-SB-17-1.5-2.5-20230518 OH-SB-17-10.8-11.8-20230518 OH-SB-23-1.0-2.0-20230518 OH-SB-23-7.3-8.3-20230518 OH-SB-23-14.8-15.8-20230518 OH-SB-29-1.5-2.5-20230518 DUP-20230518	Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230518 is the sample duplicate for OH-SB-23-1.0-2.0-20230518. RPDs were outside control limits for the following analytes: Benzyl butyl phthalate, Benzo (e) Pyrene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(j,k)fluoranthenes, C1-Chrysenes, C1-Fluoranthenes/pyrene, C2-Chrysenes, C2-Fluorenes, C2-Phenanthrenes/Anthracenes, C3-Chrysenes, C3-Phenanthrenes/Anthracenes, C4-Naphthalenes, C4-Phenanthrenes/Anthracenes, Dibenz(a,h) & (a,c)anthracene, Fluorene, Perylene and Pyrene. Parent and duplicate concentrations for associated analytes are qualified as estimated, J, reason code 8. Elevated RPDs may be due to homogeneity issues inherent to soil sample matrix.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a

correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230518	4-Nitrophenol Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	OH-SB-18-5.0-6.0-20230518	2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-17-1.5-2.5-20230518 OH-SB-17-10.8-11.8-20230518 OH-SB-23-1.0-2.0-20230518 OH-SB-23-7.3-8.3-20230518 OH-SB-23-14.8-15.8-20230518 OH-SB-29-1.5-2.5-20230518 DUP-20230518	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde Bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-SIM	OH-SB-18-5.0-6.0-20230518 OH-SB-17-1.5-2.5-20230518	Benzo(g,h,i)perylene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-23-1.0-2.0-20230518	DCB (1C)	%R > CL	J (Detects) No action (NDs)	3H
8151A	OH-SB-18-5.0-6.0-20230518 OH-SB-17-1.5-2.5-20230518	2,4-DCAA	10% < %R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-23-14.8-15.8-20230518	2,4-DCAA	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-17-1.5-2.5-20230518 OH-SB-29-1.5-2.5-20230518 DUP-20230518	DCB (2C)	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230518	4,4'-DDT	10% < %R < CL	J (Detects) UJ (NDs)	6L
	OH-SB-18-5.0-6.0-20230518 OH-SB-17-1.5-2.5-20230518 OH-SB-17-10.8-11.8-20230518 OH-SB-23-1.0-2.0-20230518 OH-SB-23-7.3-8.3-20230518 OH-SB-23-14.8-15.8-20230518 OH-SB-29-1.5-2.5-20230518	4,4'-DDD 4,4'-DDE alpha-BHC beta-BHC Endosulfan sulfate	10% < %R < CL	J (Detects) UJ (NDs)	6L
	DUP-20230518	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	OH-SB-18-5.0-6.0-20230518	2,4-D	> CL	J (Detects) No Action (NDs)	4H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230518 is the sample duplicate for OH-SB-23-1.0-2.0-20230518. RPDs were outside control limits for the following analytes: 4,4'-DDT, Aroclor 1260 and Total PCBs. Parent and duplicate concentrations for associated analytes are qualified as estimated, J, reason code 8.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- The sample FB-20230518 had low-level detections for calcium and sodium; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230518	Calcium	20% < %R < CL	J (Detects) UJ (NDs)	4L
		Thallium	20% < %R < CL	J (Detects) UJ (NDs)	4L

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis performed on sample FB-20230518 exhibited RPD for Sodium above control limits. Associated sample detections are qualified as estimated, J, reason code D.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis performed on sample FB-20230518 exhibited RPD for Sodium above control limits. Associated sample detections are qualified as estimated, J, reason code AA.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230518 is the sample duplicate for OH-SB-23-1.0-2.0-20230518. RPDs were outside control limits for the following analytes: Silver, Zinc and Cyanide. Parent and duplicate concentrations for associated analytes are qualified as estimated, J, reason code 8.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 29, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	23E0932	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	APL Laboratories
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	Soil Sampling

SAMPLE INFORMATION

Parent Sample ID:	OH-SB-23-1.0-2.0-20230518	Date/Time:	5/18/23 10:00	Matrix:	SO
Duplicate Sample ID:	DUP-20230518	Date/Time:	5/18/23 0:00	Matrix:	SO

Analytes	Unit	Fraction	Analytical Results[a]		Relative Percent Difference (RPD) Comparison		Difference between results	Reporting Limit (RL) Comparison (If Needed)							Actions Required
								OH-SB-23-1.0-2.0-20230518			DUP-20230518			Control Limit: Is the difference in sample conc. ≥ 4X either RL?	
			OH-SB-23-1.0-2.0-20230518	DUP-20230518	RPD Control Limit: 50%[b]	Are both results ≥5X RL[c]		RL	4x RL	5x RL	RL	4x RL	5x RL		
Mercury	MG/KG	T	0.484	0.795	49%	Yes	**0.31**	0.0216	0.09	0.11	0.0218	0.09	0.11		No further action required
Percent Solids	PERCENT	T	92.6	91.5	1%	Yes	**1.10**		0.00	0.00		0.00	0.00		No further action required
Aluminum	MG/KG	T	13500	12700	6%	Yes	**800**	2.58	10.32	12.90	2.79	11.16	13.95		No further action required
Antimony	MG/KG	T	*1.29*	1.4		No	**0.11**	1.29	5.16	6.45	1.39	5.56	6.95	**No**	No further action required
Arsenic	MG/KG	T	5.45	6.59		No	**1.14**	1.29	5.16	6.45	1.39	5.56	6.95	**No**	No further action required
Barium	MG/KG	T	103	117	13%	Yes	**14.00**	0.517	2.07	2.59	0.557	2.23	2.79		No further action required
Beryllium	MG/KG	T	0.676	0.626	8%	Yes	**0.05**	0.0258	0.10	0.13	0.0279	0.11	0.14		No further action required
Cadmium	MG/KG	T	1.06	1.68		No	**0.62**	0.258	1.03	1.29	0.279	1.12	1.40	**No**	No further action required
Calcium	MG/KG	T	19000	22200	16%	Yes	**3200**	25.8	103.20	129.00	27.9	111.60	139.50		No further action required
Chromium	MG/KG	T	34.1	38.5	12%	Yes	**4.40**	0.258	1.03	1.29	0.279	1.12	1.40		No further action required
Cobalt	MG/KG	T	6.9	8.58	22%	Yes	**1.68**	0.207	0.83	1.04	0.223	0.89	1.12		No further action required
Copper	MG/KG	T	150	208	32%	Yes	**58.00**	0.258	1.03	1.29	0.279	1.12	1.40		No further action required
Lead	MG/KG	T	275	387	34%	Yes	**112.00**	1.29	5.16	6.45	1.39	5.56	6.95		No further action required
Magnesium	MG/KG	T	7980	9300	15%	Yes	**1320.00**	51.7	206.80	258.50	55.7	222.80	278.50		No further action required
Manganese	MG/KG	T	278	292	5%	Yes	**14.00**	0.258	1.03	1.29	0.279	1.12	1.40		No further action required
Nickel	MG/KG	T	81.1	127	44%	Yes	**45.90**	0.129	0.52	0.65	0.139	0.56	0.70		No further action required
Potassium	MG/KG	T	1690	1290	27%	Yes	**400.00**	103	412.00	515.00	111	444.00	555.00		No further action required
Silver	MG/KG	T	2.82	0.315		No	**2.51**	0.155	0.62	0.78	0.167	0.67	0.84	**Yes**	Qualify detects/non-detects as estimated, J/UJ
Sodium	MG/KG	T	949	980	3%	Yes	**31.00**	51.7	206.80	258.50	55.7	222.80	278.50		No further action required
Zinc	MG/KG	T	215	365	52%	Yes	**150.00**	0.775	3.10	3.88	8.36	33.44	41.80		Qualify detects/non-detects as estimated, J/UJ
4,4'-DDD	MG/KG	T	0.00364	0.00414		No	**0.001**	0.0014	0.01	0.01	0.0014	0.01	0.01	**No**	No further action required
4,4'-DDE	MG/KG	T	0.00359	0.00353		No	**0.0001**	0.0014	0.01	0.01	0.0014	0.01	0.01	**No**	No further action required
4,4'-DDT	MG/KG	T	0.057	0.0063		No	**0.05**	0.0014	0.01	0.01	0.0014	0.01	0.01	**Yes**	Qualify detects/non-detects as estimated, J/UJ
Chlordane (Technical)	MG/KG	T	0.00813	0.00739	10%	Yes	**0.001**	0.0014	0.01	0.01	0.0014	0.01	0.01		No further action required
Aroclor 1260	MG/KG	T	5.85	4.45		No	**1.40**	1.78	7.12	8.90	0.18	0.72	0.90	**Yes**	Qualify detects/non-detects as estimated, J/UJ
Total PCBs	MG/KG	T	5.85	4.45		No	**1.40**	1.78	7.12	8.90	0.18	0.72	0.90	**Yes**	Qualify detects/non-detects as estimated, J/UJ
2-Methylnaphthalene	MG/KG	T	0.0837	0.0858		No	**0.002**	0.432	1.73	2.16	0.437	1.75	2.19	**No**	No further action required
Acenaphthene	MG/KG	T	0.177	0.181		No	**0.004**	0.287	1.15	1.44	0.291	1.16	1.46	**No**	No further action required
Acenaphthylene	MG/KG	T	0.22	0.227		No	**0.01**	0.287	1.15	1.44	0.291	1.16	1.46	**No**	No further action required
Anthracene	MG/KG	T	0.483	0.555		No	**0.07**	0.287	1.15	1.44	0.291	1.16	1.46	**No**	No further action required
Benzo(a)anthracene	MG/KG	T	2.22	2.35	6%	Yes	**0.13**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Benzo(a)pyrene	MG/KG	T	3.79	3.94	4%	Yes	**0.15**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required

Benzo(b)fluoranthene	MG/KG	T	5.55	5.46	2%	Yes	**0.09**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Benzo(g,h,i)perylene	MG/KG	T	3.08	2.64	15%	Yes	**0.44**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Benzo(k)fluoranthene	MG/KG	T	1.66	1.97	17%	Yes	**0.31**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Benzyl butyl phthalate	MG/KG	T	2.53	5.13	68%	Yes	**2.60**	0.287	1.15	1.44	0.291	1.16	1.46		Qualify detects/non-detects as estimated, J/UJ
bis(2-Ethylhexyl)phthalate	MG/KG	T	15	9.06	49%	Yes	**5.94**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Carbazole	MG/KG	T	0.221	0.217		No	**0.004**	0.719	2.88	3.60	0.728	2.91	3.64	No	No further action required
Chrysene	MG/KG	T	2.66	2.86	7%	Yes	**0.20**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Dibenz(a,h)anthracene	MG/KG	T	0.266	0.257		No	**0.01**	0.287	1.15	1.44	0.291	1.16	1.46	No	No further action required
Dibenzofuran	MG/KG	T	0.11	0.123		No	**0.01**	0.287	1.15	1.44	0.291	1.16	1.46	No	No further action required
Fluoranthene	MG/KG	T	3.95	4.69	17%	Yes	**0.74**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Fluorene	MG/KG	T	0.184	0.204		No	**0.02**	0.287	1.15	1.44	0.291	1.16	1.46	No	No further action required
Indeno(1,2,3-c,d)pyrene	MG/KG	T	2.58	2.34	10%	Yes	**0.24**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Naphthalene	MG/KG	T	0.183	0.117		No	**0.07**	0.287	1.15	1.44	0.291	1.16	1.46	No	No further action required
Phenanthrene	MG/KG	T	1.27	1.48		No	**0.21**	0.287	1.15	1.44	0.291	1.16	1.46	No	No further action required
Pyrene	MG/KG	T	5.2	6.05	15%	Yes	**0.85**	0.287	1.15	1.44	0.291	1.16	1.46		No further action required
Cyanide	MG/KG	T	0.276	1.13		No	**0.85**	0.0576	0.23	0.29	0.0655	0.26	0.33	Yes	Qualify detects/non-detects as estimated, J/UJ
Iron	MG/KG	T	30000	29800	1%	Yes	**200.00**	51.7	206.80	258.50	55.7	222.80	278.50		No further action required
Vanadium	MG/KG	T	566	641	12%	Yes	**75.00**	5.17	20.68	25.85	5.57	22.28	27.85		No further action required

[a]Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

[b]**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

[c]When both results are greater than 5X the Reporting Limit (RL) the RPD is calculated. If either result is below 5X the RL, the absolute difference between the two results is compared to 4X the RL.

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	L2328286	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	Alpha Laboratories
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	Soil Sampling

SAMPLE INFORMATION

Parent Sample ID:	OH-SB-23-1.0-2.0-20230518	Date/Time:	5/18/23 10:00	Matrix:	SO
Duplicate Sample ID:	DUP-20230518	Date/Time:	5/18/23 0:00	Matrix:	SO

Analytes	Unit	Fraction	Analytical Results[a]		Relative Percent Difference (RPD) Comparison		Difference between results	Reporting Limit (RL) Comparison (If Needed)							Actions Required
								OH-SB-23-1.0-2.0-20230518			DUP-20230518			Control Limit: Is the difference in sample conc. ≥ 4X either RL?	
			OH-SB-23-1.0-2.0-20230518	DUP-20230518	RPD Control Limit: 50%[b]	Are both results ≥5X RL[c]		RL	4x RL	5x RL	RL	4x RL	5x RL		
Acenaphthene	UG/KG	T	121	90.5	29%	Yes	**31**	17.6	70.4	88.0	13	52	65		No further action required
Acenaphthylene	UG/KG	T	216	168	25%	Yes	**48**	17.6	70.4	88.0	13	52	65		No further action required
Anthracene	UG/KG	T	430	307	33%	Yes	**123**	17.6	70.4	88.0	13	52	65		No further action required
Benzo (e) Pyrene	UG/KG	T	2520	1470	53%	Yes	**1050**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Benzo(a)anthracene	UG/KG	T	2160	1480	37%	Yes	**680**	17.6	70.4	88.0	13	52	65		No further action required
Benzo(a)pyrene	UG/KG	T	3320	1800	59%	Yes	**1520**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Benzo(b)fluoranthene	UG/KG	T	3650	2050	56%	Yes	**1600**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Benzo(g,h,i)perylene	UG/KG	T	2600	1530	52%	Yes	**1070**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Benzo(j,k)fluoranthenes	UG/KG	T	2980	1750	52%	Yes	**1230**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C1-Chrysenes	UG/KG	T	1360	803	52%	Yes	**557**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C1-Fluoranthenes/pyrene	UG/KG	T	1910	985	64%	Yes	**925**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C1-Fluorenes	UG/KG	T	72.2	40.4		No	**31.8**	17.6	70.4	88.0	13	52	65	**No**	No further action required
C1-Naphthalenes	UG/KG	T	72.2	55.1		No	**17.1**	17.6	70.4	88.0	13	52	65	**No**	No further action required
C1-Phenanthrenes/Anthracenes	UG/KG	T	504	401	23%	Yes	**103**	17.6	70.4	88.0	13	52	65		No further action required
C2-Chrysenes	UG/KG	T	935	525	56%	Yes	**410**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C2-Fluorenes	UG/KG	T	187	101	60%	Yes	**86**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C2-Naphthalenes	UG/KG	T	109	80.8	30%	Yes	**28**	17.6	70.4	88.0	13	52	65		No further action required
C2-Phenanthrenes/Anthracenes	UG/KG	T	593	309	63%	Yes	**284**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C3-Chrysenes	UG/KG	T	993	530	61%	Yes	**463**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C3-Fluorenes	UG/KG	T	352	216	48%	Yes	**136**	17.6	70.4	88.0	13	52	65		No further action required
C3-Naphthalenes	UG/KG	T	138	92.6	39%	Yes	**45**	17.6	70.4	88.0	13	52	65		No further action required
C3-Phenanthrenes/Anthracenes	UG/KG	T	447	234	63%	Yes	**213**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C4-Chrysenes	UG/KG	T	572	346	49%	Yes	**226**	17.6	70.4	88.0	13	52	65		No further action required
C4-Naphthalenes	UG/KG	T	177	94.1	61%	Yes	**83**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
C4-Phenanthrenes/Anthracenes	UG/KG	T	332	145	78%	Yes	**187**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Chrysene	UG/KG	T	2360	1530	43%	Yes	**830**	17.6	70.4	88.0	13	52	65		No further action required
Dibenz(a,h) & (a,c)anthracene	UG/KG	T	749	446	51%	Yes	**303**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Fluoranthene	UG/KG	T	3230	2140	41%	Yes	**1090**	17.6	70.4	88.0	13	52	65		No further action required
Fluorene	UG/KG	T	165	87.1	62%	Yes	**78**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ
Indeno(1,2,3-c,d)pyrene	UG/KG	T	2740	1650	50%	Yes	**1090**	17.6	70.4	88.0	13	52	65		No further action required
Naphthalene	UG/KG	T	103	76	30%	Yes	**27**	17.6	70.4	88.0	13	52	65		No further action required
Perylene	UG/KG	T	958	541	56%	Yes	**417**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ

Phenanthrene	UG/KG	T	1120	927	19%	**Yes**	**193**	17.6	70.4	88.0	13	52	65		No further action required
Pyrene	UG/KG	T	4880	2600	61%	**Yes**	**2280**	17.6	70.4	88.0	13	52	65		Qualify detects/non-detects as estimated, J/UJ

[a]Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

[b]**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

[c]When both results are greater than 5X the Reporting Limit (RL) the RPD is calculated. If either result is below 5X the RL, the absolute difference between the two results is compared to 4X the RL.

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E0932

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 16, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E0932

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-18-5.0-6.0-20230518	23E0932-01	Soil	05/18/2023 07:00	05/18/2023 16:40
OH-SB-17-1.5-2.5-20230518	23E0932-02	Soil	05/18/2023 07:50	05/18/2023 16:40
OH-SB-17-10.8-11.8-20230518	23E0932-03	Soil	05/18/2023 09:02	05/18/2023 16:40
OH-SB-23-1.0-2.0-20230518	23E0932-04	Soil	05/18/2023 10:00	05/18/2023 16:40
OH-SB-23-7.5-8.3-20230518	23E0932-05	Soil	05/18/2023 11:05	05/18/2023 16:40
OH-SB-23-14.8-15.8-20230518	23E0932-06	Soil	05/18/2023 11:25	05/18/2023 16:40
FB-20230518	23E0932-07	Ground Water	05/18/2023 12:15	05/18/2023 16:40
OH-SB-29-1.5-2.5-20230518	23E0932-08	Soil	05/18/2023 12:48	05/18/2023 16:40
DUP-20230518	23E0932-09	Soil	05/18/2023 00:00	05/18/2023 16:40
TB-20230518	23E0932-10	Ground Water	05/18/2023 00:00	05/18/2023 16:40

PN: 23E0932

APL 23E0932

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

CLIENT: Yu & Associates	SEND REPORT TO: "
ADDRESS: 611 Riverside Drive	ADDRESS: "
3rd Floor, Elmwood Park, 07407	
PHONE: 201-773-9621	PHONE: "
E-MAIL: Siwang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: "
PROJECT MGR: Siyuan Wang	ADDRESS: "
PROJECT or PO #: 156854	SAMPLED BY: MH/A

PAGE ____ OF ____

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#____

PWSID#____

NJ STATE category B

CONTAMINATION LEVEL
- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E0932 -01	OH-SB-18-5.0-6.0-20230518	05/18/23	0700	✓		S	5		VOCs, SVOCs, PCBs, Pesticides, Herb, Tal Metals TCN, FCN, Alkalinity PAHs by 8270 GC/MS
-02	OH-SB-17-1.5-2.5-20230518		0750	✓		S	5		" "
-03	OH-SB-17-10.8-11.8-20230518		0902	✓		S	5		" "
-04	OH-SB-23-1.0-2.0-20230518		1000	✓		S	5		" "
-05	OH-SB-~~23-7.3-8.3~~-20230518		1105	✓		S	5		" "
-06	OH-SB-23-14.8-15.8-20230518		1125	✓		S	5		" "
-07	FB-20230518		1215	✓		S	5		" "
-08	OH-SB-24-1.5-2.5-20230518		1248	✓		S	5		" "
-09	DUP-20230518		9999	✓		S	5		" "
-10	TB-20230518	05/18/23	LAB	✓		S	2		VOCs

RELINQUISHED BY (Print) ~~MAX MAIOLO~~	DATE 05/18/23	RECEIVED BY (Print) DANIEL NESHANIAN	5/18/23
Signature	Time 1325	Signature (APL)	1325
RELINQUISHED BY (Print) DANIEL NESHANIAN	DATE 5/18/23	RECEIVED BY (Print)	
Signature	Time 1640	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).
The blank spikes met all QC criteria.

Method 200.7
The percent recovery for Thallium was outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Some of the samples have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PCBs [8082A]
Some of the samples have surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Some of the samples have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low and high).

Sample 23E0932-03RE1 (dil) has surrogates outside of the QC limits (low), due to matrix interference.
Sample 23E0932-07 (FB) and -10 (TB) have one surrogate (4-Bromofluorobenzene) outside of the QC limits (slightly low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).
The blank spikes met all QC criteria.

Samples 23E0932-03RE1 (dil) and 23E0932-06RE1 (dil) have surrogates outside of the QC limits (high), due to matrix interferences.



Reviewed By: _____ (SK) 8/16/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-20230518**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	5.94	D	0.0584	0.467	mg/kg dry	10	5/24/23 16:32
Total PCBs	5.94	D	0.0436	0.467	mg/kg dry	10	5/24/23 16:32

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.579		0.00707	0.0283	mg/kg dry	1	5/23/23 11:38

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3540		0.209	3.52	mg/kg dry	1	6/2/23 13:47
Arsenic	8.89		0.126	1.76	mg/kg dry	1	6/2/23 13:47
Barium	95.2		0.0532	0.704	mg/kg dry	1	6/2/23 13:47
Beryllium	0.318		0.00407	0.0352	mg/kg dry	1	6/2/23 13:47
Calcium	16000		3.96	35.2	mg/kg dry	1	6/2/23 13:47
Chromium	9.60		0.0397	0.352	mg/kg dry	1	6/2/23 13:47
Cobalt	3.87		0.0360	0.281	mg/kg dry	1	6/2/23 13:47
Copper	37.6		0.0984	0.352	mg/kg dry	1	6/2/23 13:47
Iron	11600		0.997	7.04	mg/kg dry	1	6/2/23 13:47
Lead	130		0.147	1.76	mg/kg dry	1	6/2/23 13:47
Magnesium	2040		12.4	70.4	mg/kg dry	1	6/2/23 13:47
Manganese	336		0.0438	0.352	mg/kg dry	1	6/2/23 13:47
Nickel	9.15		0.0309	0.176	mg/kg dry	1	6/2/23 13:47
Potassium	629		41.8	141	mg/kg dry	1	6/2/23 13:47
Sodium	1500		6.71	70.4	mg/kg dry	1	6/2/23 13:47
Vanadium	15.3		0.0809	0.704	mg/kg dry	1	6/2/23 13:47
Zinc	70.0		0.107	1.06	mg/kg dry	1	6/2/23 13:47

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.00461		0.00101	0.00184	mg/kg dry	1	5/26/23 19:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0616	J	0.0451	0.283	mg/kg dry	1	5/25/23 20:19
3+4-Methylphenol	0.0802	J	0.0345	0.188	mg/kg dry	1	5/25/23 20:19
Acenaphthene	0.177	J	0.0107	0.188	mg/kg dry	1	5/25/23 20:19
Anthracene	0.756		0.0273	0.188	mg/kg dry	1	5/25/23 20:19
Benzaldehyde	0.235		0.0578	0.188	mg/kg dry	1	5/25/23 20:19
Benzo(a)anthracene	1.13		0.0190	0.188	mg/kg dry	1	5/25/23 20:19
Benzo(a)pyrene	0.564		0.0328	0.188	mg/kg dry	1	5/25/23 20:19
Benzo(b)fluoranthene	0.779		0.0264	0.188	mg/kg dry	1	5/25/23 20:19

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(g,h,i)perylene	0.375		0.0153	0.188	mg/kg dry	1	5/25/23 20:19
Benzo(k)fluoranthene	0.285		0.0216	0.188	mg/kg dry	1	5/25/23 20:19
Chrysene	1.30		0.0129	0.188	mg/kg dry	1	5/25/23 20:19
Dibenzo(a,h)anthracene	0.176	J	0.0187	0.188	mg/kg dry	1	5/25/23 20:19
Dibenzofuran	0.136	J	0.0112	0.188	mg/kg dry	1	5/25/23 20:19
Fluoranthene	3.79		0.0177	0.188	mg/kg dry	1	5/25/23 20:19
Fluorene	0.332		0.0157	0.188	mg/kg dry	1	5/25/23 20:19
Indeno(1,2,3-cd)pyrene	0.294		0.0202	0.188	mg/kg dry	1	5/25/23 20:19
Naphthalene	0.150	J	0.0139	0.188	mg/kg dry	1	5/25/23 20:19
Phenanthrene	4.83		0.0248	0.188	mg/kg dry	1	5/25/23 20:19
Pyrene	2.68		0.0138	0.188	mg/kg dry	1	5/25/23 20:19
TIC_2-Pentanone, 4-hydroxy-4-methyl-	30.6	J			mg/kg dry	1	5/25/23 20:19
TIC_Acetic acid, 1-methylpropyl ester	0.608	J			mg/kg dry	1	5/25/23 20:19
TIC_Dibenzothiophene	0.745	J			mg/kg dry	1	5/25/23 20:19
TIC_Heptacosane, 1-chloro-	0.781	J			mg/kg dry	1	5/25/23 20:19
TIC_Hexadecane, 2,6,10,14-tetramethyl-	1.54	J			mg/kg dry	1	5/25/23 20:19
TIC_Hexadecanoic acid, butyl ester	5.59	J			mg/kg dry	1	5/25/23 20:19
TIC_Octadecanoic acid, butyl ester	3.77	J			mg/kg dry	1	5/25/23 20:19
TIC_unknown (01)	2.54	J			mg/kg dry	1	5/25/23 20:19
TIC_unknown (02)	3.54	J			mg/kg dry	1	5/25/23 20:19

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.0141	J			mg/kg dry	1	5/26/23 16:53

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.191		0.00991	0.0831	mg/kg dry	1	5/19/23 16:02

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-20230518**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	1.00		0.00455	0.0363	mg/kg dry	1	6/2/23 20:40
Total PCBs	1.00		0.00339	0.0363	mg/kg dry	1	6/2/23 20:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-20230518**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.323		0.00550	0.0220	mg/kg dry	1	5/23/23 11:38

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4460		0.158	2.66	mg/kg dry	1	6/2/23 9:24
Antimony	2.78		0.145	1.33	mg/kg dry	1	6/2/23 9:24
Arsenic	8.08		0.0949	1.33	mg/kg dry	1	6/2/23 9:24
Barium	179		0.0402	0.532	mg/kg dry	1	6/2/23 9:24
Beryllium	0.310		0.00308	0.0266	mg/kg dry	1	6/2/23 9:24
Cadmium	0.790		0.0518	0.266	mg/kg dry	1	6/2/23 9:24
Calcium	32700	D	29.9	266	mg/kg dry	10	6/2/23 10:27
Chromium	7.31		0.0300	0.266	mg/kg dry	1	6/2/23 9:24
Cobalt	3.19		0.0272	0.213	mg/kg dry	1	6/2/23 9:24
Copper	59.6		0.0744	0.266	mg/kg dry	1	6/2/23 9:24
Iron	15800		0.753	5.32	mg/kg dry	1	6/2/23 9:24
Lead	133		0.111	1.33	mg/kg dry	1	6/2/23 9:24
Magnesium	3690		9.39	53.2	mg/kg dry	1	6/2/23 9:24
Manganese	942		0.0331	0.266	mg/kg dry	1	6/2/23 9:24
Nickel	7.37		0.0234	0.133	mg/kg dry	1	6/2/23 9:24
Potassium	1210		31.6	106	mg/kg dry	1	6/2/23 9:24
Silver	0.693		0.0452	0.160	mg/kg dry	1	6/2/23 9:24
Sodium	2180		5.07	53.2	mg/kg dry	1	6/2/23 9:24
Vanadium	10.6		0.0612	0.532	mg/kg dry	1	6/2/23 9:24
Zinc	359	D	0.812	7.98	mg/kg dry	10	6/2/23 10:27

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.0658		0.000655	0.00143	mg/kg dry	1	5/26/23 20:09
4,4'-DDE [2C]	0.0138		0.000783	0.00143	mg/kg dry	1	5/26/23 20:09
4,4'-DDT	0.0528		0.00101	0.00143	mg/kg dry	1	5/26/23 20:09
Chlordane	0.0113		0.000636	0.00143	mg/kg dry	1	5/26/23 20:09

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.402	J, D	0.0702	0.440	mg/kg dry	2	5/30/23 13:31
Acenaphthene	1.00	D	0.0167	0.293	mg/kg dry	2	5/30/23 13:31
Acenaphthylene	0.647	D	0.0102	0.293	mg/kg dry	2	5/30/23 13:31
Acetophenone	0.0771	J, D	0.0291	0.293	mg/kg dry	2	5/30/23 13:31
Anthracene	3.78	D	0.0425	0.293	mg/kg dry	2	5/30/23 13:31
Benzo(a)anthracene	9.32	D	0.0295	0.293	mg/kg dry	2	5/30/23 13:31
Benzo(a)pyrene	11.3	D	0.0511	0.293	mg/kg dry	2	5/30/23 13:31

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(b)fluoranthene	13.7	D	0.0412	0.293	mg/kg dry	2	5/30/23 13:31
Benzo(g,h,i)perylene	7.28	D	0.0238	0.293	mg/kg dry	2	5/30/23 13:31
Benzo(k)fluoranthene	4.61	D	0.0337	0.293	mg/kg dry	2	5/30/23 13:31
Biphenyl	0.122	J, D	0.0258	0.293	mg/kg dry	2	5/30/23 13:31
bis(2-ethylhexyl)phthalate	4.94	D	0.0586	0.293	mg/kg dry	2	5/30/23 13:31
Butylbenzylphthalate	43.8	D	0.133	1.46	mg/kg dry	10	6/1/23 15:50
Carbazole	0.918	D	0.0564	0.733	mg/kg dry	2	5/30/23 13:31
Chrysene	10.1	D	0.0201	0.293	mg/kg dry	2	5/30/23 13:31
Dibenzo(a,h)anthracene	0.714	D	0.0291	0.293	mg/kg dry	2	5/30/23 13:31
Dibenzofuran	0.519	D	0.0175	0.293	mg/kg dry	2	5/30/23 13:31
Di-n-butylphthalate	0.836	D	0.120	0.293	mg/kg dry	2	5/30/23 13:31
Fluoranthene	18.1	D	0.0275	0.293	mg/kg dry	2	5/30/23 13:31
Fluorene	1.22	D	0.0244	0.293	mg/kg dry	2	5/30/23 13:31
Indeno(1,2,3-cd)pyrene	6.04	D	0.0315	0.293	mg/kg dry	2	5/30/23 13:31
Naphthalene	0.317	D	0.0217	0.293	mg/kg dry	2	5/30/23 13:31
Phenanthrene	12.6	D	0.0385	0.293	mg/kg dry	2	5/30/23 13:31
Pyrene	17.1	D	0.0216	0.293	mg/kg dry	2	5/30/23 13:31
TIC_2-Pentanone, 4-hydroxy-4-methyl-	25.9	J, D, B			mg/kg dry	2	5/30/23 13:31
TIC_2-Phenylnaphthalene	1.52	J, D			mg/kg dry	2	5/30/23 13:31
TIC_Dibenzothiophene	0.862	J, D			mg/kg dry	2	5/30/23 13:31
TIC_Heptadecane, 2,6,10,15-tetramethyl-	1.75	J, D			mg/kg dry	2	5/30/23 13:31
TIC_Naphthalene, 2,3-dimethyl-	1.00	J, D			mg/kg dry	2	5/30/23 13:31
TIC_unknown (01)	1.19	J, D			mg/kg dry	2	5/30/23 13:31
TIC_unknown (02)	2.95	J, D			mg/kg dry	2	5/30/23 13:31
TIC_unknown (03)	1.24	J, D			mg/kg dry	2	5/30/23 13:31
TIC_unknown (04)	7.14	J, D			mg/kg dry	2	5/30/23 13:31
TIC_unknown (05)	1.24	J, D			mg/kg dry	2	5/30/23 13:31
TIC_unknown (06)	1.54	J, D			mg/kg dry	2	5/30/23 13:31

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.00874	J			mg/kg dry	1	5/26/23 17:25

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0762		0.00727	0.0610	mg/kg dry	1	5/19/23 16:02

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-20230518**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-20230518**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	2.48		0.00775	0.0310	mg/kg dry	1	5/23/23 11:38

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	10300		0.224	3.76	mg/kg dry	1	6/2/23 9:26
Arsenic	12.6		0.134	1.88	mg/kg dry	1	6/2/23 9:26
Barium	149		0.0569	0.753	mg/kg dry	1	6/2/23 9:26
Beryllium	0.768		0.00436	0.0376	mg/kg dry	1	6/2/23 9:26
Cadmium	1.33		0.0734	0.376	mg/kg dry	1	6/2/23 9:26
Calcium	84400	D	42.3	376	mg/kg dry	10	6/2/23 10:29
Chromium	24.3		0.0425	0.376	mg/kg dry	1	6/2/23 9:26
Cobalt	6.36		0.0385	0.301	mg/kg dry	1	6/2/23 9:26
Copper	163		0.105	0.376	mg/kg dry	1	6/2/23 9:26
Iron	22200		1.07	7.53	mg/kg dry	1	6/2/23 9:26
Lead	299		0.157	1.88	mg/kg dry	1	6/2/23 9:26
Magnesium	15900		13.3	75.3	mg/kg dry	1	6/2/23 9:26
Manganese	290		0.0468	0.376	mg/kg dry	1	6/2/23 9:26
Nickel	34.0		0.0331	0.188	mg/kg dry	1	6/2/23 9:26
Potassium	1120		44.7	151	mg/kg dry	1	6/2/23 9:26
Silver	0.422		0.0640	0.226	mg/kg dry	1	6/2/23 9:26
Sodium	1340		7.17	75.3	mg/kg dry	1	6/2/23 9:26
Vanadium	49.3		0.0865	0.753	mg/kg dry	1	6/2/23 9:26
Zinc	323		0.115	1.13	mg/kg dry	1	6/2/23 9:26

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.0620		0.00110	0.00202	mg/kg dry	1	5/26/23 20:31
Chlordane	0.332		0.000896	0.00202	mg/kg dry	1	5/26/23 20:31

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.527		0.0203	0.206	mg/kg dry	1	5/30/23 14:02
2-Methylnaphthalene	35.3	D	0.495	3.10	mg/kg dry	10	6/1/23 16:22
3+4-Methylphenol	0.304		0.0378	0.206	mg/kg dry	1	5/30/23 14:02
Acenaphthene	27.6	D	0.118	2.06	mg/kg dry	10	6/1/23 16:22
Acenaphthylene	6.67		0.00718	0.206	mg/kg dry	1	5/30/23 14:02
Anthracene	20.9	D	0.299	2.06	mg/kg dry	10	6/1/23 16:22
Benzo(a)anthracene	20.2	D	0.208	2.06	mg/kg dry	10	6/1/23 16:22
Benzo(a)pyrene	16.5	D	0.360	2.06	mg/kg dry	10	6/1/23 16:22
Benzo(b)fluoranthene	14.6	D	0.290	2.06	mg/kg dry	10	6/1/23 16:22
Benzo(g,h,i)perylene	9.22		0.0167	0.206	mg/kg dry	1	5/30/23 14:02

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(k)fluoranthene	7.13		0.0237	0.206	mg/kg dry	1	5/30/23 14:02
Biphenyl	6.74		0.0181	0.206	mg/kg dry	1	5/30/23 14:02
bis(2-ethylhexyl)phthalate	1.08		0.0412	0.206	mg/kg dry	1	5/30/23 14:02
Carbazole	10.1		0.0397	0.516	mg/kg dry	1	5/30/23 14:02
Chrysene	17.5	D	0.141	2.06	mg/kg dry	10	6/1/23 16:22
Dibenzo(a,h)anthracene	1.09		0.0205	0.206	mg/kg dry	1	5/30/23 14:02
Dibenzofuran	19.2	D	0.123	2.06	mg/kg dry	10	6/1/23 16:22
Fluoranthene	46.2	D	0.194	2.06	mg/kg dry	10	6/1/23 16:22
Fluorene	26.9	D	0.172	2.06	mg/kg dry	10	6/1/23 16:22
Indeno(1,2,3-cd)pyrene	7.76		0.0222	0.206	mg/kg dry	1	5/30/23 14:02
Naphthalene	156	D	0.306	4.12	mg/kg dry	20	6/5/23 18:31
Phenanthrene	70.9	D	0.271	2.06	mg/kg dry	10	6/1/23 16:22
Pyrene	38.9	D	0.152	2.06	mg/kg dry	10	6/1/23 16:22
TIC_2-Pentanone, 4-hydroxy-4-methyl-	31.2	J, B			mg/kg dry	1	5/30/23 14:02
TIC_Dibenzothiophene	10.1	J			mg/kg dry	1	5/30/23 14:02
TIC_Hexadecanoic acid, butyl ester	14.0	J, B			mg/kg dry	1	5/30/23 14:02
TIC_Indene	11.6	J			mg/kg dry	1	5/30/23 14:02
TIC_Naphthalene, 2,6-dimethyl-	6.02	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (01)	7.12	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (02)	10.7	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (03)	12.8	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (04)	8.86	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (05)	29.2	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (06)	6.52	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (07)	9.63	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (08)	7.22	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (09)	18.2	J			mg/kg dry	1	5/30/23 14:02
TIC_unknown (10)	7.72	J			mg/kg dry	1	5/30/23 14:02

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.558		0.000446	0.00323	mg/kg dry	1	5/26/23 17:56
2-Butanone	0.122		0.000526	0.00807	mg/kg dry	1	5/26/23 17:56
Acetone	0.356		0.000979	0.00807	mg/kg dry	1	5/26/23 17:56
Benzene	2.13	D	0.0318	0.350	mg/kg dry	106	5/31/23 21:31
Cyclohexane	0.0291		0.000715	0.00323	mg/kg dry	1	5/26/23 17:56
EthylBenzene	7.46	D	0.0474	0.350	mg/kg dry	106	5/31/23 21:31
Isopropylbenzene	0.220		0.000507	0.00323	mg/kg dry	1	5/26/23 17:56

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-20230518**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	12.9	D	0.0883	0.699	mg/kg dry	106	5/31/23 21:31
Methylcyclohexane	0.0686		0.000520	0.00323	mg/kg dry	1	5/26/23 17:56
o-Xylene	5.51	D	0.0449	0.350	mg/kg dry	106	5/31/23 21:31
Toluene	0.557		0.000260	0.00323	mg/kg dry	1	5/26/23 17:56
Total Xylenes	18.4	D	0.0449	0.350	mg/kg dry	106	5/31/23 21:31
TIC_1H-Indene, 2,3-dihydro-	0.0937	J			mg/kg dry	1	5/26/23 17:56
TIC_1H-Indene, 3-methyl-	0.0961	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0700	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, (1-methylethyl)-	0.0807	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, 1,2,3,5-tetramethyl-	0.0370	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, 1,2-propadienyl-	0.542	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, 1,3,5-trimethyl-	0.226	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, 1-ethyl-2-methyl-	0.0306	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzene, 1-ethyl-3-methyl-	0.145	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzo[b]thiophene	0.104	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzofuran	0.0606	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzofuran, 2-methyl-	0.105	J			mg/kg dry	1	5/26/23 17:56
TIC_Benzofuran, 7-methyl-	0.0501	J			mg/kg dry	1	5/26/23 17:56
TIC_Octane	0.0755	J			mg/kg dry	1	5/26/23 17:56
TIC_TIC:Naphthalene	2.36	J			mg/kg dry	1	5/26/23 17:56

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.333		0.0100	0.0842	mg/kg dry	1	5/19/23 16:02

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-20230518**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260 [2C]	5.85	D	0.366	1.78	mg/kg dry	50	6/5/23 14:20
Total PCBs	5.85	D	0.166	1.78	mg/kg dry	50	6/5/23 14:20

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.484		0.00540	0.0216	mg/kg dry	1	5/23/23 11:39

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-20230518**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	13500		0.153	2.58	mg/kg dry	1	6/2/23 9:29
Arsenic	5.45		0.0922	1.29	mg/kg dry	1	6/2/23 9:29
Barium	103		0.0391	0.517	mg/kg dry	1	6/2/23 9:29
Beryllium	0.676		0.00299	0.0258	mg/kg dry	1	6/2/23 9:29
Cadmium	1.06		0.0504	0.258	mg/kg dry	1	6/2/23 9:29
Calcium	19000		2.91	25.8	mg/kg dry	1	6/2/23 9:29
Chromium	34.1		0.0292	0.258	mg/kg dry	1	6/2/23 9:29
Cobalt	6.90		0.0264	0.207	mg/kg dry	1	6/2/23 9:29
Copper	150		0.0723	0.258	mg/kg dry	1	6/2/23 9:29
Iron	30000	D	7.32	51.7	mg/kg dry	10	6/2/23 10:31
Lead	275		0.108	1.29	mg/kg dry	1	6/2/23 9:29
Magnesium	7980		9.13	51.7	mg/kg dry	1	6/2/23 9:29
Manganese	278		0.0321	0.258	mg/kg dry	1	6/2/23 9:29
Nickel	81.1		0.0227	0.129	mg/kg dry	1	6/2/23 9:29
Potassium	1690		30.7	103	mg/kg dry	1	6/2/23 9:29
Silver	2.82		0.0439	0.155	mg/kg dry	1	6/2/23 9:29
Sodium	949		4.93	51.7	mg/kg dry	1	6/2/23 9:29
Vanadium	566	D	0.594	5.17	mg/kg dry	10	6/2/23 10:31
Zinc	215		0.0789	0.775	mg/kg dry	1	6/2/23 9:29

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00364		0.000642	0.00140	mg/kg dry	1	5/26/23 20:54
4,4'-DDE [2C]	0.00359		0.000768	0.00140	mg/kg dry	1	5/26/23 20:54
4,4'-DDT	0.0570		0.000991	0.00140	mg/kg dry	1	5/26/23 20:54
Chlordane [2C]	0.00813		0.000624	0.00140	mg/kg dry	1	5/26/23 20:54

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0837	J, D	0.0689	0.432	mg/kg dry	2	5/30/23 14:33
Acenaphthene	0.177	J, D	0.0164	0.287	mg/kg dry	2	5/30/23 14:33
Acenaphthylene	0.220	J, D	0.0100	0.287	mg/kg dry	2	5/30/23 14:33
Anthracene	0.483	D	0.0417	0.287	mg/kg dry	2	5/30/23 14:33
Benzo(a)anthracene	2.22	D	0.0289	0.287	mg/kg dry	2	5/30/23 14:33
Benzo(a)pyrene	3.79	D	0.0501	0.287	mg/kg dry	2	5/30/23 14:33
Benzo(b)fluoranthene	5.55	D	0.0404	0.287	mg/kg dry	2	5/30/23 14:33
Benzo(g,h,i)perylene	3.08	D	0.0233	0.287	mg/kg dry	2	5/30/23 14:33
Benzo(k)fluoranthene	1.66	D	0.0330	0.287	mg/kg dry	2	5/30/23 14:33
bis(2-ethylhexyl)phthalate	15.0	D	0.0574	0.287	mg/kg dry	2	5/30/23 14:33
Butylbenzylphthalate	2.53	D	0.0261	0.287	mg/kg dry	2	5/30/23 14:33

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbazole	0.221	J, D	0.0553	0.719	mg/kg dry	2	5/30/23 14:33
Chrysene	2.66	D	0.0197	0.287	mg/kg dry	2	5/30/23 14:33
Dibenzo(a,h)anthracene	0.266	J, D	0.0285	0.287	mg/kg dry	2	5/30/23 14:33
Dibenzofuran	0.110	J, D	0.0171	0.287	mg/kg dry	2	5/30/23 14:33
Fluoranthene	3.95	D	0.0270	0.287	mg/kg dry	2	5/30/23 14:33
Fluorene	0.184	J, D	0.0240	0.287	mg/kg dry	2	5/30/23 14:33
Indeno(1,2,3-cd)pyrene	2.58	D	0.0309	0.287	mg/kg dry	2	5/30/23 14:33
Naphthalene	0.183	J, D	0.0213	0.287	mg/kg dry	2	5/30/23 14:33
Phenanthrene	1.27	D	0.0378	0.287	mg/kg dry	2	5/30/23 14:33
Pyrene	5.20	D	0.0211	0.287	mg/kg dry	2	5/30/23 14:33
TIC_2-Pentanone, 4-hydroxy-4-methyl-	27.2	J, D, B			mg/kg dry	2	5/30/23 14:33
TIC_Docosane, 9-butyl-	0.671	J, D			mg/kg dry	2	5/30/23 14:33
TIC_Hexadecanoic acid, butyl ester	1.72	J, D, B			mg/kg dry	2	5/30/23 14:33

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.00604	J			mg/kg dry	1	5/30/23 16:07

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.276		0.00686	0.0576	mg/kg dry	1	5/19/23 16:02

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-20230518**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.346		0.00645	0.0258	mg/kg dry	1	5/23/23 11:39

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5360		0.184	3.10	mg/kg dry	1	6/2/23 9:31
Arsenic	6.50		0.111	1.55	mg/kg dry	1	6/2/23 9:31
Barium	90.9		0.0469	0.620	mg/kg dry	1	6/2/23 9:31
Beryllium	0.460		0.00359	0.0310	mg/kg dry	1	6/2/23 9:31
Calcium	5230		3.49	31.0	mg/kg dry	1	6/2/23 9:31
Chromium	7.23		0.0350	0.310	mg/kg dry	1	6/2/23 9:31
Cobalt	6.83		0.0317	0.248	mg/kg dry	1	6/2/23 9:31
Copper	76.9		0.0868	0.310	mg/kg dry	1	6/2/23 9:31
Iron	17100		0.879	6.20	mg/kg dry	1	6/2/23 9:31

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-20230518**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Lead	192		0.129	1.55	mg/kg dry	1	6/2/23 9:31
Magnesium	583		11.0	62.0	mg/kg dry	1	6/2/23 9:31
Manganese	105		0.0386	0.310	mg/kg dry	1	6/2/23 9:31
Nickel	15.0		0.0273	0.155	mg/kg dry	1	6/2/23 9:31
Potassium	412		36.9	124	mg/kg dry	1	6/2/23 9:31
Sodium	1510		5.92	62.0	mg/kg dry	1	6/2/23 9:31
Vanadium	14.9		0.0714	0.620	mg/kg dry	1	6/2/23 9:31
Zinc	77.9		0.0948	0.931	mg/kg dry	1	6/2/23 9:31

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.109	J	0.0169	0.172	mg/kg dry	1	5/30/23 15:04
2-Methylnaphthalene	0.0896	J	0.0412	0.258	mg/kg dry	1	5/30/23 15:04
2-Methylphenol	0.0604	J	0.0339	0.172	mg/kg dry	1	5/30/23 15:04
3+4-Methylphenol	0.149	J	0.0315	0.172	mg/kg dry	1	5/30/23 15:04
Acenaphthene	0.283		0.00980	0.172	mg/kg dry	1	5/30/23 15:04
Acenaphthylene	0.115	J	0.00598	0.172	mg/kg dry	1	5/30/23 15:04
Anthracene	0.375		0.0249	0.172	mg/kg dry	1	5/30/23 15:04
Benzo(a)anthracene	0.988		0.0173	0.172	mg/kg dry	1	5/30/23 15:04
Benzo(a)pyrene	1.11		0.0299	0.172	mg/kg dry	1	5/30/23 15:04
Benzo(b)fluoranthene	1.35		0.0241	0.172	mg/kg dry	1	5/30/23 15:04
Benzo(g,h,i)perylene	0.655		0.0139	0.172	mg/kg dry	1	5/30/23 15:04
Benzo(k)fluoranthene	0.385		0.0197	0.172	mg/kg dry	1	5/30/23 15:04
Biphenyl	0.0497	J	0.0151	0.172	mg/kg dry	1	5/30/23 15:04
Carbazole	0.0565	J	0.0330	0.430	mg/kg dry	1	5/30/23 15:04
Chrysene	0.964		0.0118	0.172	mg/kg dry	1	5/30/23 15:04
Dibenzo(a,h)anthracene	0.0672	J	0.0170	0.172	mg/kg dry	1	5/30/23 15:04
Dibenzofuran	0.126	J	0.0102	0.172	mg/kg dry	1	5/30/23 15:04
Fluoranthene	1.97		0.0161	0.172	mg/kg dry	1	5/30/23 15:04
Fluorene	0.221		0.0143	0.172	mg/kg dry	1	5/30/23 15:04
Indeno(1,2,3-cd)pyrene	0.582		0.0185	0.172	mg/kg dry	1	5/30/23 15:04
Naphthalene	1.14		0.0127	0.172	mg/kg dry	1	5/30/23 15:04
Phenanthrene	0.972		0.0226	0.172	mg/kg dry	1	5/30/23 15:04
Pyrene	1.30		0.0126	0.172	mg/kg dry	1	5/30/23 15:04
TIC_1,3-Dioxolane-2-methanol, 2,4-dimethyl-	0.562	J			mg/kg dry	1	5/30/23 15:04
TIC_2-Pentanone, 4-hydroxy-4-methyl-	27.7	J, B			mg/kg dry	1	5/30/23 15:04
TIC_Hexadecanoic acid, butyl ester	1.27	J, B			mg/kg dry	1	5/30/23 15:04
TIC_Octadecanoic acid, butyl ester	0.539	J, B			mg/kg dry	1	5/30/23 15:04

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-20230518**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	0.0379		0.000452	0.00281	mg/kg dry	1	5/26/23 18:59
TIC_1-Heptanol, 6-methyl-	0.0137	J			mg/kg dry	1	5/26/23 18:59
TIC_1-Hexadecyne	0.0132	J			mg/kg dry	1	5/26/23 18:59
TIC_1-Octanol	0.0119	J			mg/kg dry	1	5/26/23 18:59
TIC_Aziridine, 2-methyl-	0.0160	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclohexane, 1,3-dimethyl-, trans-	0.0195	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclohexane, 1,4-dimethyl-, cis-	0.0255	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclohexane, 1,4-dimethyl-, trans-	0.0181	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclooctane, butyl-	0.0138	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclopentane, 1,2,4-trimethyl-, (1.alpha	0.0364	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclopentane, 1,2-dimethyl-, trans-	0.0130	J			mg/kg dry	1	5/26/23 18:59
TIC_Cyclopropane, 1-butyl-2-pentyl-, trans-	0.0111	J			mg/kg dry	1	5/26/23 18:59
TIC_Heptane, 1-fluoro-	0.0149	J			mg/kg dry	1	5/26/23 18:59
TIC_Pentane, 2-methyl-	0.0117	J			mg/kg dry	1	5/26/23 18:59
TIC_Pentane, 3,3-dimethyl-	0.0117	J			mg/kg dry	1	5/26/23 18:59
TIC_Propanoyl chloride, 2-methyl-	0.00999	J			mg/kg dry	1	5/26/23 18:59

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.380		0.00805	0.0676	mg/kg dry	1	5/19/23 16:02

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-20230518**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	4.59		0.00776	0.0311	mg/kg dry	1	5/23/23 14:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	19800		0.238	4.00	mg/kg dry	1	6/2/23 9:33
Arsenic	11.4		0.143	2.00	mg/kg dry	1	6/2/23 9:33
Barium	148		0.0605	0.800	mg/kg dry	1	6/2/23 9:33
Beryllium	1.12		0.00463	0.0400	mg/kg dry	1	6/2/23 9:33
Calcium	4470		4.50	40.0	mg/kg dry	1	6/2/23 9:33
Chromium	35.3		0.0452	0.400	mg/kg dry	1	6/2/23 9:33
Cobalt	10.1		0.0409	0.320	mg/kg dry	1	6/2/23 9:33

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-20230518**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	61.2		0.112	0.400	mg/kg dry	1	6/2/23 9:33
Iron	33900		1.13	8.00	mg/kg dry	1	6/2/23 9:33
Lead	304		0.167	2.00	mg/kg dry	1	6/2/23 9:33
Magnesium	7390		14.1	80.0	mg/kg dry	1	6/2/23 9:33
Manganese	294		0.0498	0.400	mg/kg dry	1	6/2/23 9:33
Nickel	32.7		0.0352	0.200	mg/kg dry	1	6/2/23 9:33
Potassium	3980		47.6	160	mg/kg dry	1	6/2/23 9:33
Silver	0.612		0.0681	0.240	mg/kg dry	1	6/2/23 9:33
Sodium	3220		7.63	80.0	mg/kg dry	1	6/2/23 9:33
Vanadium	39.8		0.0920	0.800	mg/kg dry	1	6/2/23 9:33
Zinc	161		0.122	1.20	mg/kg dry	1	6/2/23 9:33

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE [2C]	0.0164		0.00110	0.00202	mg/kg dry	1	5/26/23 21:38
Chlordane [2C]	0.0512		0.000898	0.00202	mg/kg dry	1	5/26/23 21:38

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.280		0.0203	0.207	mg/kg dry	1	5/30/23 15:35
2-Methylnaphthalene	44.4	D	0.495	3.11	mg/kg dry	10	6/1/23 16:54
2-Methylphenol	0.141	J	0.0408	0.207	mg/kg dry	1	5/30/23 15:35
3+4-Methylphenol	0.715		0.0379	0.207	mg/kg dry	1	5/30/23 15:35
Acenaphthene	37.9	D	0.118	2.07	mg/kg dry	10	6/1/23 16:54
Acenaphthylene	5.74		0.00719	0.207	mg/kg dry	1	5/30/23 15:35
Anthracene	25.8	D	0.300	2.07	mg/kg dry	10	6/1/23 16:54
Benzo(a)anthracene	20.3	D	0.208	2.07	mg/kg dry	10	6/1/23 16:54
Benzo(a)pyrene	17.1	D	0.360	2.07	mg/kg dry	10	6/1/23 16:54
Benzo(b)fluoranthene	15.6	D	0.290	2.07	mg/kg dry	10	6/1/23 16:54
Benzo(g,h,i)perylene	9.41		0.0168	0.207	mg/kg dry	1	5/30/23 15:35
Benzo(k)fluoranthene	7.67		0.0238	0.207	mg/kg dry	1	5/30/23 15:35
Biphenyl	7.86		0.0182	0.207	mg/kg dry	1	5/30/23 15:35
Carbazole	19.3	D	0.398	5.17	mg/kg dry	10	6/1/23 16:54
Chrysene	18.5	D	0.142	2.07	mg/kg dry	10	6/1/23 16:54
Dibenzo(a,h)anthracene	1.03		0.0205	0.207	mg/kg dry	1	5/30/23 15:35
Dibenzofuran	18.3	D	0.123	2.07	mg/kg dry	10	6/1/23 16:54
Fluoranthene	48.0	D	0.194	2.07	mg/kg dry	10	6/1/23 16:54
Fluorene	26.8	D	0.172	2.07	mg/kg dry	10	6/1/23 16:54
Indeno(1,2,3-cd)pyrene	8.18		0.0222	0.207	mg/kg dry	1	5/30/23 15:35
Naphthalene	190	D	0.306	4.13	mg/kg dry	20	6/5/23 19:03

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenanthrene	79.2	D	0.272	2.07	mg/kg dry	10	6/1/23 16:54
Pyrene	41.6	D	0.152	2.07	mg/kg dry	10	6/1/23 16:54
TIC_2-Pentanone, 4-hydroxy-4-methyl-	30.3	J, B			mg/kg dry	1	5/30/23 15:35
TIC_4b,8-Dimethyl-2-isopropylphenanthrene, 4	24.5	J			mg/kg dry	1	5/30/23 15:35
TIC_Dibenzothiophene	12.4	J			mg/kg dry	1	5/30/23 15:35
TIC_Heneicosane	5.60	J			mg/kg dry	1	5/30/23 15:35
TIC_Indene	9.26	J			mg/kg dry	1	5/30/23 15:35
TIC_Naphthalene, 2,6-dimethyl-	6.70	J			mg/kg dry	1	5/30/23 15:35
TIC_Naphthalene, 2,7-dimethyl-	6.47	J			mg/kg dry	1	5/30/23 15:35
TIC_Naphthalene, 2-phenyl-	8.03	J			mg/kg dry	1	5/30/23 15:35
TIC_Octadecane	5.59	J			mg/kg dry	1	5/30/23 15:35
TIC_unknown (01)	10.3	J			mg/kg dry	1	5/30/23 15:35
TIC_unknown (02)	10.6	J			mg/kg dry	1	5/30/23 15:35
TIC_unknown (03)	14.6	J			mg/kg dry	1	5/30/23 15:35
TIC_unknown (04)	10.3	J			mg/kg dry	1	5/30/23 15:35
TIC_unknown (05)	30.6	J			mg/kg dry	1	5/30/23 15:35
TIC_unknown (06)	8.34	J			mg/kg dry	1	5/30/23 15:35

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.263		0.000466	0.00338	mg/kg dry	1	5/26/23 19:31
Benzene	0.119		0.000307	0.00338	mg/kg dry	1	5/26/23 19:31
EthylBenzene	0.475		0.000457	0.00338	mg/kg dry	1	5/26/23 19:31
Isopropylbenzene	0.0956		0.000530	0.00338	mg/kg dry	1	5/26/23 19:31
m+p-Xylenes	0.839		0.000852	0.00675	mg/kg dry	1	5/26/23 19:31
Methylcyclohexane	0.0110		0.000543	0.00338	mg/kg dry	1	5/26/23 19:31
o-Xylene	0.423		0.000434	0.00338	mg/kg dry	1	5/26/23 19:31
Styrene	0.0202		0.000483	0.00338	mg/kg dry	1	5/26/23 19:31
Toluene	0.139		0.000272	0.00338	mg/kg dry	1	5/26/23 19:31
Total Xylenes	1.26		0.000434	0.00338	mg/kg dry	1	5/26/23 19:31
TIC_1H-Indene, 2,3-dihydro-	0.161	J			mg/kg dry	1	5/26/23 19:31
TIC_1H-Indene, 3-methyl-	0.306	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.249	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzene, 1-ethyl-2-methyl-	0.113	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzene, 1-ethyl-3-methyl-	0.424	J			mg/kg dry	1	5/26/23 19:31

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-20230518**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1-ethyl-4-methyl-	0.344	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzene, 1-ethynyl-4-methyl-	1.23	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzo[b]thiophene	0.316	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzofuran, 2-methyl-	0.323	J			mg/kg dry	1	5/26/23 19:31
TIC_Benzofuran, 7-methyl-	0.118	J			mg/kg dry	1	5/26/23 19:31
TIC_TIC:Naphthalene	8.37	J			mg/kg dry	1	5/26/23 19:31

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.543		0.0111	0.0932	mg/kg dry	1	5/19/23 16:02

23E0932-07 (Ground Water) Sample Name: **FB-20230518**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	7.27		0.256	1.00	mg/L	1	6/12/23 12:36
Sodium	11.1		0.205	2.00	mg/L	1	6/12/23 12:36

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-ethylhexyl)phthalate	0.605	J	0.183	2.00	ug/L	1	5/22/23 16:56
TIC_2(5H)-Furanone, 5,5-dimethyl-	4.10	J			ug/L	1	5/22/23 16:56
TIC_Bicyclo[2.2.2]octan-1-ol, 4-methyl-	4.68	J			ug/L	1	5/22/23 16:56
TIC_Cyclopentanecarboxylic acid, 1-methyl-	5.29	J			ug/L	1	5/22/23 16:56
TIC_unknown (01)	5.92	J			ug/L	1	5/22/23 16:56
TIC_unknown (02)	4.24	J			ug/L	1	5/22/23 16:56

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-20230518**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.78		0.00580	0.0232	mg/kg dry	1	5/23/23 14:06

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4570		0.165	2.77	mg/kg dry	1	6/2/23 9:35
Arsenic	3.00		0.0990	1.39	mg/kg dry	1	6/2/23 9:35

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-20230518**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	113		0.0420	0.555	mg/kg dry	1	6/2/23 9:35
Beryllium	0.353		0.00321	0.0277	mg/kg dry	1	6/2/23 9:35
Calcium	141000	D	31.2	277	mg/kg dry	10	6/2/23 10:33
Chromium	9.77		0.0313	0.277	mg/kg dry	1	6/2/23 9:35
Cobalt	3.00		0.0284	0.222	mg/kg dry	1	6/2/23 9:35
Copper	36.3		0.0776	0.277	mg/kg dry	1	6/2/23 9:35
Iron	10700		0.786	5.55	mg/kg dry	1	6/2/23 9:35
Lead	106		0.116	1.39	mg/kg dry	1	6/2/23 9:35
Magnesium	3260		9.80	55.5	mg/kg dry	1	6/2/23 9:35
Manganese	181		0.0345	0.277	mg/kg dry	1	6/2/23 9:35
Nickel	8.07		0.0244	0.139	mg/kg dry	1	6/2/23 9:35
Potassium	1080		33.0	111	mg/kg dry	1	6/2/23 9:35
Sodium	797		5.29	55.5	mg/kg dry	1	6/2/23 9:35
Vanadium	15.6		0.0638	0.555	mg/kg dry	1	6/2/23 9:35
Zinc	56.3		0.0848	0.832	mg/kg dry	1	6/2/23 9:35

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00174		0.000690	0.00151	mg/kg dry	1	5/26/23 22:00
4,4'-DDE [2C]	0.00131	J	0.000825	0.00151	mg/kg dry	1	5/26/23 22:00
4,4'-DDT [2C]	0.00370		0.00106	0.00151	mg/kg dry	1	5/26/23 22:00

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.189	J, D	0.0740	0.464	mg/kg dry	2	5/30/23 16:06
3+4-Methylphenol	0.146	J, D	0.0566	0.308	mg/kg dry	2	5/30/23 16:06
Acenaphthene	0.133	J, D	0.0176	0.308	mg/kg dry	2	5/30/23 16:06
Acenaphthylene	4.58	D	0.0107	0.308	mg/kg dry	2	5/30/23 16:06
Anthracene	1.16	D	0.0448	0.308	mg/kg dry	2	5/30/23 16:06
Benzo(a)anthracene	1.25	D	0.0311	0.308	mg/kg dry	2	5/30/23 16:06
Benzo(a)pyrene	3.68	D	0.0538	0.308	mg/kg dry	2	5/30/23 16:06
Benzo(b)fluoranthene	3.58	D	0.0434	0.308	mg/kg dry	2	5/30/23 16:06
Benzo(g,h,i)perylene	16.5	D	0.125	1.54	mg/kg dry	10	6/1/23 17:27
Benzo(k)fluoranthene	1.36	D	0.0355	0.308	mg/kg dry	2	5/30/23 16:06
Chrysene	1.61	D	0.0212	0.308	mg/kg dry	2	5/30/23 16:06
Dibenzo(a,h)anthracene	0.298	J, D	0.0306	0.308	mg/kg dry	2	5/30/23 16:06
Fluoranthene	1.62	D	0.0290	0.308	mg/kg dry	2	5/30/23 16:06
Fluorene	0.418	D	0.0257	0.308	mg/kg dry	2	5/30/23 16:06
Indeno(1,2,3-cd)pyrene	5.80	D	0.0332	0.308	mg/kg dry	2	5/30/23 16:06
Naphthalene	0.484	D	0.0229	0.308	mg/kg dry	2	5/30/23 16:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenanthrene	0.806	D	0.0406	0.308	mg/kg dry	2	5/30/23 16:06
Pyrene	2.88	D	0.0227	0.308	mg/kg dry	2	5/30/23 16:06
TIC_1,3,5,7-Cyclooctatetraene	3.33	J, D			mg/kg dry	2	5/30/23 16:06
TIC_1,3,5-Hexatriene, 3-methyl-, (Z)-	1.40	J, D			mg/kg dry	2	5/30/23 16:06
TIC_2-Pentanone, 4-hydroxy-4-methyl-	28.9	J, D, B			mg/kg dry	2	5/30/23 16:06
TIC_Benzene, (1-nitroethyl)-	1.31	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Benzene, 1-ethenyl-3-methyl-	3.35	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	1.30	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Benzene, ethenylmethyl-	1.10	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Heneicosane	1.39	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Indene	1.10	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Naphthalene, 2-ethenyl-	1.94	J, D			mg/kg dry	2	5/30/23 16:06
TIC_Nonadecane	1.12	J, D			mg/kg dry	2	5/30/23 16:06
TIC_unknown (01)	1.03	J, D			mg/kg dry	2	5/30/23 16:06
TIC_unknown (02)	1.03	J, D			mg/kg dry	2	5/30/23 16:06
TIC_unknown (03)	1.22	J, D			mg/kg dry	2	5/30/23 16:06
TIC_unknown (04)	5.81	J, D			mg/kg dry	2	5/30/23 16:06

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.00616	J			mg/kg dry	1	5/30/23 16:38

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.252		0.00847	0.0711	mg/kg dry	1	5/22/23 15:16

23E0932-09 (Soil) Sample Name: **DUP-20230518**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	4.45	D	0.0226	0.180	mg/kg dry	5	6/10/23 8:21
Total PCBs	4.45	D	0.0168	0.180	mg/kg dry	5	6/10/23 8:21

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.795		0.00546	0.0218	mg/kg dry	1	5/23/23 14:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-09 (Soil) Sample Name: **DUP-20230518**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12700		0.166	2.79	mg/kg dry	1	6/2/23 9:38
Antimony	1.40		0.152	1.39	mg/kg dry	1	6/2/23 9:38
Arsenic	6.59		0.0994	1.39	mg/kg dry	1	6/2/23 9:38
Barium	117		0.0421	0.557	mg/kg dry	1	6/2/23 9:38
Beryllium	0.626		0.00323	0.0279	mg/kg dry	1	6/2/23 9:38
Cadmium	1.68		0.0543	0.279	mg/kg dry	1	6/2/23 9:38
Calcium	22200		3.13	27.9	mg/kg dry	1	6/2/23 9:38
Chromium	38.5		0.0315	0.279	mg/kg dry	1	6/2/23 9:38
Cobalt	8.58		0.0285	0.223	mg/kg dry	1	6/2/23 9:38
Copper	208		0.0780	0.279	mg/kg dry	1	6/2/23 9:38
Iron	29800	D	7.89	55.7	mg/kg dry	10	6/2/23 10:35
Lead	387		0.116	1.39	mg/kg dry	1	6/2/23 9:38
Magnesium	9300		9.85	55.7	mg/kg dry	1	6/2/23 9:38
Manganese	292		0.0347	0.279	mg/kg dry	1	6/2/23 9:38
Nickel	127		0.0245	0.139	mg/kg dry	1	6/2/23 9:38
Potassium	1290		33.1	111	mg/kg dry	1	6/2/23 9:38
Silver	0.315		0.0474	0.167	mg/kg dry	1	6/2/23 9:38
Sodium	980		5.31	55.7	mg/kg dry	1	6/2/23 9:38
Vanadium	641	D	0.641	5.57	mg/kg dry	10	6/2/23 10:35
Zinc	365	D	0.851	8.36	mg/kg dry	10	6/2/23 10:35

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00414		0.000650	0.00142	mg/kg dry	1	5/30/23 19:18
4,4'-DDE [2C]	0.00353		0.000777	0.00142	mg/kg dry	1	5/30/23 19:18
4,4'-DDT	0.00630		0.00100	0.00142	mg/kg dry	1	5/30/23 19:18
Chlordane [2C]	0.00739		0.000631	0.00142	mg/kg dry	1	5/30/23 19:18

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0858	J, D	0.0697	0.437	mg/kg dry	2	5/30/23 16:37
Acenaphthene	0.181	J, D	0.0166	0.291	mg/kg dry	2	5/30/23 16:37
Acenaphthylene	0.227	J, D	0.0101	0.291	mg/kg dry	2	5/30/23 16:37
Anthracene	0.555	D	0.0422	0.291	mg/kg dry	2	5/30/23 16:37
Benzo(a)anthracene	2.35	D	0.0293	0.291	mg/kg dry	2	5/30/23 16:37
Benzo(a)pyrene	3.94	D	0.0507	0.291	mg/kg dry	2	5/30/23 16:37
Benzo(b)fluoranthene	5.46	D	0.0409	0.291	mg/kg dry	2	5/30/23 16:37
Benzo(g,h,i)perylene	2.64	D	0.0236	0.291	mg/kg dry	2	5/30/23 16:37
Benzo(k)fluoranthene	1.97	D	0.0334	0.291	mg/kg dry	2	5/30/23 16:37
bis(2-ethylhexyl)phthalate	9.06	D	0.0581	0.291	mg/kg dry	2	5/30/23 16:37

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E0932-09 (Soil) Sample Name: **DUP-20230518**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Butylbenzylphthalate	5.13	D	0.0264	0.291	mg/kg dry	2	5/30/23 16:37
Carbazole	0.217	J, D	0.0559	0.728	mg/kg dry	2	5/30/23 16:37
Chrysene	2.86	D	0.0199	0.291	mg/kg dry	2	5/30/23 16:37
Dibenzo(a,h)anthracene	0.257	J, D	0.0288	0.291	mg/kg dry	2	5/30/23 16:37
Dibenzofuran	0.123	J, D	0.0173	0.291	mg/kg dry	2	5/30/23 16:37
Fluoranthene	4.69	D	0.0273	0.291	mg/kg dry	2	5/30/23 16:37
Fluorene	0.204	J, D	0.0243	0.291	mg/kg dry	2	5/30/23 16:37
Indeno(1,2,3-cd)pyrene	2.34	D	0.0312	0.291	mg/kg dry	2	5/30/23 16:37
Naphthalene	0.117	J, D	0.0215	0.291	mg/kg dry	2	5/30/23 16:37
Phenanthrene	1.48	D	0.0382	0.291	mg/kg dry	2	5/30/23 16:37
Pyrene	6.05	D	0.0214	0.291	mg/kg dry	2	5/30/23 16:37
TIC_2-Pentanone, 4-hydroxy-4-methyl-	26.7	J, D, B			mg/kg dry	2	5/30/23 16:37
TIC_Tridecane, 1-iodo-	0.743	J, D			mg/kg dry	2	5/30/23 16:37

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2-Propanone	0.00801	J			mg/kg dry	1	5/30/23 17:10
TIC_Methane, chlorofluoro-	0.00572	J			mg/kg dry	1	5/30/23 17:10

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	1.13		0.00781	0.0655	mg/kg dry	1	5/22/23 15:16

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-202 30518** Collected: **5/18/2023 7:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0626	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1221	ND	U	0.123	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1232	ND	U	0.157	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1242	ND	U	0.0917	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1248	ND	U	0.0959	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1254	ND	U	0.0753	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1260	**5.94**	D	**0.0584**	**0.467**	**mg/kg**	**10**	**5/24/23 16:32**
Aroclor-1262	ND	U	0.126	0.467	mg/kg	10	5/24/23 16:32
Aroclor-1268	ND	U	0.0565	0.467	mg/kg	10	5/24/23 16:32
Total PCBs	**5.94**	D	**0.0436**	**0.467**	**mg/kg**	**10**	**5/24/23 16:32**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0139	0.141	mg/kg	1	6/3/23 16:48	UJ, RC:3L
2,4-D	ND	U	0.0235	0.141	mg/kg	1	6/3/23 16:48	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.579**		**0.00707**	**0.0283**	**mg/kg**	**1**	**5/23/23 11:38**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3540**		**0.209**	**3.52**	**mg/kg**	**1**	**6/2/23 13:47**
Antimony	ND	U	0.192	1.76	mg/kg	1	6/2/23 13:47
Arsenic	**8.89**		**0.126**	**1.76**	**mg/kg**	**1**	**6/2/23 13:47**
Barium	**95.2**		**0.0532**	**0.704**	**mg/kg**	**1**	**6/2/23 13:47**
Beryllium	**0.318**		**0.00407**	**0.0352**	**mg/kg**	**1**	**6/2/23 13:47**
Cadmium	ND	U	0.0686	0.352	mg/kg	1	6/2/23 13:47
Calcium	**16000**		**3.96**	**35.2**	**mg/kg**	**1**	**6/2/23 13:47**
Chromium	**9.60**		**0.0397**	**0.352**	**mg/kg**	**1**	**6/2/23 13:47**
Cobalt	**3.87**		**0.0360**	**0.281**	**mg/kg**	**1**	**6/2/23 13:47**
Copper	**37.6**		**0.0984**	**0.352**	**mg/kg**	**1**	**6/2/23 13:47**
Iron	**11600**		**0.997**	**7.04**	**mg/kg**	**1**	**6/2/23 13:47**
Lead	**130**		**0.147**	**1.76**	**mg/kg**	**1**	**6/2/23 13:47**
Magnesium	**2040**		**12.4**	**70.4**	**mg/kg**	**1**	**6/2/23 13:47**
Manganese	**336**		**0.0438**	**0.352**	**mg/kg**	**1**	**6/2/23 13:47**
Nickel	**9.15**		**0.0309**	**0.176**	**mg/kg**	**1**	**6/2/23 13:47**
Potassium	**629**		**41.8**	**141**	**mg/kg**	**1**	**6/2/23 13:47**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-20230518** Collected: **5/18/2023 7:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.338	1.76	mg/kg	1	6/2/23 13:47
Silver	ND	U	0.0598	0.211	mg/kg	1	6/2/23 13:47
Sodium	**1500**		**6.71**	**70.4**	**mg/kg**	**1**	**6/2/23 13:47**
Thallium	ND	U	0.118	1.76	mg/kg	1	6/2/23 13:47
Vanadium	**15.3**		**0.0809**	**0.704**	**mg/kg**	**1**	**6/2/23 13:47**
Zinc	**70.0**		**0.107**	**1.06**	**mg/kg**	**1**	**6/2/23 13:47**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000842	0.00184	mg/kg	1	5/26/23 19:47	UJ, RC:6L
4,4'-DDE	**0.00461**		**0.00101**	**0.00184**	**mg/kg**	**1**	**5/26/23 19:47**	J, RC:6L
4,4'-DDT	ND	U	0.00130	0.00184	mg/kg	1	5/26/23 19:47	
Aldrin	ND	U	0.000871	0.00184	mg/kg	1	5/26/23 19:47	
alpha-BHC	ND	U	0.000547	0.00184	mg/kg	1	5/26/23 19:47	UJ, RC:6L
beta-BHC	ND	U	0.000878	0.00184	mg/kg	1	5/26/23 19:47	UJ, RC:6L
Chlordane	ND	U	0.000817	0.00184	mg/kg	1	5/26/23 19:47	
delta-BHC	ND	U	0.000854	0.00184	mg/kg	1	5/26/23 19:47	
Dieldrin	ND	U	0.000962	0.00184	mg/kg	1	5/26/23 19:47	
Endosulfan I	ND	U	0.000868	0.00184	mg/kg	1	5/26/23 19:47	
Endosulfan II	ND	U	0.000836	0.00184	mg/kg	1	5/26/23 19:47	
Endosulfan sulfate	ND	U	0.000692	0.00184	mg/kg	1	5/26/23 19:47	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000836	0.00184	mg/kg	1	5/26/23 19:47	
Endrin	ND	U	0.000635	0.00184	mg/kg	1	5/26/23 19:47	
Endrin aldehyde	ND	U	0.000733	0.00184	mg/kg	1	5/26/23 19:47	
Endrin ketone	ND	U	0.000648	0.00184	mg/kg	1	5/26/23 19:47	
gamma-BHC (Lindane)	ND	U	0.000583	0.00184	mg/kg	1	5/26/23 19:47	
Heptachlor	ND	U	0.000492	0.00184	mg/kg	1	5/26/23 19:47	
Heptachlor Epoxide	ND	U	0.000928	0.00184	mg/kg	1	5/26/23 19:47	
Methoxychlor	ND	U	0.000539	0.00184	mg/kg	1	5/26/23 19:47	
Toxaphene	ND	U	0.0886	0.0933	mg/kg	1	5/26/23 19:47	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00532	0.0471	mg/kg	1	5/25/23 20:19
2,3,4,6-Tetrachlorophenol	ND	U	0.0290	0.188	mg/kg	1	5/25/23 20:19
2,4,5-Trichlorophenol	ND	U	0.0256	0.188	mg/kg	1	5/25/23 20:19
2,4,6-Trichlorophenol	ND	U	0.0118	0.188	mg/kg	1	5/25/23 20:19

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-202 30518** Collected: **5/18/2023 7:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0190	0.188	mg/kg	1	5/25/23 20:19	
2,4-Dimethylphenol	ND	U	0.0185	0.188	mg/kg	1	5/25/23 20:19	
2,4-Dinitrophenol	ND	U	0.0272	0.943	mg/kg	1	5/25/23 20:19	
2,4-Dinitrotoluene	ND	U	0.0201	0.188	mg/kg	1	5/25/23 20:19	
2,6-Dinitrotoluene	ND	U	0.0450	0.188	mg/kg	1	5/25/23 20:19	
2-Chloronaphthalene	ND	U	0.0216	0.188	mg/kg	1	5/25/23 20:19	
2-Chlorophenol	ND	U	0.0249	0.188	mg/kg	1	5/25/23 20:19	
2-Methylnaphthalene	**0.0616**	J	**0.0451**	**0.283**	**mg/kg**	**1**	**5/25/23 20:19**	
2-Methylphenol	ND	U	0.0372	0.188	mg/kg	1	5/25/23 20:19	
2-Nitroaniline	ND	U	0.0151	0.188	mg/kg	1	5/25/23 20:19	
2-Nitrophenol	ND	U	0.0209	0.188	mg/kg	1	5/25/23 20:19	
3,3'-Dichlorobenzidine	ND	U	0.0198	0.188	mg/kg	1	5/25/23 20:19	
3+4-Methylphenol	**0.0802**	J	**0.0345**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
3-Nitroaniline	ND	U	0.0349	0.188	mg/kg	1	5/25/23 20:19	
4,6-Dinitro-2-methylphenol	ND	U	0.0355	0.471	mg/kg	1	5/25/23 20:19	
4-Bromophenyl-phenyl ether	ND	U	0.0269	0.188	mg/kg	1	5/25/23 20:19	
4-Chloro-3-methylphenol	ND	U	0.0297	0.188	mg/kg	1	5/25/23 20:19	
4-Chloroaniline	ND	U	0.00659	0.188	mg/kg	1	5/25/23 20:19	
4-Chlorophenyl phenyl ether	ND	U	0.0102	0.188	mg/kg	1	5/25/23 20:19	
4-Nitroaniline	ND	U	0.0942	0.188	mg/kg	1	5/25/23 20:19	
4-Nitrophenol	ND	U	0.0121	0.188	mg/kg	1	5/25/23 20:19	
Acenaphthene	**0.177**	J	**0.0107**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Acenaphthylene	ND	U	0.00655	0.188	mg/kg	1	5/25/23 20:19	
Acetophenone	ND	U	0.0187	0.188	mg/kg	1	5/25/23 20:19	
Anthracene	**0.756**		**0.0273**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Atrazine	ND	U	0.0177	0.188	mg/kg	1	5/25/23 20:19	
Benzaldehyde	**0.235**		**0.0578**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	J, RC:SL
Benzo(a)anthracene	**1.13**		**0.0190**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Benzo(a)pyrene	**0.564**		**0.0328**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Benzo(b)fluoranthene	**0.779**		**0.0264**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Benzo(g,h,i)perylene	**0.375**		**0.0153**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	J, RC:SH
Benzo(k)fluoranthene	**0.285**		**0.0216**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Biphenyl	ND	U	0.0165	0.188	mg/kg	1	5/25/23 20:19	
bis(2-chloroethoxy)methane	ND	U	0.0260	0.188	mg/kg	1	5/25/23 20:19	
bis(2-chloroethyl)ether	ND	U	0.0206	0.188	mg/kg	1	5/25/23 20:19	
bis(2-chloroisopropyl)ether	ND	U	0.0677	0.188	mg/kg	1	5/25/23 20:19	
bis(2-ethylhexyl)phthalate	ND	U	0.0376	0.188	mg/kg	1	5/25/23 20:19	
Butylbenzylphthalate	ND	U	0.0171	0.188	mg/kg	1	5/25/23 20:19	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-202 30518** Collected: **5/18/2023 7:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0243	0.188	mg/kg	1	5/25/23 20:19	
Carbazole	ND	U	0.0362	0.471	mg/kg	1	5/25/23 20:19	
Chrysene	**1.30**		**0.0129**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Dibenzo(a,h)anthracene	**0.176**	J	**0.0187**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	J, RC:SH
Dibenzofuran	**0.136**	J	**0.0112**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Diethylphthalate	ND	U	0.0365	0.188	mg/kg	1	5/25/23 20:19	
Dimethylphthalate	ND	U	0.0117	0.188	mg/kg	1	5/25/23 20:19	
Di-n-butylphthalate	ND	U	0.0769	0.188	mg/kg	1	5/25/23 20:19	
Di-n-octylphthalate	ND	U	0.0386	0.188	mg/kg	1	5/25/23 20:19	
Fluoranthene	**3.79**		**0.0177**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Fluorene	**0.332**		**0.0157**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Hexachlorobenzene	ND	U	0.0246	0.188	mg/kg	1	5/25/23 20:19	
Hexachlorobutadiene	ND	U	0.0904	0.188	mg/kg	1	5/25/23 20:19	
Hexachlorocyclopentadiene	ND	U	0.0785	0.471	mg/kg	1	5/25/23 20:19	
Hexachloroethane	ND	U	0.0206	0.188	mg/kg	1	5/25/23 20:19	
Indeno(1,2,3-cd)pyrene	**0.294**		**0.0202**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	J, RC:SH
Isophorone	ND	U	0.0123	0.188	mg/kg	1	5/25/23 20:19	
Naphthalene	**0.150**	J	**0.0139**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Nitrobenzene	ND	U	0.0320	0.188	mg/kg	1	5/25/23 20:19	
n-Nitroso-di-n-propylamine	ND	U	0.0101	0.188	mg/kg	1	5/25/23 20:19	
n-Nitrosodiphenylamine	ND	U	0.0402	0.188	mg/kg	1	5/25/23 20:19	
Pentachlorophenol	ND	U	0.0259	0.471	mg/kg	1	5/25/23 20:19	
Phenanthrene	**4.83**		**0.0248**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	
Phenol	ND	U	0.0153	0.188	mg/kg	1	5/25/23 20:19	
Pyrene	**2.68**		**0.0138**	**0.188**	**mg/kg**	**1**	**5/25/23 20:19**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	30.6	5.21	J	mg/kg	1	5/25/23 20:19
Acetic acid, 1-methylpropyl ester	0.608	5.97	J	mg/kg	1	5/25/23 20:19
Dibenzothiophene	0.745	11.39	J	mg/kg	1	5/25/23 20:19
Heptacosane, 1-chloro-	0.781	11.63	J	mg/kg	1	5/25/23 20:19
Hexadecane, 2,6,10,14-tetramethyl-	1.54	11.28	J	mg/kg	1	5/25/23 20:19
Hexadecanoic acid, butyl ester	5.59	12.83	J	mg/kg	1	5/25/23 20:19
Octadecanoic acid, butyl ester	3.77	13.65	J	mg/kg	1	5/25/23 20:19
unknown (01)	2.54	12.24	J	mg/kg	1	5/25/23 20:19
unknown (02)	3.54	12.35	J	mg/kg	1	5/25/23 20:19
TIC Total	**49.7**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-202 30518** Collected: **5/18/2023 7:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000421	0.00289	mg/kg	1	5/26/23 16:53	
1,1,2,2-Tetrachloroethane	ND	U	0.000398	0.00289	mg/kg	1	5/26/23 16:53	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00124	0.00289	mg/kg	1	5/26/23 16:53	
1,1,2-Trichloroethane	ND	U	0.000486	0.00289	mg/kg	1	5/26/23 16:53	
1,1-Dichloroethane	ND	U	0.000421	0.00289	mg/kg	1	5/26/23 16:53	
1,1-Dichloroethene	ND	U	0.000534	0.00289	mg/kg	1	5/26/23 16:53	
1,2,3-Trichlorobenzene	ND	U	0.000623	0.00289	mg/kg	1	5/26/23 16:53	UJ, RC:4L
1,2,4-Trichlorobenzene	ND	U	0.000769	0.00289	mg/kg	1	5/26/23 16:53	UJ, RC:4L
1,2,4-Trimethylbenzene	ND	U	0.000398	0.00289	mg/kg	1	5/26/23 16:53	
1,2-Dibromo-3-chloropropane	ND	U	0.000704	0.00289	mg/kg	1	5/26/23 16:53	
1,2-Dibromoethane	ND	U	0.000364	0.00289	mg/kg	1	5/26/23 16:53	
1,2-Dichlorobenzene	ND	U	0.000509	0.00289	mg/kg	1	5/26/23 16:53	
1,2-Dichloroethane	ND	U	0.000407	0.00289	mg/kg	1	5/26/23 16:53	
1,2-Dichloropropane	ND	U	0.000473	0.00289	mg/kg	1	5/26/23 16:53	
1,3-Dichlorobenzene	ND	U	0.000212	0.00289	mg/kg	1	5/26/23 16:53	
1,4-Dichlorobenzene	ND	U	0.000416	0.00289	mg/kg	1	5/26/23 16:53	
2-Butanone	ND	U	0.000470	0.00722	mg/kg	1	5/26/23 16:53	
2-Hexanone	ND	U	0.000270	0.00289	mg/kg	1	5/26/23 16:53	
4-Methyl-2-pentanone	ND	U	0.000361	0.00289	mg/kg	1	5/26/23 16:53	
Acetone	ND	U	0.000875	0.00722	mg/kg	1	5/26/23 16:53	
Benzene	ND	U	0.000263	0.00289	mg/kg	1	5/26/23 16:53	
Bromochloromethane	ND	U	0.000533	0.00289	mg/kg	1	5/26/23 16:53	
Bromodichloromethane	ND	U	0.000362	0.00289	mg/kg	1	5/26/23 16:53	
Bromoform	ND	U	0.000507	0.00289	mg/kg	1	5/26/23 16:53	
Bromomethane	ND	U	0.000833	0.00289	mg/kg	1	5/26/23 16:53	
Carbon disulfide	ND	U	0.000414	0.00289	mg/kg	1	5/26/23 16:53	
Carbon Tetrachloride	ND	U	0.000434	0.00289	mg/kg	1	5/26/23 16:53	
Chlorobenzene	ND	U	0.000419	0.00289	mg/kg	1	5/26/23 16:53	
Chlorodibromomethane	ND	U	0.000355	0.00289	mg/kg	1	5/26/23 16:53	
Chloroethane	ND	U	0.000492	0.00289	mg/kg	1	5/26/23 16:53	
Chloroform	ND	U	0.000485	0.00289	mg/kg	1	5/26/23 16:53	
Chloromethane	ND	U	0.00111	0.00289	mg/kg	1	5/26/23 16:53	
cis-1,2-Dichloroethene	ND	U	0.000140	0.00289	mg/kg	1	5/26/23 16:53	
cis-1,3-Dichloropropene	ND	U	0.000365	0.00289	mg/kg	1	5/26/23 16:53	
Cyclohexane	ND	U	0.000639	0.00289	mg/kg	1	5/26/23 16:53	
Dichlorodifluoromethane	ND	U	0.000974	0.00289	mg/kg	1	5/26/23 16:53	
EthylBenzene	ND	U	0.000391	0.00289	mg/kg	1	5/26/23 16:53	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-01 (Soil) Sample Name: **OH-SB-18-5.0-6.0-20230518** Collected: **5/18/2023 7:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000453	0.00289	mg/kg	1	5/26/23 16:53
m+p-Xylenes	ND	U	0.000729	0.00577	mg/kg	1	5/26/23 16:53
Methyl Acetate	ND	U	0.000382	0.00289	mg/kg	1	5/26/23 16:53
Methyl tert-Butyl Ether	ND	U	0.000488	0.00289	mg/kg	1	5/26/23 16:53
Methylcyclohexane	ND	U	0.000465	0.00289	mg/kg	1	5/26/23 16:53
Methylene Chloride	ND	U	0.000867	0.00289	mg/kg	1	5/26/23 16:53
o-Xylene	ND	U	0.000371	0.00289	mg/kg	1	5/26/23 16:53
Styrene	ND	U	0.000413	0.00289	mg/kg	1	5/26/23 16:53
tert-Butyl alcohol	ND	U	0.00606	0.0289	mg/kg	1	5/26/23 16:53
Tetrachloroethene	ND	U	0.000286	0.00289	mg/kg	1	5/26/23 16:53
Toluene	ND	U	0.000232	0.00289	mg/kg	1	5/26/23 16:53
Total Xylenes	ND	U	0.000371	0.00289	mg/kg	1	5/26/23 16:53
trans-1,2-Dichloroethene	ND	U	0.000391	0.00289	mg/kg	1	5/26/23 16:53
trans-1,3-Dichloropropene	ND	U	0.000551	0.00289	mg/kg	1	5/26/23 16:53
Trichloroethene	ND	U	0.000424	0.00289	mg/kg	1	5/26/23 16:53
Trichlorofluoromethane	ND	U	0.000332	0.00289	mg/kg	1	5/26/23 16:53
Vinyl chloride	ND	U	0.000548	0.00289	mg/kg	1	5/26/23 16:53

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0141	5.26	J	mg/kg	1	5/26/23 16:53
TIC Total	**0.014**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**70.7**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.191**		**0.00991**	**0.0831**	**mg/kg**	**1**	**5/19/23 16:02**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-202 30518** Collected: **5/18/2023 7:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00487	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1221	ND	U	0.00958	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1232	ND	U	0.0122	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1242	ND	U	0.00714	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1248	ND	U	0.00747	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1254	ND	U	0.00586	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1260	**1.00**		**0.00455**	**0.0363**	**mg/kg**	**1**	**6/2/23 20:40**
Aroclor-1262	ND	U	0.00978	0.0363	mg/kg	1	6/2/23 20:40
Aroclor-1268	ND	U	0.00440	0.0363	mg/kg	1	6/2/23 20:40
Total PCBs	**1.00**		**0.00339**	**0.0363**	**mg/kg**	**1**	**6/2/23 20:40**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	6/3/23 17:35	UJ, RC:3L
2,4-D	ND	U	0.0183	0.110	mg/kg	1	6/3/23 17:35	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.323**		**0.00550**	**0.0220**	**mg/kg**	**1**	**5/23/23 11:38**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4460**		**0.158**	**2.66**	**mg/kg**	**1**	**6/2/23 9:24**
Antimony	**2.78**		**0.145**	**1.33**	**mg/kg**	**1**	**6/2/23 9:24**
Arsenic	**8.08**		**0.0949**	**1.33**	**mg/kg**	**1**	**6/2/23 9:24**
Barium	**179**		**0.0402**	**0.532**	**mg/kg**	**1**	**6/2/23 9:24**
Beryllium	**0.310**		**0.00308**	**0.0266**	**mg/kg**	**1**	**6/2/23 9:24**
Cadmium	**0.790**		**0.0518**	**0.266**	**mg/kg**	**1**	**6/2/23 9:24**
Calcium	**32700**	D	**29.9**	**266**	**mg/kg**	**10**	**6/2/23 10:27**
Chromium	**7.31**		**0.0300**	**0.266**	**mg/kg**	**1**	**6/2/23 9:24**
Cobalt	**3.19**		**0.0272**	**0.213**	**mg/kg**	**1**	**6/2/23 9:24**
Copper	**59.6**		**0.0744**	**0.266**	**mg/kg**	**1**	**6/2/23 9:24**
Iron	**15800**		**0.753**	**5.32**	**mg/kg**	**1**	**6/2/23 9:24**
Lead	**133**		**0.111**	**1.33**	**mg/kg**	**1**	**6/2/23 9:24**
Magnesium	**3690**		**9.39**	**53.2**	**mg/kg**	**1**	**6/2/23 9:24**
Manganese	**942**		**0.0331**	**0.266**	**mg/kg**	**1**	**6/2/23 9:24**
Nickel	**7.37**		**0.0234**	**0.133**	**mg/kg**	**1**	**6/2/23 9:24**
Potassium	**1210**		**31.6**	**106**	**mg/kg**	**1**	**6/2/23 9:24**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-202 30518** Collected: **5/18/2023 7:50:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.255	1.33	mg/kg	1	6/2/23 9:24
Silver	**0.693**		**0.0452**	**0.160**	**mg/kg**	**1**	**6/2/23 9:24**
Sodium	**2180**		**5.07**	**53.2**	**mg/kg**	**1**	**6/2/23 9:24**
Thallium	ND	U	0.0895	1.33	mg/kg	1	6/2/23 9:24
Vanadium	**10.6**		**0.0612**	**0.532**	**mg/kg**	**1**	**6/2/23 9:24**
Zinc	**359**	D	**0.812**	**7.98**	**mg/kg**	**10**	**6/2/23 10:27**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.0658**		**0.000655**	**0.00143**	**mg/kg**	**1**	**5/26/23 20:09**	J, RC:6L,3H
4,4'-DDE [2C]	**0.0138**		**0.000783**	**0.00143**	**mg/kg**	**1**	**5/26/23 20:09**	J, RC:6L,3H
4,4'-DDT	**0.0528**		**0.00101**	**0.00143**	**mg/kg**	**1**	**5/26/23 20:09**	
Aldrin	ND	U	0.000678	0.00143	mg/kg	1	5/26/23 20:09	
alpha-BHC	ND	U	0.000426	0.00143	mg/kg	1	5/26/23 20:09	UJ, RC:6L
beta-BHC	ND	U	0.000684	0.00143	mg/kg	1	5/26/23 20:09	UJ, RC:6L
Chlordane	**0.0113**		**0.000636**	**0.00143**	**mg/kg**	**1**	**5/26/23 20:09**	
delta-BHC	ND	U	0.000665	0.00143	mg/kg	1	5/26/23 20:09	
Dieldrin	ND	U	0.000749	0.00143	mg/kg	1	5/26/23 20:09	
Endosulfan I	ND	U	0.000676	0.00143	mg/kg	1	5/26/23 20:09	
Endosulfan II	ND	U	0.000651	0.00143	mg/kg	1	5/26/23 20:09	
Endosulfan sulfate	ND	U	0.000538	0.00143	mg/kg	1	5/26/23 20:09	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000651	0.00143	mg/kg	1	5/26/23 20:09	
Endrin	ND	U	0.000494	0.00143	mg/kg	1	5/26/23 20:09	
Endrin aldehyde	ND	U	0.000570	0.00143	mg/kg	1	5/26/23 20:09	
Endrin ketone	ND	U	0.000504	0.00143	mg/kg	1	5/26/23 20:09	
gamma-BHC (Lindane)	ND	U	0.000454	0.00143	mg/kg	1	5/26/23 20:09	
Heptachlor	ND	U	0.000383	0.00143	mg/kg	1	5/26/23 20:09	
Heptachlor Epoxide	ND	U	0.000722	0.00143	mg/kg	1	5/26/23 20:09	
Methoxychlor	ND	U	0.000419	0.00143	mg/kg	1	5/26/23 20:09	
Toxaphene	ND	U	0.0690	0.0727	mg/kg	1	5/26/23 20:09	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00828	0.0733	mg/kg	2	5/30/23 13:31
2,3,4,6-Tetrachlorophenol	ND	U	0.0451	0.293	mg/kg	2	5/30/23 13:31
2,4,5-Trichlorophenol	ND	U	0.0399	0.293	mg/kg	2	5/30/23 13:31
2,4,6-Trichlorophenol	ND	U	0.0183	0.293	mg/kg	2	5/30/23 13:31

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-202 30518** Collected: **5/18/2023 7:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0295	0.293	mg/kg	2	5/30/23 13:31	
2,4-Dimethylphenol	ND	U	0.0288	0.293	mg/kg	2	5/30/23 13:31	
2,4-Dinitrophenol	ND	U	0.0423	1.47	mg/kg	2	5/30/23 13:31	
2,4-Dinitrotoluene	ND	U	0.0313	0.293	mg/kg	2	5/30/23 13:31	
2,6-Dinitrotoluene	ND	U	0.0700	0.293	mg/kg	2	5/30/23 13:31	
2-Chloronaphthalene	ND	U	0.0337	0.293	mg/kg	2	5/30/23 13:31	
2-Chlorophenol	ND	U	0.0388	0.293	mg/kg	2	5/30/23 13:31	
2-Methylnaphthalene	**0.402**	J, D	**0.0702**	**0.440**	**mg/kg**	**2**	**5/30/23 13:31**	
2-Methylphenol	ND	U	0.0579	0.293	mg/kg	2	5/30/23 13:31	
2-Nitroaniline	ND	U	0.0236	0.293	mg/kg	2	5/30/23 13:31	
2-Nitrophenol	ND	U	0.0326	0.293	mg/kg	2	5/30/23 13:31	
3,3'-Dichlorobenzidine	ND	U	0.0308	0.293	mg/kg	2	5/30/23 13:31	
3+4-Methylphenol	ND	U	0.0537	0.293	mg/kg	2	5/30/23 13:31	
3-Nitroaniline	ND	U	0.0544	0.293	mg/kg	2	5/30/23 13:31	
4,6-Dinitro-2-methylphenol	ND	U	0.0553	0.733	mg/kg	2	5/30/23 13:31	
4-Bromophenyl-phenyl ether	ND	U	0.0418	0.293	mg/kg	2	5/30/23 13:31	
4-Chloro-3-methylphenol	ND	U	0.0462	0.293	mg/kg	2	5/30/23 13:31	
4-Chloroaniline	ND	U	0.0103	0.293	mg/kg	2	5/30/23 13:31	
4-Chlorophenyl phenyl ether	ND	U	0.0158	0.293	mg/kg	2	5/30/23 13:31	
4-Nitroaniline	ND	U	0.147	0.293	mg/kg	2	5/30/23 13:31	
4-Nitrophenol	ND	U	0.0188	0.293	mg/kg	2	5/30/23 13:31	
Acenaphthene	**1.00**	D	**0.0167**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Acenaphthylene	**0.647**	D	**0.0102**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Acetophenone	**0.0771**	J, D	**0.0291**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Anthracene	**3.78**	D	**0.0425**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Atrazine	ND	U	0.0275	0.293	mg/kg	2	5/30/23 13:31	
Benzaldehyde	ND	U	0.0901	0.293	mg/kg	2	5/30/23 13:31	UJ, RC:SL
Benzo(a)anthracene	**9.32**	D	**0.0295**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Benzo(a)pyrene	**11.3**	D	**0.0511**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Benzo(b)fluoranthene	**13.7**	D	**0.0412**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Benzo(g,h,i)perylene	**7.28**	D	**0.0238**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	J, RC:SH,6H
Benzo(k)fluoranthene	**4.61**	D	**0.0337**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Biphenyl	**0.122**	J, D	**0.0258**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
bis(2-chloroethoxy)methane	ND	U	0.0405	0.293	mg/kg	2	5/30/23 13:31	
bis(2-chloroethyl)ether	ND	U	0.0321	0.293	mg/kg	2	5/30/23 13:31	
bis(2-chloroisopropyl)ether	ND	U	0.105	0.293	mg/kg	2	5/30/23 13:31	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**4.94**	D	**0.0586**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Butylbenzylphthalate	**43.8**	D	**0.133**	**1.46**	**mg/kg**	**10**	**6/1/23 15:50**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-202 30518** Collected: **5/18/2023 7:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0379	0.293	mg/kg	2	5/30/23 13:31	
Carbazole	**0.918**	D	**0.0564**	**0.733**	**mg/kg**	**2**	**5/30/23 13:31**	
Chrysene	**10.1**	D	**0.0201**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Dibenzo(a,h)anthracene	**0.714**	D	**0.0291**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	J, RC:6H
Dibenzofuran	**0.519**	D	**0.0175**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Diethylphthalate	ND	U	0.0568	0.293	mg/kg	2	5/30/23 13:31	
Dimethylphthalate	ND	U	0.0182	0.293	mg/kg	2	5/30/23 13:31	
Di-n-butylphthalate	**0.836**	D	**0.120**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Di-n-octylphthalate	ND	U	0.0601	0.293	mg/kg	2	5/30/23 13:31	
Fluoranthene	**18.1**	D	**0.0275**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Fluorene	**1.22**	D	**0.0244**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Hexachlorobenzene	ND	U	0.0383	0.293	mg/kg	2	5/30/23 13:31	
Hexachlorobutadiene	ND	U	0.141	0.293	mg/kg	2	5/30/23 13:31	
Hexachlorocyclopentadiene	ND	U	0.122	0.733	mg/kg	2	5/30/23 13:31	
Hexachloroethane	ND	U	0.0321	0.293	mg/kg	2	5/30/23 13:31	
Indeno(1,2,3-cd)pyrene	**6.04**	D	**0.0315**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	J, RC:SH,6H
Isophorone	ND	U	0.0192	0.293	mg/kg	2	5/30/23 13:31	
Naphthalene	**0.317**	D	**0.0217**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Nitrobenzene	ND	U	0.0498	0.293	mg/kg	2	5/30/23 13:31	
n-Nitroso-di-n-propylamine	ND	U	0.0157	0.293	mg/kg	2	5/30/23 13:31	
n-Nitrosodiphenylamine	ND	U	0.0625	0.293	mg/kg	2	5/30/23 13:31	
Pentachlorophenol	ND	U	0.0403	0.733	mg/kg	2	5/30/23 13:31	
Phenanthrene	**12.6**	D	**0.0385**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	
Phenol	ND	U	0.0238	0.293	mg/kg	2	5/30/23 13:31	
Pyrene	**17.1**	D	**0.0216**	**0.293**	**mg/kg**	**2**	**5/30/23 13:31**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~25.9~~ R, RC:2	5.20	J, D, B	mg/kg	2	5/30/23 13:31
2-Phenylnaphthalene	1.52	12.28	J, D	mg/kg	2	5/30/23 13:31
Dibenzothiophene	0.862	11.39	J, D	mg/kg	2	5/30/23 13:31
Heptadecane, 2,6,10,15-tetramethyl-	1.75	11.28	J, D	mg/kg	2	5/30/23 13:31
Naphthalene, 2,3-dimethyl-	1.00	9.63	J, D	mg/kg	2	5/30/23 13:31
unknown (01)	1.19	11.08	J, D	mg/kg	2	5/30/23 13:31
unknown (02)	2.95	12.02	J, D	mg/kg	2	5/30/23 13:31
unknown (03)	1.24	12.07	J, D	mg/kg	2	5/30/23 13:31
unknown (04)	7.14	12.12	J, D	mg/kg	2	5/30/23 13:31

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-202 30518** Collected: **5/18/2023 7:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (05)	1.24	12.32	J, D	mg/kg	2	5/30/23 13:31
unknown (06)	1.54	12.56	J, D	mg/kg	2	5/30/23 13:31
TIC Total	~~46.3~~ 20.4					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000321	0.00220	mg/kg	1	5/26/23 17:25	
1,1,2,2-Tetrachloroethane	ND	U	0.000304	0.00220	mg/kg	1	5/26/23 17:25	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000942	0.00220	mg/kg	1	5/26/23 17:25	
1,1,2-Trichloroethane	ND	U	0.000371	0.00220	mg/kg	1	5/26/23 17:25	
1,1-Dichloroethane	ND	U	0.000321	0.00220	mg/kg	1	5/26/23 17:25	
1,1-Dichloroethene	ND	U	0.000407	0.00220	mg/kg	1	5/26/23 17:25	
1,2,3-Trichlorobenzene	ND	U	0.000476	0.00220	mg/kg	1	5/26/23 17:25	UJ, RC:SL
1,2,4-Trichlorobenzene	ND	U	0.000587	0.00220	mg/kg	1	5/26/23 17:25	UJ, RC:SL
1,2,4-Trimethylbenzene	ND	U	0.000304	0.00220	mg/kg	1	5/26/23 17:25	
1,2-Dibromo-3-chloropropane	ND	U	0.000537	0.00220	mg/kg	1	5/26/23 17:25	
1,2-Dibromoethane	ND	U	0.000277	0.00220	mg/kg	1	5/26/23 17:25	
1,2-Dichlorobenzene	ND	U	0.000389	0.00220	mg/kg	1	5/26/23 17:25	
1,2-Dichloroethane	ND	U	0.000310	0.00220	mg/kg	1	5/26/23 17:25	
1,2-Dichloropropane	ND	U	0.000361	0.00220	mg/kg	1	5/26/23 17:25	
1,3-Dichlorobenzene	ND	U	0.000162	0.00220	mg/kg	1	5/26/23 17:25	
1,4-Dichlorobenzene	ND	U	0.000317	0.00220	mg/kg	1	5/26/23 17:25	
2-Butanone	ND	U	0.000359	0.00550	mg/kg	1	5/26/23 17:25	
2-Hexanone	ND	U	0.000206	0.00220	mg/kg	1	5/26/23 17:25	
4-Methyl-2-pentanone	ND	U	0.000275	0.00220	mg/kg	1	5/26/23 17:25	
Acetone	ND	U	0.000667	0.00550	mg/kg	1	5/26/23 17:25	
Benzene	ND	U	0.000200	0.00220	mg/kg	1	5/26/23 17:25	
Bromochloromethane	ND	U	0.000406	0.00220	mg/kg	1	5/26/23 17:25	
Bromodichloromethane	ND	U	0.000276	0.00220	mg/kg	1	5/26/23 17:25	
Bromoform	ND	U	0.000386	0.00220	mg/kg	1	5/26/23 17:25	
Bromomethane	ND	U	0.000635	0.00220	mg/kg	1	5/26/23 17:25	
Carbon disulfide	ND	U	0.000316	0.00220	mg/kg	1	5/26/23 17:25	
Carbon Tetrachloride	ND	U	0.000331	0.00220	mg/kg	1	5/26/23 17:25	
Chlorobenzene	ND	U	0.000319	0.00220	mg/kg	1	5/26/23 17:25	
Chlorodibromomethane	ND	U	0.000271	0.00220	mg/kg	1	5/26/23 17:25	
Chloroethane	ND	U	0.000375	0.00220	mg/kg	1	5/26/23 17:25	
Chloroform	ND	U	0.000370	0.00220	mg/kg	1	5/26/23 17:25	

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-202 30518** Collected: **5/18/2023 7:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	ND	U	0.000848	0.00220	mg/kg	1	5/26/23 17:25
cis-1,2-Dichloroethene	ND	U	0.000106	0.00220	mg/kg	1	5/26/23 17:25
cis-1,3-Dichloropropene	ND	U	0.000279	0.00220	mg/kg	1	5/26/23 17:25
Cyclohexane	ND	U	0.000488	0.00220	mg/kg	1	5/26/23 17:25
Dichlorodifluoromethane	ND	U	0.000743	0.00220	mg/kg	1	5/26/23 17:25
EthylBenzene	ND	U	0.000298	0.00220	mg/kg	1	5/26/23 17:25
Isopropylbenzene	ND	U	0.000346	0.00220	mg/kg	1	5/26/23 17:25
m+p-Xylenes	ND	U	0.000556	0.00440	mg/kg	1	5/26/23 17:25
Methyl Acetate	ND	U	0.000292	0.00220	mg/kg	1	5/26/23 17:25
Methyl tert-Butyl Ether	ND	U	0.000372	0.00220	mg/kg	1	5/26/23 17:25
Methylcyclohexane	ND	U	0.000355	0.00220	mg/kg	1	5/26/23 17:25
Methylene Chloride	ND	U	0.000662	0.00220	mg/kg	1	5/26/23 17:25
o-Xylene	ND	U	0.000283	0.00220	mg/kg	1	5/26/23 17:25
Styrene	ND	U	0.000315	0.00220	mg/kg	1	5/26/23 17:25
tert-Butyl alcohol	ND	U	0.00462	0.0220	mg/kg	1	5/26/23 17:25
Tetrachloroethene	ND	U	0.000218	0.00220	mg/kg	1	5/26/23 17:25
Toluene	ND	U	0.000177	0.00220	mg/kg	1	5/26/23 17:25
Total Xylenes	ND	U	0.000283	0.00220	mg/kg	1	5/26/23 17:25
trans-1,2-Dichloroethene	ND	U	0.000298	0.00220	mg/kg	1	5/26/23 17:25
trans-1,3-Dichloropropene	ND	U	0.000421	0.00220	mg/kg	1	5/26/23 17:25
Trichloroethene	ND	U	0.000324	0.00220	mg/kg	1	5/26/23 17:25
Trichlorofluoromethane	ND	U	0.000253	0.00220	mg/kg	1	5/26/23 17:25
Vinyl chloride	ND	U	0.000418	0.00220	mg/kg	1	5/26/23 17:25

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.00874	5.26	J	mg/kg	1	5/26/23 17:25
TIC Total	**0.009**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.8**				**%**	**1**	**5/19/23 11:46**

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B - Indicates compound found in associated blank
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-02 (Soil) Sample Name: **OH-SB-17-1.5-2.5-20230518** Collected: **5/18/2023 7:50:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.0762**		**0.00727**	**0.0610**	**mg/kg**	**1**	**5/19/23 16:02**

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-20230518** Collected: **5/18/2023 9:02:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00686	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1221	ND	U	0.0135	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1232	ND	U	0.0172	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1242	ND	U	0.0101	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1248	ND	U	0.0105	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1254	ND	U	0.00826	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1260	ND	U	0.00641	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1262	ND	U	0.0138	0.0512	mg/kg	1	6/2/23 21:02
Aroclor-1268	ND	U	0.00619	0.0512	mg/kg	1	6/2/23 21:02
Total PCBs	ND	U	0.00478	0.0512	mg/kg	1	6/2/23 21:02

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0152	0.155	mg/kg	1	6/3/23 17:59
2,4-D	ND	U	0.0257	0.155	mg/kg	1	6/3/23 17:59

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**2.48**		**0.00775**	**0.0310**	**mg/kg**	**1**	**5/23/23 11:38**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**10300**		**0.224**	**3.76**	**mg/kg**	**1**	**6/2/23 9:26**
Antimony	ND	U	0.205	1.88	mg/kg	1	6/2/23 9:26
Arsenic	**12.6**		**0.134**	**1.88**	**mg/kg**	**1**	**6/2/23 9:26**
Barium	**149**		**0.0569**	**0.753**	**mg/kg**	**1**	**6/2/23 9:26**
Beryllium	**0.768**		**0.00436**	**0.0376**	**mg/kg**	**1**	**6/2/23 9:26**
Cadmium	**1.33**		**0.0734**	**0.376**	**mg/kg**	**1**	**6/2/23 9:26**
Calcium	**84400**	D	**42.3**	**376**	**mg/kg**	**10**	**6/2/23 10:29**
Chromium	**24.3**		**0.0425**	**0.376**	**mg/kg**	**1**	**6/2/23 9:26**
Cobalt	**6.36**		**0.0385**	**0.301**	**mg/kg**	**1**	**6/2/23 9:26**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-2 0230518** Collected: **5/18/2023 9:02:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**163**		**0.105**	**0.376**	**mg/kg**	**1**	**6/2/23 9:26**
Iron	**22200**		**1.07**	**7.53**	**mg/kg**	**1**	**6/2/23 9:26**
Lead	**299**		**0.157**	**1.88**	**mg/kg**	**1**	**6/2/23 9:26**
Magnesium	**15900**		**13.3**	**75.3**	**mg/kg**	**1**	**6/2/23 9:26**
Manganese	**290**		**0.0468**	**0.376**	**mg/kg**	**1**	**6/2/23 9:26**
Nickel	**34.0**		**0.0331**	**0.188**	**mg/kg**	**1**	**6/2/23 9:26**
Potassium	**1120**		**44.7**	**151**	**mg/kg**	**1**	**6/2/23 9:26**
Selenium	ND	U	0.361	1.88	mg/kg	1	6/2/23 9:26
Silver	**0.422**		**0.0640**	**0.226**	**mg/kg**	**1**	**6/2/23 9:26**
Sodium	**1340**		**7.17**	**75.3**	**mg/kg**	**1**	**6/2/23 9:26**
Thallium	ND	U	0.127	1.88	mg/kg	1	6/2/23 9:26
Vanadium	**49.3**		**0.0865**	**0.753**	**mg/kg**	**1**	**6/2/23 9:26**
Zinc	**323**		**0.115**	**1.13**	**mg/kg**	**1**	**6/2/23 9:26**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000922	0.00202	mg/kg	1	5/26/23 20:31	UJ, RC:6L
4,4'-DDE	**0.0620**		**0.00110**	**0.00202**	**mg/kg**	**1**	**5/26/23 20:31**	J, RC:6L
4,4'-DDT	ND	U	0.00142	0.00202	mg/kg	1	5/26/23 20:31	
Aldrin	ND	U	0.000955	0.00202	mg/kg	1	5/26/23 20:31	
alpha-BHC	ND	U	0.000600	0.00202	mg/kg	1	5/26/23 20:31	UJ, RC:6L
beta-BHC	ND	U	0.000963	0.00202	mg/kg	1	5/26/23 20:31	UJ, RC:6L
Chlordane	**0.332**		**0.000896**	**0.00202**	**mg/kg**	**1**	**5/26/23 20:31**	
delta-BHC	ND	U	0.000936	0.00202	mg/kg	1	5/26/23 20:31	
Dieldrin	ND	U	0.00105	0.00202	mg/kg	1	5/26/23 20:31	
Endosulfan I	ND	U	0.000952	0.00202	mg/kg	1	5/26/23 20:31	
Endosulfan II	ND	U	0.000916	0.00202	mg/kg	1	5/26/23 20:31	
Endosulfan sulfate	ND	U	0.000758	0.00202	mg/kg	1	5/26/23 20:31	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000916	0.00202	mg/kg	1	5/26/23 20:31	
Endrin	ND	U	0.000696	0.00202	mg/kg	1	5/26/23 20:31	
Endrin aldehyde	ND	U	0.000803	0.00202	mg/kg	1	5/26/23 20:31	
Endrin ketone	ND	U	0.000710	0.00202	mg/kg	1	5/26/23 20:31	
gamma-BHC (Lindane)	ND	U	0.000639	0.00202	mg/kg	1	5/26/23 20:31	
Heptachlor	ND	U	0.000540	0.00202	mg/kg	1	5/26/23 20:31	
Heptachlor Epoxide	ND	U	0.00102	0.00202	mg/kg	1	5/26/23 20:31	
Methoxychlor	ND	U	0.000591	0.00202	mg/kg	1	5/26/23 20:31	
Toxaphene	ND	U	0.0971	0.102	mg/kg	1	5/26/23 20:31	

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-2 0230518** Collected: **5/18/2023 9:02:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00583	0.0516	mg/kg	1	5/30/23 14:02	
2,3,4,6-Tetrachlorophenol	ND	U	0.0318	0.206	mg/kg	1	5/30/23 14:02	
2,4,5-Trichlorophenol	ND	U	0.0281	0.206	mg/kg	1	5/30/23 14:02	
2,4,6-Trichlorophenol	ND	U	0.0129	0.206	mg/kg	1	5/30/23 14:02	
2,4-Dichlorophenol	ND	U	0.0208	0.206	mg/kg	1	5/30/23 14:02	
2,4-Dimethylphenol	**0.527**		**0.0203**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	
2,4-Dinitrophenol	ND	U	0.0298	1.03	mg/kg	1	5/30/23 14:02	
2,4-Dinitrotoluene	ND	U	0.0220	0.206	mg/kg	1	5/30/23 14:02	
2,6-Dinitrotoluene	ND	U	0.0493	0.206	mg/kg	1	5/30/23 14:02	
2-Chloronaphthalene	ND	U	0.0237	0.206	mg/kg	1	5/30/23 14:02	
2-Chlorophenol	ND	U	0.0273	0.206	mg/kg	1	5/30/23 14:02	
2-Methylnaphthalene	**35.3**	D	**0.495**	**3.10**	**mg/kg**	**10**	**6/1/23 16:22**	
2-Methylphenol	ND	U	0.0408	0.206	mg/kg	1	5/30/23 14:02	
2-Nitroaniline	ND	U	0.0166	0.206	mg/kg	1	5/30/23 14:02	
2-Nitrophenol	ND	U	0.0229	0.206	mg/kg	1	5/30/23 14:02	
3,3'-Dichlorobenzidine	ND	U	0.0217	0.206	mg/kg	1	5/30/23 14:02	
3+4-Methylphenol	**0.304**		**0.0378**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	
3-Nitroaniline	ND	U	0.0383	0.206	mg/kg	1	5/30/23 14:02	
4,6-Dinitro-2-methylphenol	ND	U	0.0389	0.516	mg/kg	1	5/30/23 14:02	
4-Bromophenyl-phenyl ether	ND	U	0.0295	0.206	mg/kg	1	5/30/23 14:02	
4-Chloro-3-methylphenol	ND	U	0.0326	0.206	mg/kg	1	5/30/23 14:02	
4-Chloroaniline	ND	U	0.00722	0.206	mg/kg	1	5/30/23 14:02	
4-Chlorophenyl phenyl ether	ND	U	0.0111	0.206	mg/kg	1	5/30/23 14:02	
4-Nitroaniline	ND	U	0.103	0.206	mg/kg	1	5/30/23 14:02	
4-Nitrophenol	ND	U	0.0132	0.206	mg/kg	1	5/30/23 14:02	
Acenaphthene	**27.6**	D	**0.118**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Acenaphthylene	**6.67**		**0.00718**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	
Acetophenone	ND	U	0.0205	0.206	mg/kg	1	5/30/23 14:02	
Anthracene	**20.9**	D	**0.299**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Atrazine	ND	U	0.0194	0.206	mg/kg	1	5/30/23 14:02	
Benzaldehyde	ND	U	0.0634	0.206	mg/kg	1	5/30/23 14:02	UJ, RC:SL
Benzo(a)anthracene	**20.2**	D	**0.208**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Benzo(a)pyrene	**16.5**	D	**0.360**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Benzo(b)fluoranthene	**14.6**	D	**0.290**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Benzo(g,h,i)perylene	**9.22**		**0.0167**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	J, RC:6H,SH
Benzo(k)fluoranthene	**7.13**		**0.0237**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	
Biphenyl	**6.74**		**0.0181**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	
bis(2-chloroethoxy)methane	ND	U	0.0285	0.206	mg/kg	1	5/30/23 14:02	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0932
Project: Owls Head Phase 2 **Date to Lab:** 5/18/2023 4:40:00PM

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-2 0230518** Collected: **5/18/2023 9:02:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0226	0.206	mg/kg	1	5/30/23 14:02	
bis(2-chloroisopropyl)ether	ND	U	0.0743	0.206	mg/kg	1	5/30/23 14:02	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**1.08**		**0.0412**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	
Butylbenzylphthalate	ND	U	0.0188	0.206	mg/kg	1	5/30/23 14:02	
Caprolactam	ND	U	0.0267	0.206	mg/kg	1	5/30/23 14:02	
Carbazole	**10.1**		**0.0397**	**0.516**	**mg/kg**	**1**	**5/30/23 14:02**	
Chrysene	**17.5**	D	**0.141**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Dibenzo(a,h)anthracene	**1.09**		**0.0205**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	J, RC:6H
Dibenzofuran	**19.2**	D	**0.123**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Diethylphthalate	ND	U	0.0400	0.206	mg/kg	1	5/30/23 14:02	
Dimethylphthalate	ND	U	0.0128	0.206	mg/kg	1	5/30/23 14:02	
Di-n-butylphthalate	ND	U	0.0843	0.206	mg/kg	1	5/30/23 14:02	
Di-n-octylphthalate	ND	U	0.0423	0.206	mg/kg	1	5/30/23 14:02	
Fluoranthene	**46.2**	D	**0.194**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Fluorene	**26.9**	D	**0.172**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Hexachlorobenzene	ND	U	0.0270	0.206	mg/kg	1	5/30/23 14:02	
Hexachlorobutadiene	ND	U	0.0991	0.206	mg/kg	1	5/30/23 14:02	
Hexachlorocyclopentadiene	ND	U	0.0860	0.516	mg/kg	1	5/30/23 14:02	
Hexachloroethane	ND	U	0.0226	0.206	mg/kg	1	5/30/23 14:02	
Indeno(1,2,3-cd)pyrene	**7.76**		**0.0222**	**0.206**	**mg/kg**	**1**	**5/30/23 14:02**	J, RC:6H,SH
Isophorone	ND	U	0.0135	0.206	mg/kg	1	5/30/23 14:02	
Naphthalene	**156**	D	**0.306**	**4.12**	**mg/kg**	**20**	**6/5/23 18:31**	
Nitrobenzene	ND	U	0.0350	0.206	mg/kg	1	5/30/23 14:02	
n-Nitroso-di-n-propylamine	ND	U	0.0111	0.206	mg/kg	1	5/30/23 14:02	
n-Nitrosodiphenylamine	ND	U	0.0440	0.206	mg/kg	1	5/30/23 14:02	
Pentachlorophenol	ND	U	0.0284	0.516	mg/kg	1	5/30/23 14:02	
Phenanthrene	**70.9**	D	**0.271**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	
Phenol	ND	U	0.0167	0.206	mg/kg	1	5/30/23 14:02	
Pyrene	**38.9**	D	**0.152**	**2.06**	**mg/kg**	**10**	**6/1/23 16:22**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc		RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~31.2~~	R, RC:2	5.21	J, B	mg/kg	1	5/30/23 14:02
Dibenzothiophene	10.1		11.40	J	mg/kg	1	5/30/23 14:02
Hexadecanoic acid, butyl ester	~~14.0~~	R, RC:2	12.83	J, B	mg/kg	1	5/30/23 14:02
Indene	11.6		7.18	J	mg/kg	1	5/30/23 14:02
Naphthalene, 2,6-dimethyl-	6.02		9.55	J	mg/kg	1	5/30/23 14:02
unknown (01)	7.12		11.08	J	mg/kg	1	5/30/23 14:02

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All Results Summary

Client: Yu & Associates **Work Order:** 23E0932
Project: Owls Head Phase 2 **Date to Lab:** 5/18/2023 4:40:00PM

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-2 0230518** Collected: **5/18/2023 9:02:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (02)	10.7	11.99	J	mg/kg	1	5/30/23 14:02
unknown (03)	12.8	12.03	J	mg/kg	1	5/30/23 14:02
unknown (04)	8.86	12.07	J	mg/kg	1	5/30/23 14:02
unknown (05)	29.2	12.13	J	mg/kg	1	5/30/23 14:02
unknown (06)	6.52	12.29	J	mg/kg	1	5/30/23 14:02
unknown (07)	9.63	12.87	J	mg/kg	1	5/30/23 14:02
unknown (08)	7.22	16.35	J	mg/kg	1	5/30/23 14:02
unknown (09)	18.2	16.71	J	mg/kg	1	5/30/23 14:02
unknown (10)	7.72	16.99	J	mg/kg	1	5/30/23 14:02
TIC Total	~~191~~ 145.8					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000472	0.00323	mg/kg	1	5/26/23 17:56
1,1,2,2-Tetrachloroethane	ND	U	0.000446	0.00323	mg/kg	1	5/26/23 17:56
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00138	0.00323	mg/kg	1	5/26/23 17:56
1,1,2-Trichloroethane	ND	U	0.000544	0.00323	mg/kg	1	5/26/23 17:56
1,1-Dichloroethane	ND	U	0.000472	0.00323	mg/kg	1	5/26/23 17:56
1,1-Dichloroethene	ND	U	0.000598	0.00323	mg/kg	1	5/26/23 17:56
1,2,3-Trichlorobenzene	ND	U	0.000698	0.00323	mg/kg	1	5/26/23 17:56
1,2,4-Trichlorobenzene	ND	U	0.000861	0.00323	mg/kg	1	5/26/23 17:56
1,2,4-Trimethylbenzene	**0.558**		**0.000446**	**0.00323**	**mg/kg**	**1**	**5/26/23 17:56**
1,2-Dibromo-3-chloropropane	ND	U	0.000788	0.00323	mg/kg	1	5/26/23 17:56
1,2-Dibromoethane	ND	U	0.000407	0.00323	mg/kg	1	5/26/23 17:56
1,2-Dichlorobenzene	ND	U	0.000570	0.00323	mg/kg	1	5/26/23 17:56
1,2-Dichloroethane	ND	U	0.000455	0.00323	mg/kg	1	5/26/23 17:56
1,2-Dichloropropane	ND	U	0.000530	0.00323	mg/kg	1	5/26/23 17:56
1,3-Dichlorobenzene	ND	U	0.000237	0.00323	mg/kg	1	5/26/23 17:56
1,4-Dichlorobenzene	ND	U	0.000465	0.00323	mg/kg	1	5/26/23 17:56
2-Butanone	**0.122**		**0.000526**	**0.00807**	**mg/kg**	**1**	**5/26/23 17:56**
2-Hexanone	ND	U	0.000302	0.00323	mg/kg	1	5/26/23 17:56
4-Methyl-2-pentanone	ND	U	0.000404	0.00323	mg/kg	1	5/26/23 17:56
Acetone	**0.356**		**0.000979**	**0.00807**	**mg/kg**	**1**	**5/26/23 17:56**
Benzene	**2.13**	D	**0.0318**	**0.350**	**mg/kg**	**106**	**5/31/23 21:31**
Bromochloromethane	ND	U	0.000596	0.00323	mg/kg	1	5/26/23 17:56
Bromodichloromethane	ND	U	0.000405	0.00323	mg/kg	1	5/26/23 17:56
Bromoform	ND	U	0.000567	0.00323	mg/kg	1	5/26/23 17:56

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-2 0230518** Collected: **5/18/2023 9:02:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromomethane	ND	U	0.000932	0.00323	mg/kg	1	5/26/23 17:56	
Carbon disulfide	ND	U	0.000463	0.00323	mg/kg	1	5/26/23 17:56	
Carbon Tetrachloride	ND	U	0.000486	0.00323	mg/kg	1	5/26/23 17:56	
Chlorobenzene	ND	U	0.000468	0.00323	mg/kg	1	5/26/23 17:56	
Chlorodibromomethane	ND	U	0.000397	0.00323	mg/kg	1	5/26/23 17:56	
Chloroethane	ND	U	0.000551	0.00323	mg/kg	1	5/26/23 17:56	
Chloroform	ND	U	0.000543	0.00323	mg/kg	1	5/26/23 17:56	
Chloromethane	ND	U	0.00124	0.00323	mg/kg	1	5/26/23 17:56	
cis-1,2-Dichloroethene	ND	U	0.000156	0.00323	mg/kg	1	5/26/23 17:56	
cis-1,3-Dichloropropene	ND	U	0.000409	0.00323	mg/kg	1	5/26/23 17:56	
Cyclohexane	**0.0291**		**0.000715**	**0.00323**	**mg/kg**	**1**	**5/26/23 17:56**	J, RC:6H,SH
Dichlorodifluoromethane	ND	U	0.00109	0.00323	mg/kg	1	5/26/23 17:56	UJ, RC:SL
EthylBenzene	**7.46**	D	**0.0474**	**0.350**	**mg/kg**	**106**	**5/31/23 21:31**	
Isopropylbenzene	**0.220**		**0.000507**	**0.00323**	**mg/kg**	**1**	**5/26/23 17:56**	
m+p-Xylenes	**12.9**	D	**0.0883**	**0.699**	**mg/kg**	**106**	**5/31/23 21:31**	
Methyl Acetate	ND	U	0.000428	0.00323	mg/kg	1	5/26/23 17:56	
Methyl tert-Butyl Ether	ND	U	0.000546	0.00323	mg/kg	1	5/26/23 17:56	
Methylcyclohexane	**0.0686**		**0.000520**	**0.00323**	**mg/kg**	**1**	**5/26/23 17:56**	
Methylene Chloride	ND	U	0.000971	0.00323	mg/kg	1	5/26/23 17:56	
o-Xylene	**5.51**	D	**0.0449**	**0.350**	**mg/kg**	**106**	**5/31/23 21:31**	
Styrene	ND	U	0.000462	0.00323	mg/kg	1	5/26/23 17:56	
tert-Butyl alcohol	ND	U	0.00678	0.0323	mg/kg	1	5/26/23 17:56	
Tetrachloroethene	ND	U	0.000320	0.00323	mg/kg	1	5/26/23 17:56	
Toluene	**0.557**		**0.000260**	**0.00323**	**mg/kg**	**1**	**5/26/23 17:56**	
Total Xylenes	**18.4**	D	**0.0449**	**0.350**	**mg/kg**	**106**	**5/31/23 21:31**	
trans-1,2-Dichloroethene	ND	U	0.000438	0.00323	mg/kg	1	5/26/23 17:56	
trans-1,3-Dichloropropene	ND	U	0.000617	0.00323	mg/kg	1	5/26/23 17:56	
Trichloroethene	ND	U	0.000475	0.00323	mg/kg	1	5/26/23 17:56	
Trichlorofluoromethane	ND	U	0.000371	0.00323	mg/kg	1	5/26/23 17:56	
Vinyl chloride	ND	U	0.000614	0.00323	mg/kg	1	5/26/23 17:56	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 2,3-dihydro-	0.0937	19.91	J	mg/kg	1	5/26/23 17:56
1H-Indene, 3-methyl-	0.0961	22.43	J	mg/kg	1	5/26/23 17:56
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.0700	22.29	J	mg/kg	1	5/26/23 17:56
Benzene, (1-methylethyl)-	0.0807	19.57	J	mg/kg	1	5/26/23 17:56

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H - Indicates a Hold Time violation
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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0932
Project: Owls Head Phase 2 **Date to Lab:** 5/18/2023 4:40:00PM

23E0932-03 (Soil) Sample Name: **OH-SB-17-10.8-11.8-2 0230518** Collected: **5/18/2023 9:02:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,2,3,5-tetramethyl-	0.0370	22.14	J	mg/kg	1	5/26/23 17:56
Benzene, 1,2-propadienyl-	0.542	20.29	J	mg/kg	1	5/26/23 17:56
Benzene, 1,3,5-trimethyl-	0.226	18.87	J	mg/kg	1	5/26/23 17:56
Benzene, 1-ethyl-2-methyl-	0.0306	18.54	J	mg/kg	1	5/26/23 17:56
Benzene, 1-ethyl-3-methyl-	0.145	18.05	J	mg/kg	1	5/26/23 17:56
Benzo[b]thiophene	0.104	23.34	J	mg/kg	1	5/26/23 17:56
Benzofuran	0.0606	19.30	J	mg/kg	1	5/26/23 17:56
Benzofuran, 2-methyl-	0.105	21.48	J	mg/kg	1	5/26/23 17:56
Benzofuran, 7-methyl-	0.0501	21.29	J	mg/kg	1	5/26/23 17:56
Octane	0.0755	13.31	J	mg/kg	1	5/26/23 17:56
TIC:Naphthalene	2.36	23.19	J	mg/kg	1	5/26/23 17:56
TIC Total	**4.07**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**64.5**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.333**		**0.0100**	**0.0842**	**mg/kg**	**1**	**5/19/23 16:02**

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-202 30518** Collected: **5/18/2023 10:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.239	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1221	ND	U	0.470	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1232	ND	U	0.598	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1242	ND	U	0.350	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1248	ND	U	0.366	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1254	ND	U	0.288	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1260 [2C]	**5.85**	D	**0.366**	**1.78**	**mg/kg**	**50**	**6/5/23 14:20**	J, RC:8
Aroclor-1262	ND	U	0.479	1.78	mg/kg	50	6/5/23 14:20	
Aroclor-1268	ND	U	0.216	1.78	mg/kg	50	6/5/23 14:20	
Total PCBs	**5.85**	D	**0.166**	**1.78**	**mg/kg**	**50**	**6/5/23 14:20**	J, RC:8

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-202 30518** Collected: **5/18/2023 10:00:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0106	0.108	mg/kg	1	6/3/23 18:23
2,4-D	ND	U	0.0179	0.108	mg/kg	1	6/3/23 18:23

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.484**		**0.00540**	**0.0216**	**mg/kg**	**1**	**5/23/23 11:39**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**13500**		**0.153**	**2.58**	**mg/kg**	**1**	**6/2/23 9:29**	
Antimony	ND	U	0.141	1.29	mg/kg	1	6/2/23 9:29	
Arsenic	**5.45**		**0.0922**	**1.29**	**mg/kg**	**1**	**6/2/23 9:29**	
Barium	**103**		**0.0391**	**0.517**	**mg/kg**	**1**	**6/2/23 9:29**	
Beryllium	**0.676**		**0.00299**	**0.0258**	**mg/kg**	**1**	**6/2/23 9:29**	
Cadmium	**1.06**		**0.0504**	**0.258**	**mg/kg**	**1**	**6/2/23 9:29**	
Calcium	**19000**		**2.91**	**25.8**	**mg/kg**	**1**	**6/2/23 9:29**	
Chromium	**34.1**		**0.0292**	**0.258**	**mg/kg**	**1**	**6/2/23 9:29**	
Cobalt	**6.90**		**0.0264**	**0.207**	**mg/kg**	**1**	**6/2/23 9:29**	
Copper	**150**		**0.0723**	**0.258**	**mg/kg**	**1**	**6/2/23 9:29**	
Iron	**30000**	D	**7.32**	**51.7**	**mg/kg**	**10**	**6/2/23 10:31**	
Lead	**275**		**0.108**	**1.29**	**mg/kg**	**1**	**6/2/23 9:29**	
Magnesium	**7980**		**9.13**	**51.7**	**mg/kg**	**1**	**6/2/23 9:29**	
Manganese	**278**		**0.0321**	**0.258**	**mg/kg**	**1**	**6/2/23 9:29**	
Nickel	**81.1**		**0.0227**	**0.129**	**mg/kg**	**1**	**6/2/23 9:29**	
Potassium	**1690**		**30.7**	**103**	**mg/kg**	**1**	**6/2/23 9:29**	
Selenium	ND	U	0.248	1.29	mg/kg	1	6/2/23 9:29	
Silver	**2.82**		**0.0439**	**0.155**	**mg/kg**	**1**	**6/2/23 9:29**	J, RC:8
Sodium	**949**		**4.93**	**51.7**	**mg/kg**	**1**	**6/2/23 9:29**	
Thallium	ND	U	0.0869	1.29	mg/kg	1	6/2/23 9:29	
Vanadium	**566**	D	**0.594**	**5.17**	**mg/kg**	**10**	**6/2/23 10:31**	
Zinc	**215**		**0.0789**	**0.775**	**mg/kg**	**1**	**6/2/23 9:29**	J, RC:8

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.00364**		**0.000642**	**0.00140**	**mg/kg**	**1**	**5/26/23 20:54**	J, RC:6L
4,4'-DDE [2C]	**0.00359**		**0.000768**	**0.00140**	**mg/kg**	**1**	**5/26/23 20:54**	J, RC:6L
4,4'-DDT	**0.0570**		**0.000991**	**0.00140**	**mg/kg**	**1**	**5/26/23 20:54**	J, RC:8
Aldrin	ND	U	0.000665	0.00140	mg/kg	1	5/26/23 20:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-202 30518** Collected: **5/18/2023 10:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000418	0.00140	mg/kg	1	5/26/23 20:54	UJ, RC:6L
beta-BHC	ND	U	0.000671	0.00140	mg/kg	1	5/26/23 20:54	UJ, RC:6L
Chlordane [2C]	**0.00813**		**0.000624**	**0.00140**	**mg/kg**	**1**	**5/26/23 20:54**	
delta-BHC	ND	U	0.000652	0.00140	mg/kg	1	5/26/23 20:54	
Dieldrin	ND	U	0.000734	0.00140	mg/kg	1	5/26/23 20:54	
Endosulfan I	ND	U	0.000663	0.00140	mg/kg	1	5/26/23 20:54	
Endosulfan II	ND	U	0.000638	0.00140	mg/kg	1	5/26/23 20:54	
Endosulfan sulfate	ND	U	0.000528	0.00140	mg/kg	1	5/26/23 20:54	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000638	0.00140	mg/kg	1	5/26/23 20:54	
Endrin	ND	U	0.000485	0.00140	mg/kg	1	5/26/23 20:54	
Endrin aldehyde	ND	U	0.000559	0.00140	mg/kg	1	5/26/23 20:54	
Endrin ketone	ND	U	0.000495	0.00140	mg/kg	1	5/26/23 20:54	
gamma-BHC (Lindane)	ND	U	0.000445	0.00140	mg/kg	1	5/26/23 20:54	
Heptachlor	ND	U	0.000376	0.00140	mg/kg	1	5/26/23 20:54	
Heptachlor Epoxide	ND	U	0.000708	0.00140	mg/kg	1	5/26/23 20:54	
Methoxychlor	ND	U	0.000411	0.00140	mg/kg	1	5/26/23 20:54	
Toxaphene	ND	U	0.0676	0.0713	mg/kg	1	5/26/23 20:54	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00812	0.0719	mg/kg	2	5/30/23 14:33
2,3,4,6-Tetrachlorophenol	ND	U	0.0443	0.287	mg/kg	2	5/30/23 14:33
2,4,5-Trichlorophenol	ND	U	0.0391	0.287	mg/kg	2	5/30/23 14:33
2,4,6-Trichlorophenol	ND	U	0.0180	0.287	mg/kg	2	5/30/23 14:33
2,4-Dichlorophenol	ND	U	0.0289	0.287	mg/kg	2	5/30/23 14:33
2,4-Dimethylphenol	ND	U	0.0283	0.287	mg/kg	2	5/30/23 14:33
2,4-Dinitrophenol	ND	U	0.0415	1.44	mg/kg	2	5/30/23 14:33
2,4-Dinitrotoluene	ND	U	0.0307	0.287	mg/kg	2	5/30/23 14:33
2,6-Dinitrotoluene	ND	U	0.0687	0.287	mg/kg	2	5/30/23 14:33
2-Chloronaphthalene	ND	U	0.0330	0.287	mg/kg	2	5/30/23 14:33
2-Chlorophenol	ND	U	0.0380	0.287	mg/kg	2	5/30/23 14:33
2-Methylnaphthalene	**0.0837**	J, D	**0.0689**	**0.432**	**mg/kg**	**2**	**5/30/23 14:33**
2-Methylphenol	ND	U	0.0568	0.287	mg/kg	2	5/30/23 14:33
2-Nitroaniline	ND	U	0.0231	0.287	mg/kg	2	5/30/23 14:33
2-Nitrophenol	ND	U	0.0320	0.287	mg/kg	2	5/30/23 14:33
3,3'-Dichlorobenzidine	ND	U	0.0302	0.287	mg/kg	2	5/30/23 14:33
3+4-Methylphenol	ND	U	0.0527	0.287	mg/kg	2	5/30/23 14:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-20230518** Collected: **5/18/2023 10:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.0533	0.287	mg/kg	2	5/30/23 14:33	
4,6-Dinitro-2-methylphenol	ND	U	0.0542	0.719	mg/kg	2	5/30/23 14:33	
4-Bromophenyl-phenyl ether	ND	U	0.0410	0.287	mg/kg	2	5/30/23 14:33	
4-Chloro-3-methylphenol	ND	U	0.0454	0.287	mg/kg	2	5/30/23 14:33	
4-Chloroaniline	ND	U	0.0101	0.287	mg/kg	2	5/30/23 14:33	
4-Chlorophenyl phenyl ether	ND	U	0.0155	0.287	mg/kg	2	5/30/23 14:33	
4-Nitroaniline	ND	U	0.144	0.287	mg/kg	2	5/30/23 14:33	
4-Nitrophenol	ND	U	0.0184	0.287	mg/kg	2	5/30/23 14:33	
Acenaphthene	**0.177**	J, D	**0.0164**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Acenaphthylene	**0.220**	J, D	**0.0100**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Acetophenone	ND	U	0.0285	0.287	mg/kg	2	5/30/23 14:33	
Anthracene	**0.483**	D	**0.0417**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Atrazine	ND	U	0.0270	0.287	mg/kg	2	5/30/23 14:33	
Benzaldehyde	ND	U	0.0883	0.287	mg/kg	2	5/30/23 14:33	UJ, RC:SL
Benzo(a)anthracene	**2.22**	D	**0.0289**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Benzo(a)pyrene	**3.79**	D	**0.0501**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Benzo(b)fluoranthene	**5.55**	D	**0.0404**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Benzo(g,h,i)perylene	**3.08**	D	**0.0233**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	J, RC:SH,6H
Benzo(k)fluoranthene	**1.66**	D	**0.0330**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Biphenyl	ND	U	0.0253	0.287	mg/kg	2	5/30/23 14:33	
bis(2-chloroethoxy)methane	ND	U	0.0397	0.287	mg/kg	2	5/30/23 14:33	
bis(2-chloroethyl)ether	ND	U	0.0315	0.287	mg/kg	2	5/30/23 14:33	
bis(2-chloroisopropyl)ether	ND	U	0.103	0.287	mg/kg	2	5/30/23 14:33	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**15.0**	D	**0.0574**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Butylbenzylphthalate	**2.53**	D	**0.0261**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	J, RC:8
Caprolactam	ND	U	0.0371	0.287	mg/kg	2	5/30/23 14:33	
Carbazole	**0.221**	J, D	**0.0553**	**0.719**	**mg/kg**	**2**	**5/30/23 14:33**	
Chrysene	**2.66**	D	**0.0197**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Dibenzo(a,h)anthracene	**0.266**	J, D	**0.0285**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	J, RC:6H
Dibenzofuran	**0.110**	J, D	**0.0171**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Diethylphthalate	ND	U	0.0557	0.287	mg/kg	2	5/30/23 14:33	
Dimethylphthalate	ND	U	0.0178	0.287	mg/kg	2	5/30/23 14:33	
Di-n-butylphthalate	ND	U	0.117	0.287	mg/kg	2	5/30/23 14:33	
Di-n-octylphthalate	ND	U	0.0590	0.287	mg/kg	2	5/30/23 14:33	
Fluoranthene	**3.95**	D	**0.0270**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Fluorene	**0.184**	J, D	**0.0240**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**	
Hexachlorobenzene	ND	U	0.0376	0.287	mg/kg	2	5/30/23 14:33	
Hexachlorobutadiene	ND	U	0.138	0.287	mg/kg	2	5/30/23 14:33	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-202 30518** Collected: **5/18/2023 10:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorocyclopentadiene	ND	U	0.120	0.719	mg/kg	2	5/30/23 14:33
Hexachloroethane	ND	U	0.0315	0.287	mg/kg	2	5/30/23 14:33
Indeno(1,2,3-cd)pyrene	**2.58**	D	**0.0309**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33** J, RC:SH,6H
Isophorone	ND	U	0.0188	0.287	mg/kg	2	5/30/23 14:33
Naphthalene	**0.183**	J, D	**0.0213**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**
Nitrobenzene	ND	U	0.0488	0.287	mg/kg	2	5/30/23 14:33
n-Nitroso-di-n-propylamine	ND	U	0.0154	0.287	mg/kg	2	5/30/23 14:33
n-Nitrosodiphenylamine	ND	U	0.0613	0.287	mg/kg	2	5/30/23 14:33
Pentachlorophenol	ND	U	0.0395	0.719	mg/kg	2	5/30/23 14:33
Phenanthrene	**1.27**	D	**0.0378**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**
Phenol	ND	U	0.0233	0.287	mg/kg	2	5/30/23 14:33
Pyrene	**5.20**	D	**0.0211**	**0.287**	**mg/kg**	**2**	**5/30/23 14:33**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~27.2~~ R, RC:2	5.20	J, D, B	mg/kg	2	5/30/23 14:33
Docosane, 9-butyl-	0.671	11.28	J, D	mg/kg	2	5/30/23 14:33
Hexadecanoic acid, butyl ester	~~1.72~~ R, RC:2	12.83	J, D, B	mg/kg	2	5/30/23 14:33
TIC Total	~~29.6~~ 0.671					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000309	0.00212	mg/kg	1	5/30/23 16:07
1,1,2,2-Tetrachloroethane	ND	U	0.000292	0.00212	mg/kg	1	5/30/23 16:07
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000906	0.00212	mg/kg	1	5/30/23 16:07
1,1,2-Trichloroethane	ND	U	0.000357	0.00212	mg/kg	1	5/30/23 16:07
1,1-Dichloroethane	ND	U	0.000309	0.00212	mg/kg	1	5/30/23 16:07
1,1-Dichloroethene	ND	U	0.000392	0.00212	mg/kg	1	5/30/23 16:07
1,2,3-Trichlorobenzene	ND	U	0.000457	0.00212	mg/kg	1	5/30/23 16:07
1,2,4-Trichlorobenzene	ND	U	0.000564	0.00212	mg/kg	1	5/30/23 16:07
1,2,4-Trimethylbenzene	ND	U	0.000292	0.00212	mg/kg	1	5/30/23 16:07
1,2-Dibromo-3-chloropropane	ND	U	0.000517	0.00212	mg/kg	1	5/30/23 16:07
1,2-Dibromoethane	ND	U	0.000267	0.00212	mg/kg	1	5/30/23 16:07
1,2-Dichlorobenzene	ND	U	0.000374	0.00212	mg/kg	1	5/30/23 16:07
1,2-Dichloroethane	ND	U	0.000299	0.00212	mg/kg	1	5/30/23 16:07
1,2-Dichloropropane	ND	U	0.000347	0.00212	mg/kg	1	5/30/23 16:07
1,3-Dichlorobenzene	ND	U	0.000156	0.00212	mg/kg	1	5/30/23 16:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-20230518** Collected: **5/18/2023 10:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dichlorobenzene	ND	U	0.000305	0.00212	mg/kg	1	5/30/23 16:07	
2-Butanone	ND	U	0.000345	0.00529	mg/kg	1	5/30/23 16:07	
2-Hexanone	ND	U	0.000198	0.00212	mg/kg	1	5/30/23 16:07	
4-Methyl-2-pentanone	ND	U	0.000265	0.00212	mg/kg	1	5/30/23 16:07	
Acetone	ND	U	0.000642	0.00529	mg/kg	1	5/30/23 16:07	
Benzene	ND	U	0.000193	0.00212	mg/kg	1	5/30/23 16:07	
Bromochloromethane	ND	U	0.000391	0.00212	mg/kg	1	5/30/23 16:07	
Bromodichloromethane	ND	U	0.000266	0.00212	mg/kg	1	5/30/23 16:07	
Bromoform	ND	U	0.000372	0.00212	mg/kg	1	5/30/23 16:07	
Bromomethane	ND	U	0.000611	0.00212	mg/kg	1	5/30/23 16:07	
Carbon disulfide	ND	U	0.000304	0.00212	mg/kg	1	5/30/23 16:07	
Carbon Tetrachloride	ND	U	0.000319	0.00212	mg/kg	1	5/30/23 16:07	
Chlorobenzene	ND	U	0.000307	0.00212	mg/kg	1	5/30/23 16:07	
Chlorodibromomethane	ND	U	0.000260	0.00212	mg/kg	1	5/30/23 16:07	
Chloroethane	ND	U	0.000361	0.00212	mg/kg	1	5/30/23 16:07	
Chloroform	ND	U	0.000356	0.00212	mg/kg	1	5/30/23 16:07	
Chloromethane	ND	U	0.000815	0.00212	mg/kg	1	5/30/23 16:07	
cis-1,2-Dichloroethene	ND	U	0.000102	0.00212	mg/kg	1	5/30/23 16:07	
cis-1,3-Dichloropropene	ND	U	0.000268	0.00212	mg/kg	1	5/30/23 16:07	
Cyclohexane	ND	U	0.000469	0.00212	mg/kg	1	5/30/23 16:07	
Dichlorodifluoromethane	ND	U	0.000715	0.00212	mg/kg	1	5/30/23 16:07	UJ, RC:SL
EthylBenzene	ND	U	0.000287	0.00212	mg/kg	1	5/30/23 16:07	
Isopropylbenzene	ND	U	0.000332	0.00212	mg/kg	1	5/30/23 16:07	
m+p-Xylenes	ND	U	0.000535	0.00423	mg/kg	1	5/30/23 16:07	
Methyl Acetate	ND	U	0.000281	0.00212	mg/kg	1	5/30/23 16:07	
Methyl tert-Butyl Ether	ND	U	0.000358	0.00212	mg/kg	1	5/30/23 16:07	
Methylcyclohexane	ND	U	0.000341	0.00212	mg/kg	1	5/30/23 16:07	
Methylene Chloride	ND	U	0.000636	0.00212	mg/kg	1	5/30/23 16:07	
o-Xylene	ND	U	0.000272	0.00212	mg/kg	1	5/30/23 16:07	
Styrene	ND	U	0.000303	0.00212	mg/kg	1	5/30/23 16:07	
tert-Butyl alcohol	ND	U	0.00445	0.0212	mg/kg	1	5/30/23 16:07	
Tetrachloroethene	ND	U	0.000210	0.00212	mg/kg	1	5/30/23 16:07	
Toluene	ND	U	0.000170	0.00212	mg/kg	1	5/30/23 16:07	
Total Xylenes	ND	U	0.000272	0.00212	mg/kg	1	5/30/23 16:07	
trans-1,2-Dichloroethene	ND	U	0.000287	0.00212	mg/kg	1	5/30/23 16:07	
trans-1,3-Dichloropropene	ND	U	0.000404	0.00212	mg/kg	1	5/30/23 16:07	
Trichloroethene	ND	U	0.000311	0.00212	mg/kg	1	5/30/23 16:07	
Trichlorofluoromethane	ND	U	0.000243	0.00212	mg/kg	1	5/30/23 16:07	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0932
Project: Owls Head Phase 2 **Date to Lab:** 5/18/2023 4:40:00PM

23E0932-04 (Soil) Sample Name: **OH-SB-23-1.0-2.0-202 30518** Collected: **5/18/2023 10:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vinyl chloride	ND	U	0.000402	0.00212	mg/kg	1	5/30/23 16:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.00604	5.27	J	mg/kg	1	5/30/23 16:07
TIC Total	**0.006**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**92.6**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.276**		**0.00686**	**0.0576**	**mg/kg**	**1**	**5/19/23 16:02** J, RC:8

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-202 30518** Collected: **5/18/2023 11:05:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00571	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1221	ND	U	0.0112	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1232	ND	U	0.0143	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1242	ND	U	0.00837	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1248	ND	U	0.00875	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1254	ND	U	0.00687	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1260	ND	U	0.00533	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1262	ND	U	0.0115	0.0426	mg/kg	1	6/2/23 21:46
Aroclor-1268	ND	U	0.00515	0.0426	mg/kg	1	6/2/23 21:46
Total PCBs	ND	U	0.00398	0.0426	mg/kg	1	6/2/23 21:46

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0126	0.129	mg/kg	1	6/3/23 18:47
2,4-D	ND	U	0.0214	0.129	mg/kg	1	6/3/23 18:47

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-20230518** Collected: **5/18/2023 11:05:00AM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.346**		**0.00645**	**0.0258**	**mg/kg**	**1**	**5/23/23 11:39**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5360**		**0.184**	**3.10**	**mg/kg**	**1**	**6/2/23 9:31**
Antimony	ND	U	0.169	1.55	mg/kg	1	6/2/23 9:31
Arsenic	**6.50**		**0.111**	**1.55**	**mg/kg**	**1**	**6/2/23 9:31**
Barium	**90.9**		**0.0469**	**0.620**	**mg/kg**	**1**	**6/2/23 9:31**
Beryllium	**0.460**		**0.00359**	**0.0310**	**mg/kg**	**1**	**6/2/23 9:31**
Cadmium	ND	U	0.0605	0.310	mg/kg	1	6/2/23 9:31
Calcium	**5230**		**3.49**	**31.0**	**mg/kg**	**1**	**6/2/23 9:31**
Chromium	**7.23**		**0.0350**	**0.310**	**mg/kg**	**1**	**6/2/23 9:31**
Cobalt	**6.83**		**0.0317**	**0.248**	**mg/kg**	**1**	**6/2/23 9:31**
Copper	**76.9**		**0.0868**	**0.310**	**mg/kg**	**1**	**6/2/23 9:31**
Iron	**17100**		**0.879**	**6.20**	**mg/kg**	**1**	**6/2/23 9:31**
Lead	**192**		**0.129**	**1.55**	**mg/kg**	**1**	**6/2/23 9:31**
Magnesium	**583**		**11.0**	**62.0**	**mg/kg**	**1**	**6/2/23 9:31**
Manganese	**105**		**0.0386**	**0.310**	**mg/kg**	**1**	**6/2/23 9:31**
Nickel	**15.0**		**0.0273**	**0.155**	**mg/kg**	**1**	**6/2/23 9:31**
Potassium	**412**		**36.9**	**124**	**mg/kg**	**1**	**6/2/23 9:31**
Selenium	ND	U	0.298	1.55	mg/kg	1	6/2/23 9:31
Silver	ND	U	0.0528	0.186	mg/kg	1	6/2/23 9:31
Sodium	**1510**		**5.92**	**62.0**	**mg/kg**	**1**	**6/2/23 9:31**
Thallium	ND	U	0.104	1.55	mg/kg	1	6/2/23 9:31
Vanadium	**14.9**		**0.0714**	**0.620**	**mg/kg**	**1**	**6/2/23 9:31**
Zinc	**77.9**		**0.0948**	**0.931**	**mg/kg**	**1**	**6/2/23 9:31**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000768	0.00168	mg/kg	1	5/26/23 21:16	UJ, RC:6L
4,4'-DDE	ND	U	0.000918	0.00168	mg/kg	1	5/26/23 21:16	UJ, RC:6L
4,4'-DDT	ND	U	0.00118	0.00168	mg/kg	1	5/26/23 21:16	
Aldrin	ND	U	0.000795	0.00168	mg/kg	1	5/26/23 21:16	
alpha-BHC	ND	U	0.000499	0.00168	mg/kg	1	5/26/23 21:16	UJ, RC:6L
beta-BHC	ND	U	0.000801	0.00168	mg/kg	1	5/26/23 21:16	UJ, RC:6L
Chlordane	ND	U	0.000746	0.00168	mg/kg	1	5/26/23 21:16	
delta-BHC	ND	U	0.000780	0.00168	mg/kg	1	5/26/23 21:16	
Dieldrin	ND	U	0.000878	0.00168	mg/kg	1	5/26/23 21:16	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-202 30518** Collected: **5/18/2023 11:05:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan I	ND	U	0.000792	0.00168	mg/kg	1	5/26/23 21:16
Endosulfan II	ND	U	0.000763	0.00168	mg/kg	1	5/26/23 21:16
Endosulfan sulfate	ND	U	0.000631	0.00168	mg/kg	1	5/26/23 21:16 UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000763	0.00168	mg/kg	1	5/26/23 21:16
Endrin	ND	U	0.000579	0.00168	mg/kg	1	5/26/23 21:16
Endrin aldehyde	ND	U	0.000669	0.00168	mg/kg	1	5/26/23 21:16
Endrin ketone	ND	U	0.000591	0.00168	mg/kg	1	5/26/23 21:16
gamma-BHC (Lindane)	ND	U	0.000532	0.00168	mg/kg	1	5/26/23 21:16
Heptachlor	ND	U	0.000449	0.00168	mg/kg	1	5/26/23 21:16
Heptachlor Epoxide	ND	U	0.000847	0.00168	mg/kg	1	5/26/23 21:16
Methoxychlor	ND	U	0.000492	0.00168	mg/kg	1	5/26/23 21:16
Toxaphene	ND	U	0.0808	0.0852	mg/kg	1	5/26/23 21:16

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00485	0.0430	mg/kg	1	5/30/23 15:04
2,3,4,6-Tetrachlorophenol	ND	U	0.0265	0.172	mg/kg	1	5/30/23 15:04
2,4,5-Trichlorophenol	ND	U	0.0234	0.172	mg/kg	1	5/30/23 15:04
2,4,6-Trichlorophenol	ND	U	0.0108	0.172	mg/kg	1	5/30/23 15:04
2,4-Dichlorophenol	ND	U	0.0173	0.172	mg/kg	1	5/30/23 15:04
2,4-Dimethylphenol	**0.109**	J	**0.0169**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**
2,4-Dinitrophenol	ND	U	0.0248	0.861	mg/kg	1	5/30/23 15:04
2,4-Dinitrotoluene	ND	U	0.0183	0.172	mg/kg	1	5/30/23 15:04
2,6-Dinitrotoluene	ND	U	0.0410	0.172	mg/kg	1	5/30/23 15:04
2-Chloronaphthalene	ND	U	0.0197	0.172	mg/kg	1	5/30/23 15:04
2-Chlorophenol	ND	U	0.0227	0.172	mg/kg	1	5/30/23 15:04
2-Methylnaphthalene	**0.0896**	J	**0.0412**	**0.258**	**mg/kg**	**1**	**5/30/23 15:04**
2-Methylphenol	**0.0604**	J	**0.0339**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**
2-Nitroaniline	ND	U	0.0138	0.172	mg/kg	1	5/30/23 15:04
2-Nitrophenol	ND	U	0.0191	0.172	mg/kg	1	5/30/23 15:04
3,3'-Dichlorobenzidine	ND	U	0.0181	0.172	mg/kg	1	5/30/23 15:04
3+4-Methylphenol	**0.149**	J	**0.0315**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**
3-Nitroaniline	ND	U	0.0319	0.172	mg/kg	1	5/30/23 15:04
4,6-Dinitro-2-methylphenol	ND	U	0.0324	0.430	mg/kg	1	5/30/23 15:04
4-Bromophenyl-phenyl ether	ND	U	0.0245	0.172	mg/kg	1	5/30/23 15:04
4-Chloro-3-methylphenol	ND	U	0.0271	0.172	mg/kg	1	5/30/23 15:04
4-Chloroaniline	ND	U	0.00601	0.172	mg/kg	1	5/30/23 15:04

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-202 30518** Collected: **5/18/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chlorophenyl phenyl ether	ND	U	0.00928	0.172	mg/kg	1	5/30/23 15:04	
4-Nitroaniline	ND	U	0.0860	0.172	mg/kg	1	5/30/23 15:04	
4-Nitrophenol	ND	U	0.0110	0.172	mg/kg	1	5/30/23 15:04	
Acenaphthene	**0.283**		**0.00980**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Acenaphthylene	**0.115**	J	**0.00598**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Acetophenone	ND	U	0.0170	0.172	mg/kg	1	5/30/23 15:04	
Anthracene	**0.375**		**0.0249**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Atrazine	ND	U	0.0161	0.172	mg/kg	1	5/30/23 15:04	
Benzaldehyde	ND	U	0.0528	0.172	mg/kg	1	5/30/23 15:04	UJ, RC:SL
Benzo(a)anthracene	**0.988**		**0.0173**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Benzo(a)pyrene	**1.11**		**0.0299**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Benzo(b)fluoranthene	**1.35**		**0.0241**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Benzo(g,h,i)perylene	**0.655**		**0.0139**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	J, RC:SH,6H
Benzo(k)fluoranthene	**0.385**		**0.0197**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Biphenyl	**0.0497**	J	**0.0151**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
bis(2-chloroethoxy)methane	ND	U	0.0237	0.172	mg/kg	1	5/30/23 15:04	
bis(2-chloroethyl)ether	ND	U	0.0188	0.172	mg/kg	1	5/30/23 15:04	
bis(2-chloroisopropyl)ether	ND	U	0.0618	0.172	mg/kg	1	5/30/23 15:04	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0343	0.172	mg/kg	1	5/30/23 15:04	
Butylbenzylphthalate	ND	U	0.0156	0.172	mg/kg	1	5/30/23 15:04	
Caprolactam	ND	U	0.0222	0.172	mg/kg	1	5/30/23 15:04	
Carbazole	**0.0565**	J	**0.0330**	**0.430**	**mg/kg**	**1**	**5/30/23 15:04**	
Chrysene	**0.964**		**0.0118**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Dibenzo(a,h)anthracene	**0.0672**	J	**0.0170**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	J, RC:6H
Dibenzofuran	**0.126**	J	**0.0102**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Diethylphthalate	ND	U	0.0333	0.172	mg/kg	1	5/30/23 15:04	
Dimethylphthalate	ND	U	0.0107	0.172	mg/kg	1	5/30/23 15:04	
Di-n-butylphthalate	ND	U	0.0702	0.172	mg/kg	1	5/30/23 15:04	
Di-n-octylphthalate	ND	U	0.0352	0.172	mg/kg	1	5/30/23 15:04	
Fluoranthene	**1.97**		**0.0161**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Fluorene	**0.221**		**0.0143**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	
Hexachlorobenzene	ND	U	0.0225	0.172	mg/kg	1	5/30/23 15:04	
Hexachlorobutadiene	ND	U	0.0825	0.172	mg/kg	1	5/30/23 15:04	
Hexachlorocyclopentadiene	ND	U	0.0716	0.430	mg/kg	1	5/30/23 15:04	
Hexachloroethane	ND	U	0.0188	0.172	mg/kg	1	5/30/23 15:04	
Indeno(1,2,3-cd)pyrene	**0.582**		**0.0185**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	J, RC:SH,6H
Isophorone	ND	U	0.0113	0.172	mg/kg	1	5/30/23 15:04	
Naphthalene	**1.14**		**0.0127**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-202 30518** Collected: **5/18/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nitrobenzene	ND	U	0.0292	0.172	mg/kg	1	5/30/23 15:04
n-Nitroso-di-n-propylamine	ND	U	0.00920	0.172	mg/kg	1	5/30/23 15:04
n-Nitrosodiphenylamine	ND	U	0.0367	0.172	mg/kg	1	5/30/23 15:04
Pentachlorophenol	ND	U	0.0236	0.430	mg/kg	1	5/30/23 15:04
Phenanthrene	**0.972**		**0.0226**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**
Phenol	ND	U	0.0139	0.172	mg/kg	1	5/30/23 15:04
Pyrene	**1.30**		**0.0126**	**0.172**	**mg/kg**	**1**	**5/30/23 15:04**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3-Dioxolane-2-methanol, 2,4-dimethyl-	0.562	5.97	J	mg/kg	1	5/30/23 15:04
2-Pentanone, 4-hydroxy-4-methyl-	~~27.7~~ R, RC:2	5.21	J, B	mg/kg	1	5/30/23 15:04
Hexadecanoic acid, butyl ester	~~1.27~~ R, RC:2	12.83	J, B	mg/kg	1	5/30/23 15:04
Octadecanoic acid, butyl ester	~~0.539~~ R, RC:2	13.64	J, B	mg/kg	1	5/30/23 15:04
TIC Total	~~30.0~~ 0.562					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000410	0.00281	mg/kg	1	5/26/23 18:59
1,1,2,2-Tetrachloroethane	ND	U	0.000387	0.00281	mg/kg	1	5/26/23 18:59
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00120	0.00281	mg/kg	1	5/26/23 18:59
1,1,2-Trichloroethane	ND	U	0.000473	0.00281	mg/kg	1	5/26/23 18:59
1,1-Dichloroethane	ND	U	0.000410	0.00281	mg/kg	1	5/26/23 18:59
1,1-Dichloroethene	ND	U	0.000519	0.00281	mg/kg	1	5/26/23 18:59
1,2,3-Trichlorobenzene	ND	U	0.000606	0.00281	mg/kg	1	5/26/23 18:59
1,2,4-Trichlorobenzene	ND	U	0.000748	0.00281	mg/kg	1	5/26/23 18:59
1,2,4-Trimethylbenzene	ND	U	0.000387	0.00281	mg/kg	1	5/26/23 18:59
1,2-Dibromo-3-chloropropane	ND	U	0.000685	0.00281	mg/kg	1	5/26/23 18:59
1,2-Dibromoethane	ND	U	0.000354	0.00281	mg/kg	1	5/26/23 18:59
1,2-Dichlorobenzene	ND	U	0.000495	0.00281	mg/kg	1	5/26/23 18:59
1,2-Dichloroethane	ND	U	0.000396	0.00281	mg/kg	1	5/26/23 18:59
1,2-Dichloropropane	ND	U	0.000460	0.00281	mg/kg	1	5/26/23 18:59
1,3-Dichlorobenzene	ND	U	0.000206	0.00281	mg/kg	1	5/26/23 18:59
1,4-Dichlorobenzene	ND	U	0.000404	0.00281	mg/kg	1	5/26/23 18:59
2-Butanone	ND	U	0.000457	0.00701	mg/kg	1	5/26/23 18:59
2-Hexanone	ND	U	0.000262	0.00281	mg/kg	1	5/26/23 18:59
4-Methyl-2-pentanone	ND	U	0.000351	0.00281	mg/kg	1	5/26/23 18:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-20230518** Collected: **5/18/2023 11:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acetone	ND	U	0.000850	0.00701	mg/kg	1	5/26/23 18:59	
Benzene	ND	U	0.000255	0.00281	mg/kg	1	5/26/23 18:59	
Bromochloromethane	ND	U	0.000518	0.00281	mg/kg	1	5/26/23 18:59	
Bromodichloromethane	ND	U	0.000352	0.00281	mg/kg	1	5/26/23 18:59	
Bromoform	ND	U	0.000492	0.00281	mg/kg	1	5/26/23 18:59	
Bromomethane	ND	U	0.000809	0.00281	mg/kg	1	5/26/23 18:59	
Carbon disulfide	ND	U	0.000403	0.00281	mg/kg	1	5/26/23 18:59	
Carbon Tetrachloride	ND	U	0.000422	0.00281	mg/kg	1	5/26/23 18:59	
Chlorobenzene	ND	U	0.000407	0.00281	mg/kg	1	5/26/23 18:59	
Chlorodibromomethane	ND	U	0.000345	0.00281	mg/kg	1	5/26/23 18:59	
Chloroethane	ND	U	0.000478	0.00281	mg/kg	1	5/26/23 18:59	
Chloroform	ND	U	0.000471	0.00281	mg/kg	1	5/26/23 18:59	
Chloromethane	ND	U	0.00108	0.00281	mg/kg	1	5/26/23 18:59	
cis-1,2-Dichloroethene	ND	U	0.000136	0.00281	mg/kg	1	5/26/23 18:59	
cis-1,3-Dichloropropene	ND	U	0.000355	0.00281	mg/kg	1	5/26/23 18:59	
Cyclohexane	ND	U	0.000621	0.00281	mg/kg	1	5/26/23 18:59	
Dichlorodifluoromethane	ND	U	0.000947	0.00281	mg/kg	1	5/26/23 18:59	UJ, RC:SL
EthylBenzene	ND	U	0.000380	0.00281	mg/kg	1	5/26/23 18:59	
Isopropylbenzene	ND	U	0.000441	0.00281	mg/kg	1	5/26/23 18:59	
m+p-Xylenes	ND	U	0.000708	0.00561	mg/kg	1	5/26/23 18:59	
Methyl Acetate	ND	U	0.000372	0.00281	mg/kg	1	5/26/23 18:59	
Methyl tert-Butyl Ether	ND	U	0.000474	0.00281	mg/kg	1	5/26/23 18:59	
Methylcyclohexane	**0.0379**		**0.000452**	**0.00281**	**mg/kg**	**1**	**5/26/23 18:59**	
Methylene Chloride	ND	U	0.000843	0.00281	mg/kg	1	5/26/23 18:59	
o-Xylene	ND	U	0.000361	0.00281	mg/kg	1	5/26/23 18:59	
Styrene	ND	U	0.000401	0.00281	mg/kg	1	5/26/23 18:59	
tert-Butyl alcohol	ND	U	0.00589	0.0281	mg/kg	1	5/26/23 18:59	
Tetrachloroethene	ND	U	0.000278	0.00281	mg/kg	1	5/26/23 18:59	
Toluene	ND	U	0.000226	0.00281	mg/kg	1	5/26/23 18:59	
Total Xylenes	ND	U	0.000361	0.00281	mg/kg	1	5/26/23 18:59	
trans-1,2-Dichloroethene	ND	U	0.000380	0.00281	mg/kg	1	5/26/23 18:59	
trans-1,3-Dichloropropene	ND	U	0.000536	0.00281	mg/kg	1	5/26/23 18:59	
Trichloroethene	ND	U	0.000412	0.00281	mg/kg	1	5/26/23 18:59	
Trichlorofluoromethane	ND	U	0.000323	0.00281	mg/kg	1	5/26/23 18:59	
Vinyl chloride	ND	U	0.000533	0.00281	mg/kg	1	5/26/23 18:59	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-05 (Soil) Sample Name: **OH-SB-23-7.5-8.3-202 30518** Collected: **5/18/2023 11:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Heptanol, 6-methyl-	0.0137	12.49	J	mg/kg	1	5/26/23 18:59
1-Hexadecyne	0.0132	16.92	J	mg/kg	1	5/26/23 18:59
1-Octanol	0.0119	11.91	J	mg/kg	1	5/26/23 18:59
Aziridine, 2-methyl-	0.0160	9.07	J	mg/kg	1	5/26/23 18:59
Cyclohexane, 1,3-dimethyl-, trans-	0.0195	13.26	J	mg/kg	1	5/26/23 18:59
Cyclohexane, 1,4-dimethyl-, cis-	0.0255	13.59	J	mg/kg	1	5/26/23 18:59
Cyclohexane, 1,4-dimethyl-, trans-	0.0181	13.77	J	mg/kg	1	5/26/23 18:59
Cyclooctane, butyl-	0.0138	14.79	J	mg/kg	1	5/26/23 18:59
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	0.0364	11.64	J	mg/kg	1	5/26/23 18:59
Cyclopentane, 1,2-dimethyl-, trans-	0.0130	9.92	J	mg/kg	1	5/26/23 18:59
Cyclopropane, 1-butyl-2-pentyl-, trans-	0.0111	16.01	J	mg/kg	1	5/26/23 18:59
Heptane, 1-fluoro-	0.0149	9.37	J	mg/kg	1	5/26/23 18:59
Pentane, 2-methyl-	0.0117	5.26	J	mg/kg	1	5/26/23 18:59
Pentane, 3,3-dimethyl-	0.0117	8.60	J	mg/kg	1	5/26/23 18:59
Propanoyl chloride, 2-methyl-	0.00999	9.70	J	mg/kg	1	5/26/23 18:59
TIC Total	**0.241**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**77.5**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.380**		**0.00805**	**0.0676**	**mg/kg**	**1**	**5/19/23 16:02**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-2 0230518** Collected: **5/18/2023 11:25:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00687	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1221	ND	U	0.0135	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1232	ND	U	0.0172	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1242	ND	U	0.0101	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1248	ND	U	0.0105	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1254	ND	U	0.00827	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1260	ND	U	0.00642	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1262	ND	U	0.0138	0.0512	mg/kg	1	6/2/23 22:08
Aroclor-1268	ND	U	0.00620	0.0512	mg/kg	1	6/2/23 22:08
Total PCBs	ND	U	0.00478	0.0512	mg/kg	1	6/2/23 22:08

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0152	0.155	mg/kg	1	6/3/23 19:10
2,4-D	ND	U	0.0258	0.155	mg/kg	1	6/3/23 19:10

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**4.59**		**0.00776**	**0.0311**	**mg/kg**	**1**	**5/23/23 14:06**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**19800**		**0.238**	**4.00**	**mg/kg**	**1**	**6/2/23 9:33**
Antimony	ND	U	0.218	2.00	mg/kg	1	6/2/23 9:33
Arsenic	**11.4**		**0.143**	**2.00**	**mg/kg**	**1**	**6/2/23 9:33**
Barium	**148**		**0.0605**	**0.800**	**mg/kg**	**1**	**6/2/23 9:33**
Beryllium	**1.12**		**0.00463**	**0.0400**	**mg/kg**	**1**	**6/2/23 9:33**
Cadmium	ND	U	0.0780	0.400	mg/kg	1	6/2/23 9:33
Calcium	**4470**		**4.50**	**40.0**	**mg/kg**	**1**	**6/2/23 9:33**
Chromium	**35.3**		**0.0452**	**0.400**	**mg/kg**	**1**	**6/2/23 9:33**
Cobalt	**10.1**		**0.0409**	**0.320**	**mg/kg**	**1**	**6/2/23 9:33**
Copper	**61.2**		**0.112**	**0.400**	**mg/kg**	**1**	**6/2/23 9:33**
Iron	**33900**		**1.13**	**8.00**	**mg/kg**	**1**	**6/2/23 9:33**
Lead	**304**		**0.167**	**2.00**	**mg/kg**	**1**	**6/2/23 9:33**
Magnesium	**7390**		**14.1**	**80.0**	**mg/kg**	**1**	**6/2/23 9:33**
Manganese	**294**		**0.0498**	**0.400**	**mg/kg**	**1**	**6/2/23 9:33**
Nickel	**32.7**		**0.0352**	**0.200**	**mg/kg**	**1**	**6/2/23 9:33**
Potassium	**3980**		**47.6**	**160**	**mg/kg**	**1**	**6/2/23 9:33**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-2 0230518** Collected: **5/18/2023 11:25:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.384	2.00	mg/kg	1	6/2/23 9:33
Silver	**0.612**		**0.0681**	**0.240**	**mg/kg**	**1**	**6/2/23 9:33**
Sodium	**3220**		**7.63**	**80.0**	**mg/kg**	**1**	**6/2/23 9:33**
Thallium	ND	U	0.135	2.00	mg/kg	1	6/2/23 9:33
Vanadium	**39.8**		**0.0920**	**0.800**	**mg/kg**	**1**	**6/2/23 9:33**
Zinc	**161**		**0.122**	**1.20**	**mg/kg**	**1**	**6/2/23 9:33**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000924	0.00202	mg/kg	1	5/26/23 21:38	UJ, RC:6L
4,4'-DDE [2C]	**0.0164**		**0.00110**	**0.00202**	**mg/kg**	**1**	**5/26/23 21:38**	J, RC:6L
4,4'-DDT	ND	U	0.00143	0.00202	mg/kg	1	5/26/23 21:38	
Aldrin	ND	U	0.000957	0.00202	mg/kg	1	5/26/23 21:38	
alpha-BHC	ND	U	0.000601	0.00202	mg/kg	1	5/26/23 21:38	UJ, RC:6L
beta-BHC	ND	U	0.000964	0.00202	mg/kg	1	5/26/23 21:38	UJ, RC:6L
Chlordane [2C]	**0.0512**		**0.000898**	**0.00202**	**mg/kg**	**1**	**5/26/23 21:38**	
delta-BHC	ND	U	0.000938	0.00202	mg/kg	1	5/26/23 21:38	
Dieldrin	ND	U	0.00106	0.00202	mg/kg	1	5/26/23 21:38	
Endosulfan I	ND	U	0.000953	0.00202	mg/kg	1	5/26/23 21:38	
Endosulfan II	ND	U	0.000918	0.00202	mg/kg	1	5/26/23 21:38	
Endosulfan sulfate	ND	U	0.000759	0.00202	mg/kg	1	5/26/23 21:38	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000918	0.00202	mg/kg	1	5/26/23 21:38	
Endrin	ND	U	0.000697	0.00202	mg/kg	1	5/26/23 21:38	
Endrin aldehyde	ND	U	0.000804	0.00202	mg/kg	1	5/26/23 21:38	
Endrin ketone	ND	U	0.000711	0.00202	mg/kg	1	5/26/23 21:38	
gamma-BHC (Lindane)	ND	U	0.000640	0.00202	mg/kg	1	5/26/23 21:38	
Heptachlor	ND	U	0.000540	0.00202	mg/kg	1	5/26/23 21:38	
Heptachlor Epoxide	ND	U	0.00102	0.00202	mg/kg	1	5/26/23 21:38	
Methoxychlor	ND	U	0.000592	0.00202	mg/kg	1	5/26/23 21:38	
Toxaphene	ND	U	0.0972	0.102	mg/kg	1	5/26/23 21:38	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00584	0.0517	mg/kg	1	5/30/23 15:35
2,3,4,6-Tetrachlorophenol	ND	U	0.0318	0.207	mg/kg	1	5/30/23 15:35
2,4,5-Trichlorophenol	ND	U	0.0281	0.207	mg/kg	1	5/30/23 15:35
2,4,6-Trichlorophenol	ND	U	0.0129	0.207	mg/kg	1	5/30/23 15:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-2 0230518** Collected: **5/18/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0208	0.207	mg/kg	1	5/30/23 15:35	
2,4-Dimethylphenol	**0.280**		**0.0203**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	
2,4-Dinitrophenol	ND	U	0.0298	1.04	mg/kg	1	5/30/23 15:35	
2,4-Dinitrotoluene	ND	U	0.0220	0.207	mg/kg	1	5/30/23 15:35	
2,6-Dinitrotoluene	ND	U	0.0494	0.207	mg/kg	1	5/30/23 15:35	
2-Chloronaphthalene	ND	U	0.0238	0.207	mg/kg	1	5/30/23 15:35	
2-Chlorophenol	ND	U	0.0273	0.207	mg/kg	1	5/30/23 15:35	
2-Methylnaphthalene	**44.4**	D	**0.495**	**3.11**	**mg/kg**	**10**	**6/1/23 16:54**	
2-Methylphenol	**0.141**	J	**0.0408**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	
2-Nitroaniline	ND	U	0.0166	0.207	mg/kg	1	5/30/23 15:35	
2-Nitrophenol	ND	U	0.0230	0.207	mg/kg	1	5/30/23 15:35	
3,3'-Dichlorobenzidine	ND	U	0.0217	0.207	mg/kg	1	5/30/23 15:35	
3+4-Methylphenol	**0.715**		**0.0379**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	
3-Nitroaniline	ND	U	0.0384	0.207	mg/kg	1	5/30/23 15:35	
4,6-Dinitro-2-methylphenol	ND	U	0.0390	0.517	mg/kg	1	5/30/23 15:35	
4-Bromophenyl-phenyl ether	ND	U	0.0295	0.207	mg/kg	1	5/30/23 15:35	
4-Chloro-3-methylphenol	ND	U	0.0326	0.207	mg/kg	1	5/30/23 15:35	
4-Chloroaniline	ND	U	0.00724	0.207	mg/kg	1	5/30/23 15:35	
4-Chlorophenyl phenyl ether	ND	U	0.0112	0.207	mg/kg	1	5/30/23 15:35	
4-Nitroaniline	ND	U	0.103	0.207	mg/kg	1	5/30/23 15:35	
4-Nitrophenol	ND	U	0.0132	0.207	mg/kg	1	5/30/23 15:35	
Acenaphthene	**37.9**	D	**0.118**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Acenaphthylene	**5.74**		**0.00719**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	
Acetophenone	ND	U	0.0205	0.207	mg/kg	1	5/30/23 15:35	
Anthracene	**25.8**	D	**0.300**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Atrazine	ND	U	0.0194	0.207	mg/kg	1	5/30/23 15:35	
Benzaldehyde	ND	U	0.0635	0.207	mg/kg	1	5/30/23 15:35	UJ, RC:SL
Benzo(a)anthracene	**20.3**	D	**0.208**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Benzo(a)pyrene	**17.1**	D	**0.360**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Benzo(b)fluoranthene	**15.6**	D	**0.290**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Benzo(g,h,i)perylene	**9.41**		**0.0168**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	J, RC:SH,6H
Benzo(k)fluoranthene	**7.67**		**0.0238**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	
Biphenyl	**7.86**		**0.0182**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	
bis(2-chloroethoxy)methane	ND	U	0.0286	0.207	mg/kg	1	5/30/23 15:35	
bis(2-chloroethyl)ether	ND	U	0.0227	0.207	mg/kg	1	5/30/23 15:35	
bis(2-chloroisopropyl)ether	ND	U	0.0744	0.207	mg/kg	1	5/30/23 15:35	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0413	0.207	mg/kg	1	5/30/23 15:35	
Butylbenzylphthalate	ND	U	0.0188	0.207	mg/kg	1	5/30/23 15:35	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-2 0230518** Collected: **5/18/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0267	0.207	mg/kg	1	5/30/23 15:35	
Carbazole	**19.3**	D	**0.398**	**5.17**	**mg/kg**	**10**	**6/1/23 16:54**	
Chrysene	**18.5**	D	**0.142**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Dibenzo(a,h)anthracene	**1.03**		**0.0205**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	J, RC:6H
Dibenzofuran	**18.3**	D	**0.123**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Diethylphthalate	ND	U	0.0401	0.207	mg/kg	1	5/30/23 15:35	
Dimethylphthalate	ND	U	0.0128	0.207	mg/kg	1	5/30/23 15:35	
Di-n-butylphthalate	ND	U	0.0845	0.207	mg/kg	1	5/30/23 15:35	
Di-n-octylphthalate	ND	U	0.0424	0.207	mg/kg	1	5/30/23 15:35	
Fluoranthene	**48.0**	D	**0.194**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Fluorene	**26.8**	D	**0.172**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Hexachlorobenzene	ND	U	0.0270	0.207	mg/kg	1	5/30/23 15:35	
Hexachlorobutadiene	ND	U	0.0992	0.207	mg/kg	1	5/30/23 15:35	
Hexachlorocyclopentadiene	ND	U	0.0862	0.517	mg/kg	1	5/30/23 15:35	
Hexachloroethane	ND	U	0.0227	0.207	mg/kg	1	5/30/23 15:35	
Indeno(1,2,3-cd)pyrene	**8.18**		**0.0222**	**0.207**	**mg/kg**	**1**	**5/30/23 15:35**	J, RC:SH,6H
Isophorone	ND	U	0.0135	0.207	mg/kg	1	5/30/23 15:35	
Naphthalene	**190**	D	**0.306**	**4.13**	**mg/kg**	**20**	**6/5/23 19:03**	
Nitrobenzene	ND	U	0.0351	0.207	mg/kg	1	5/30/23 15:35	
n-Nitroso-di-n-propylamine	ND	U	0.0111	0.207	mg/kg	1	5/30/23 15:35	
n-Nitrosodiphenylamine	ND	U	0.0441	0.207	mg/kg	1	5/30/23 15:35	
Pentachlorophenol	ND	U	0.0284	0.517	mg/kg	1	5/30/23 15:35	
Phenanthrene	**79.2**	D	**0.272**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	
Phenol	ND	U	0.0168	0.207	mg/kg	1	5/30/23 15:35	
Pyrene	**41.6**	D	**0.152**	**2.07**	**mg/kg**	**10**	**6/1/23 16:54**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~30.3~~	R, RC:2 5.21	J, B	mg/kg	1	5/30/23 15:35	
4b,8-Dimethyl-2-isopropylphenanthrene, 4	24.5	12.43	J	mg/kg	1	5/30/23 15:35	
Dibenzothiophene	12.4	11.39	J	mg/kg	1	5/30/23 15:35	
Heneicosane	5.60	12.49	J	mg/kg	1	5/30/23 15:35	
Indene	9.26	7.18	J	mg/kg	1	5/30/23 15:35	
Naphthalene, 2,6-dimethyl-	6.70	9.55	J	mg/kg	1	5/30/23 15:35	
Naphthalene, 2,7-dimethyl-	6.47	9.63	J	mg/kg	1	5/30/23 15:35	
Naphthalene, 2-phenyl-	8.03	12.29	J	mg/kg	1	5/30/23 15:35	
Octadecane	5.59	11.25	J	mg/kg	1	5/30/23 15:35	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-2 0230518** Collected: **5/18/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	10.3	11.09	J	mg/kg	1	5/30/23 15:35
unknown (02)	10.6	12.00	J	mg/kg	1	5/30/23 15:35
unknown (03)	14.6	12.03	J	mg/kg	1	5/30/23 15:35
unknown (04)	10.3	12.08	J	mg/kg	1	5/30/23 15:35
unknown (05)	30.6	12.13	J	mg/kg	1	5/30/23 15:35
unknown (06)	8.34	12.87	J	mg/kg	1	5/30/23 15:35
TIC Total	~~194~~ 163.7					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000493	0.00338	mg/kg	1	5/26/23 19:31
1,1,2,2-Tetrachloroethane	ND	U	0.000466	0.00338	mg/kg	1	5/26/23 19:31
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00144	0.00338	mg/kg	1	5/26/23 19:31
1,1,2-Trichloroethane	ND	U	0.000569	0.00338	mg/kg	1	5/26/23 19:31
1,1-Dichloroethane	ND	U	0.000493	0.00338	mg/kg	1	5/26/23 19:31
1,1-Dichloroethene	ND	U	0.000624	0.00338	mg/kg	1	5/26/23 19:31
1,2,3-Trichlorobenzene	ND	U	0.000729	0.00338	mg/kg	1	5/26/23 19:31
1,2,4-Trichlorobenzene	ND	U	0.000900	0.00338	mg/kg	1	5/26/23 19:31
1,2,4-Trimethylbenzene	**0.263**		**0.000466**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**
1,2-Dibromo-3-chloropropane	ND	U	0.000824	0.00338	mg/kg	1	5/26/23 19:31
1,2-Dibromoethane	ND	U	0.000425	0.00338	mg/kg	1	5/26/23 19:31
1,2-Dichlorobenzene	ND	U	0.000596	0.00338	mg/kg	1	5/26/23 19:31
1,2-Dichloroethane	ND	U	0.000476	0.00338	mg/kg	1	5/26/23 19:31
1,2-Dichloropropane	ND	U	0.000554	0.00338	mg/kg	1	5/26/23 19:31
1,3-Dichlorobenzene	ND	U	0.000248	0.00338	mg/kg	1	5/26/23 19:31
1,4-Dichlorobenzene	ND	U	0.000486	0.00338	mg/kg	1	5/26/23 19:31
2-Butanone	ND	U	0.000550	0.00844	mg/kg	1	5/26/23 19:31
2-Hexanone	ND	U	0.000316	0.00338	mg/kg	1	5/26/23 19:31
4-Methyl-2-pentanone	ND	U	0.000422	0.00338	mg/kg	1	5/26/23 19:31
Acetone	ND	U	0.00102	0.00844	mg/kg	1	5/26/23 19:31
Benzene	**0.119**		**0.000307**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**
Bromochloromethane	ND	U	0.000623	0.00338	mg/kg	1	5/26/23 19:31
Bromodichloromethane	ND	U	0.000424	0.00338	mg/kg	1	5/26/23 19:31
Bromoform	ND	U	0.000592	0.00338	mg/kg	1	5/26/23 19:31
Bromomethane	ND	U	0.000974	0.00338	mg/kg	1	5/26/23 19:31
Carbon disulfide	ND	U	0.000484	0.00338	mg/kg	1	5/26/23 19:31
Carbon Tetrachloride	ND	U	0.000508	0.00338	mg/kg	1	5/26/23 19:31

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: **OH-SB-23-14.8-15.8-2 0230518** Collected: **5/18/2023 11:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.000489	0.00338	mg/kg	1	5/26/23 19:31	
Chlorodibromomethane	ND	U	0.000415	0.00338	mg/kg	1	5/26/23 19:31	
Chloroethane	ND	U	0.000576	0.00338	mg/kg	1	5/26/23 19:31	
Chloroform	ND	U	0.000567	0.00338	mg/kg	1	5/26/23 19:31	
Chloromethane	ND	U	0.00130	0.00338	mg/kg	1	5/26/23 19:31	
cis-1,2-Dichloroethene	ND	U	0.000163	0.00338	mg/kg	1	5/26/23 19:31	
cis-1,3-Dichloropropene	ND	U	0.000427	0.00338	mg/kg	1	5/26/23 19:31	
Cyclohexane	ND	U	0.000748	0.00338	mg/kg	1	5/26/23 19:31	
Dichlorodifluoromethane	ND	U	0.00114	0.00338	mg/kg	1	5/26/23 19:31	UJ, RC:SL
EthylBenzene	**0.475**		**0.000457**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
Isopropylbenzene	**0.0956**		**0.000530**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
m+p-Xylenes	**0.839**		**0.000852**	**0.00675**	**mg/kg**	**1**	**5/26/23 19:31**	
Methyl Acetate	ND	U	0.000447	0.00338	mg/kg	1	5/26/23 19:31	
Methyl tert-Butyl Ether	ND	U	0.000570	0.00338	mg/kg	1	5/26/23 19:31	
Methylcyclohexane	**0.0110**		**0.000543**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
Methylene Chloride	ND	U	0.00101	0.00338	mg/kg	1	5/26/23 19:31	
o-Xylene	**0.423**		**0.000434**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
Styrene	**0.0202**		**0.000483**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
tert-Butyl alcohol	ND	U	0.00709	0.0338	mg/kg	1	5/26/23 19:31	
Tetrachloroethene	ND	U	0.000334	0.00338	mg/kg	1	5/26/23 19:31	
Toluene	**0.139**		**0.000272**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
Total Xylenes	**1.26**		**0.000434**	**0.00338**	**mg/kg**	**1**	**5/26/23 19:31**	
trans-1,2-Dichloroethene	ND	U	0.000457	0.00338	mg/kg	1	5/26/23 19:31	
trans-1,3-Dichloropropene	ND	U	0.000645	0.00338	mg/kg	1	5/26/23 19:31	
Trichloroethene	ND	U	0.000496	0.00338	mg/kg	1	5/26/23 19:31	
Trichlorofluoromethane	ND	U	0.000388	0.00338	mg/kg	1	5/26/23 19:31	
Vinyl chloride	ND	U	0.000641	0.00338	mg/kg	1	5/26/23 19:31	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 2,3-dihydro-	0.161	19.91	J	mg/kg	1	5/26/23 19:31
1H-Indene, 3-methyl-	0.306	22.43	J	mg/kg	1	5/26/23 19:31
Benzene, (1-methyl-2-cyclopropen-1-yl)-	0.249	22.29	J	mg/kg	1	5/26/23 19:31
Benzene, 1-ethyl-2-methyl-	0.113	19.55	J	mg/kg	1	5/26/23 19:31
Benzene, 1-ethyl-3-methyl-	0.424	18.85	J	mg/kg	1	5/26/23 19:31
Benzene, 1-ethyl-4-methyl-	0.344	18.05	J	mg/kg	1	5/26/23 19:31
Benzene, 1-ethynyl-4-methyl-	1.23	20.29	J	mg/kg	1	5/26/23 19:31

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E0932
Project: Owls Head Phase 2 **Date to Lab:** 5/18/2023 4:40:00PM

23E0932-06 (Soil) Sample Name: OH-SB-23-14.8-15.8-2 0230518 Collected: 5/18/2023 11:25:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzo[b]thiophene	0.316	23.34	J	mg/kg	1	5/26/23 19:31
Benzofuran, 2-methyl-	0.323	21.48	J	mg/kg	1	5/26/23 19:31
Benzofuran, 7-methyl-	0.118	21.29	J	mg/kg	1	5/26/23 19:31
TIC:Naphthalene	8.37	23.19	J	mg/kg	1	5/26/23 19:31
TIC Total	**12.0**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**64.4**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.543**		**0.0111**	**0.0932**	**mg/kg**	**1**	**5/19/23 16:02**

23E0932-07 (Ground Water) Sample Name: FB-20230518 Collected: 5/18/2023 12:15:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	5/25/23 11:40
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	5/25/23 11:40
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	5/25/23 11:40
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	5/25/23 11:40
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	5/25/23 11:40
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	5/25/23 11:40
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	5/25/23 11:40
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	5/25/23 11:40
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	5/25/23 11:40
Total PCBs	ND	U	0.0497	0.500	ug/L	1	5/25/23 11:40

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/6/23 1:10
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/6/23 1:10
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/6/23 1:10

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-07 (Ground Water) Sample Name: **FB-20230518** Collected: **5/18/2023 12:15:00PM**

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/23/23 15:45	

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/12/23 12:36	
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/12/23 12:36	
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/12/23 12:36	
Barium	ND	U	0.000558	0.0200	mg/L	1	6/12/23 12:36	
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/12/23 12:36	
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/12/23 12:36	
Calcium	**7.27**		**0.256**	**1.00**	**mg/L**	**1**	**6/12/23 12:36**	J, RC:4L
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/12/23 12:36	
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/12/23 12:36	
Copper	ND	U	0.00177	0.0100	mg/L	1	6/12/23 12:36	
Iron	ND	U	0.0580	0.200	mg/L	1	6/12/23 12:36	
Lead	ND	U	0.00510	0.0500	mg/L	1	6/12/23 12:36	
Magnesium	ND	U	0.681	2.00	mg/L	1	6/12/23 12:36	
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/12/23 12:36	
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/12/23 12:36	
Potassium	ND	U	2.41	4.00	mg/L	1	6/12/23 12:36	
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/12/23 12:36	
Silver	ND	U	0.00465	0.0200	mg/L	1	6/12/23 12:36	
Sodium	**11.1**		**0.205**	**2.00**	**mg/L**	**1**	**6/12/23 12:36**	J, RC:D,AA
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/12/23 12:36	UJ, RC:4L
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/12/23 12:36	
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/12/23 12:36	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/25/23 20:13	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/25/23 20:13	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/25/23 20:13	UJ, RC:6L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/25/23 20:13	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/25/23 20:13	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/25/23 20:13	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/25/23 20:13	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/25/23 20:13	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/25/23 20:13	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/25/23 20:13	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-07 (Ground Water) Sample Name: **FB-20230518** Collected: **5/18/2023 12:15:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/25/23 20:13
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/25/23 20:13
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/25/23 20:13
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/25/23 20:13
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/25/23 20:13
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/25/23 20:13
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/25/23 20:13
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/25/23 20:13
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/25/23 20:13
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/25/23 20:13

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/22/23 16:56	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/22/23 16:56	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/22/23 16:56	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/22/23 16:56	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/22/23 16:56	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/22/23 16:56	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/22/23 16:56	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/22/23 16:56	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/22/23 16:56	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/22/23 16:56	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/22/23 16:56	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/22/23 16:56	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/22/23 16:56	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/22/23 16:56	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/22/23 16:56	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/22/23 16:56	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/22/23 16:56	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/22/23 16:56	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/22/23 16:56	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/22/23 16:56	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/22/23 16:56	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/22/23 16:56	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/22/23 16:56	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/22/23 16:56	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/22/23 16:56	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/22/23 16:56	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-07 (Ground Water) Sample Name: **FB-20230518** Collected: **5/18/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/22/23 16:56	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/22/23 16:56	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/22/23 16:56	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/22/23 16:56	UJ, RC:SL,Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/22/23 16:56	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/22/23 16:56	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/22/23 16:56	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/22/23 16:56	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/22/23 16:56	
bis(2-ethylhexyl)phthalate	**0.605**	J	**0.183**	**2.00**	**ug/L**	**1**	**5/22/23 16:56**	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/22/23 16:56	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/22/23 16:56	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/22/23 16:56	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/22/23 16:56	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/22/23 16:56	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/22/23 16:56	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/22/23 16:56	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/22/23 16:56	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/22/23 16:56	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/22/23 16:56	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/22/23 16:56	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/22/23 16:56	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/22/23 16:56	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/22/23 16:56	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/22/23 16:56	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/22/23 16:56	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/22/23 16:56	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/22/23 16:56	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/22/23 16:56	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/22/23 16:56	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/22/23 16:56	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2(5H)-Furanone, 5,5-dimethyl-	4.10	6.18	J	ug/L	1	5/22/23 16:56
Bicyclo[2.2.2]octan-1-ol, 4-methyl-	4.68	5.46	J	ug/L	1	5/22/23 16:56
Cyclopentanecarboxylic acid, 1-methyl-	5.29	7.58	J	ug/L	1	5/22/23 16:56
unknown (01)	5.92	5.24	J	ug/L	1	5/22/23 16:56

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-07 (Ground Water) Sample Name: **FB-20230518** Collected: **5/18/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (02)	4.24	7.62	J	ug/L	1	5/22/23 16:56
TIC Total	**24.2**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/19/23 18:44	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/19/23 18:44	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/19/23 18:44	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/19/23 18:44	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/19/23 18:44	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/19/23 18:44	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/19/23 18:44	RC:SL
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/19/23 18:44	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/19/23 18:44	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/19/23 18:44	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/19/23 18:44	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/19/23 18:44	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/19/23 18:44	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/19/23 18:44	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/19/23 18:44	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/19/23 18:44	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/19/23 18:44	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/19/23 18:44	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/19/23 18:44	
Acetone	ND	U	10.0	10.0	ug/L	1	5/19/23 18:44	
Benzene	ND	U	0.129	1.00	ug/L	1	5/19/23 18:44	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/19/23 18:44	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/19/23 18:44	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/19/23 18:44	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/19/23 18:44	RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/19/23 18:44	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/19/23 18:44	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/19/23 18:44	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/19/23 18:44	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/19/23 18:44	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/19/23 18:44	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/19/23 18:44	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/19/23 18:44	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-07 (Ground Water) Sample Name: **FB-20230518** Collected: **5/18/2023 12:15:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/19/23 18:44	UJ, RC:3L
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/19/23 18:44	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/19/23 18:44	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/19/23 18:44	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/19/23 18:44	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/19/23 18:44	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/19/23 18:44	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/19/23 18:44	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/19/23 18:44	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/19/23 18:44	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/19/23 18:44	
Styrene	ND	U	0.176	1.00	ug/L	1	5/19/23 18:44	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/19/23 18:44	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/19/23 18:44	
Toluene	ND	U	0.205	1.00	ug/L	1	5/19/23 18:44	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/19/23 18:44	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/19/23 18:44	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/19/23 18:44	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/19/23 18:44	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/19/23 18:44	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/19/23 18:44	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/23/23 16:43

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-20230518** Collected: **5/18/2023 12:48:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00513	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1221	ND	U	0.0101	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1232	ND	U	0.0128	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1242	ND	U	0.00752	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1248	ND	U	0.00787	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1254	ND	U	0.00618	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1260	ND	U	0.00479	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1262	ND	U	0.0103	0.0383	mg/kg	1	6/2/23 22:30
Aroclor-1268	ND	U	0.00463	0.0383	mg/kg	1	6/2/23 22:30
Total PCBs	ND	U	0.00357	0.0383	mg/kg	1	6/2/23 22:30

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0114	0.116	mg/kg	1	6/3/23 19:34
2,4-D	ND	U	0.0193	0.116	mg/kg	1	6/3/23 19:34

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.78**		**0.00580**	**0.0232**	**mg/kg**	**1**	**5/23/23 14:06**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4570**		**0.165**	**2.77**	**mg/kg**	**1**	**6/2/23 9:35**
Antimony	ND	U	0.151	1.39	mg/kg	1	6/2/23 9:35
Arsenic	**3.00**		**0.0990**	**1.39**	**mg/kg**	**1**	**6/2/23 9:35**
Barium	**113**		**0.0420**	**0.555**	**mg/kg**	**1**	**6/2/23 9:35**
Beryllium	**0.353**		**0.00321**	**0.0277**	**mg/kg**	**1**	**6/2/23 9:35**
Cadmium	ND	U	0.0541	0.277	mg/kg	1	6/2/23 9:35
Calcium	**141000**	D	**31.2**	**277**	**mg/kg**	**10**	**6/2/23 10:33**
Chromium	**9.77**		**0.0313**	**0.277**	**mg/kg**	**1**	**6/2/23 9:35**
Cobalt	**3.00**		**0.0284**	**0.222**	**mg/kg**	**1**	**6/2/23 9:35**
Copper	**36.3**		**0.0776**	**0.277**	**mg/kg**	**1**	**6/2/23 9:35**
Iron	**10700**		**0.786**	**5.55**	**mg/kg**	**1**	**6/2/23 9:35**
Lead	**106**		**0.116**	**1.39**	**mg/kg**	**1**	**6/2/23 9:35**
Magnesium	**3260**		**9.80**	**55.5**	**mg/kg**	**1**	**6/2/23 9:35**
Manganese	**181**		**0.0345**	**0.277**	**mg/kg**	**1**	**6/2/23 9:35**
Nickel	**8.07**		**0.0244**	**0.139**	**mg/kg**	**1**	**6/2/23 9:35**
Potassium	**1080**		**33.0**	**111**	**mg/kg**	**1**	**6/2/23 9:35**

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-202 30518** Collected: **5/18/2023 12:48:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.266	1.39	mg/kg	1	6/2/23 9:35
Silver	ND	U	0.0472	0.166	mg/kg	1	6/2/23 9:35
Sodium	**797**		**5.29**	**55.5**	**mg/kg**	**1**	**6/2/23 9:35**
Thallium	ND	U	0.0934	1.39	mg/kg	1	6/2/23 9:35
Vanadium	**15.6**		**0.0638**	**0.555**	**mg/kg**	**1**	**6/2/23 9:35**
Zinc	**56.3**		**0.0848**	**0.832**	**mg/kg**	**1**	**6/2/23 9:35**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.00174**		**0.000690**	**0.00151**	**mg/kg**	**1**	**5/26/23 22:00**	J, RC:6L,3H
4,4'-DDE [2C]	**0.00131**	J	**0.000825**	**0.00151**	**mg/kg**	**1**	**5/26/23 22:00**	J, RC:6L,3H
4,4'-DDT [2C]	**0.00370**		**0.00106**	**0.00151**	**mg/kg**	**1**	**5/26/23 22:00**	J, RC:3H
Aldrin	ND	U	0.000714	0.00151	mg/kg	1	5/26/23 22:00	
alpha-BHC	ND	U	0.000449	0.00151	mg/kg	1	5/26/23 22:00	UJ, RC:6L
beta-BHC	ND	U	0.000720	0.00151	mg/kg	1	5/26/23 22:00	UJ, RC:6L
Chlordane	ND	U	0.000670	0.00151	mg/kg	1	5/26/23 22:00	
delta-BHC	ND	U	0.000700	0.00151	mg/kg	1	5/26/23 22:00	
Dieldrin	ND	U	0.000789	0.00151	mg/kg	1	5/26/23 22:00	
Endosulfan I	ND	U	0.000712	0.00151	mg/kg	1	5/26/23 22:00	
Endosulfan II	ND	U	0.000685	0.00151	mg/kg	1	5/26/23 22:00	
Endosulfan sulfate	ND	U	0.000567	0.00151	mg/kg	1	5/26/23 22:00	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000685	0.00151	mg/kg	1	5/26/23 22:00	
Endrin	ND	U	0.000521	0.00151	mg/kg	1	5/26/23 22:00	
Endrin aldehyde	ND	U	0.000601	0.00151	mg/kg	1	5/26/23 22:00	
Endrin ketone	ND	U	0.000531	0.00151	mg/kg	1	5/26/23 22:00	
gamma-BHC (Lindane)	ND	U	0.000478	0.00151	mg/kg	1	5/26/23 22:00	
Heptachlor	ND	U	0.000404	0.00151	mg/kg	1	5/26/23 22:00	
Heptachlor Epoxide	ND	U	0.000761	0.00151	mg/kg	1	5/26/23 22:00	
Methoxychlor	ND	U	0.000442	0.00151	mg/kg	1	5/26/23 22:00	
Toxaphene	ND	U	0.0726	0.0765	mg/kg	1	5/26/23 22:00	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00872	0.0772	mg/kg	2	5/30/23 16:06
2,3,4,6-Tetrachlorophenol	ND	U	0.0475	0.308	mg/kg	2	5/30/23 16:06
2,4,5-Trichlorophenol	ND	U	0.0420	0.308	mg/kg	2	5/30/23 16:06
2,4,6-Trichlorophenol	ND	U	0.0193	0.308	mg/kg	2	5/30/23 16:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-202 30518** Collected: **5/18/2023 12:48:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0311	0.308	mg/kg	2	5/30/23 16:06	
2,4-Dimethylphenol	ND	U	0.0304	0.308	mg/kg	2	5/30/23 16:06	
2,4-Dinitrophenol	ND	U	0.0445	1.55	mg/kg	2	5/30/23 16:06	
2,4-Dinitrotoluene	ND	U	0.0329	0.308	mg/kg	2	5/30/23 16:06	
2,6-Dinitrotoluene	ND	U	0.0738	0.308	mg/kg	2	5/30/23 16:06	
2-Chloronaphthalene	ND	U	0.0355	0.308	mg/kg	2	5/30/23 16:06	
2-Chlorophenol	ND	U	0.0408	0.308	mg/kg	2	5/30/23 16:06	
2-Methylnaphthalene	**0.189**	J, D	**0.0740**	**0.464**	**mg/kg**	**2**	**5/30/23 16:06**	
2-Methylphenol	ND	U	0.0610	0.308	mg/kg	2	5/30/23 16:06	
2-Nitroaniline	ND	U	0.0248	0.308	mg/kg	2	5/30/23 16:06	
2-Nitrophenol	ND	U	0.0343	0.308	mg/kg	2	5/30/23 16:06	
3,3'-Dichlorobenzidine	ND	U	0.0325	0.308	mg/kg	2	5/30/23 16:06	
3+4-Methylphenol	**0.146**	J, D	**0.0566**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
3-Nitroaniline	ND	U	0.0573	0.308	mg/kg	2	5/30/23 16:06	
4,6-Dinitro-2-methylphenol	ND	U	0.0582	0.772	mg/kg	2	5/30/23 16:06	
4-Bromophenyl-phenyl ether	ND	U	0.0441	0.308	mg/kg	2	5/30/23 16:06	
4-Chloro-3-methylphenol	ND	U	0.0487	0.308	mg/kg	2	5/30/23 16:06	
4-Chloroaniline	ND	U	0.0108	0.308	mg/kg	2	5/30/23 16:06	
4-Chlorophenyl phenyl ether	ND	U	0.0167	0.308	mg/kg	2	5/30/23 16:06	
4-Nitroaniline	ND	U	0.154	0.308	mg/kg	2	5/30/23 16:06	
4-Nitrophenol	ND	U	0.0198	0.308	mg/kg	2	5/30/23 16:06	
Acenaphthene	**0.133**	J, D	**0.0176**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Acenaphthylene	**4.58**	D	**0.0107**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Acetophenone	ND	U	0.0306	0.308	mg/kg	2	5/30/23 16:06	
Anthracene	**1.16**	D	**0.0448**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Atrazine	ND	U	0.0290	0.308	mg/kg	2	5/30/23 16:06	
Benzaldehyde	ND	U	0.0949	0.308	mg/kg	2	5/30/23 16:06	UJ, RC:SL
Benzo(a)anthracene	**1.25**	D	**0.0311**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Benzo(a)pyrene	**3.68**	D	**0.0538**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Benzo(b)fluoranthene	**3.58**	D	**0.0434**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Benzo(g,h,i)perylene	**16.5**	D	**0.125**	**1.54**	**mg/kg**	**10**	**6/1/23 17:27**	J, RC:6H,SH
Benzo(k)fluoranthene	**1.36**	D	**0.0355**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Biphenyl	ND	U	0.0271	0.308	mg/kg	2	5/30/23 16:06	
bis(2-chloroethoxy)methane	ND	U	0.0427	0.308	mg/kg	2	5/30/23 16:06	
bis(2-chloroethyl)ether	ND	U	0.0339	0.308	mg/kg	2	5/30/23 16:06	
bis(2-chloroisopropyl)ether	ND	U	0.111	0.308	mg/kg	2	5/30/23 16:06	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0617	0.308	mg/kg	2	5/30/23 16:06	
Butylbenzylphthalate	ND	U	0.0281	0.308	mg/kg	2	5/30/23 16:06	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-202 30518** Collected: **5/18/2023 12:48:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0399	0.308	mg/kg	2	5/30/23 16:06	
Carbazole	ND	U	0.0594	0.772	mg/kg	2	5/30/23 16:06	
Chrysene	**1.61**	D	**0.0212**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Dibenzo(a,h)anthracene	**0.298**	J, D	**0.0306**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	J, RC:6H
Dibenzofuran	ND	U	0.0184	0.308	mg/kg	2	5/30/23 16:06	
Diethylphthalate	ND	U	0.0598	0.308	mg/kg	2	5/30/23 16:06	
Dimethylphthalate	ND	U	0.0192	0.308	mg/kg	2	5/30/23 16:06	
Di-n-butylphthalate	ND	U	0.126	0.308	mg/kg	2	5/30/23 16:06	
Di-n-octylphthalate	ND	U	0.0633	0.308	mg/kg	2	5/30/23 16:06	
Fluoranthene	**1.62**	D	**0.0290**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Fluorene	**0.418**	D	**0.0257**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Hexachlorobenzene	ND	U	0.0404	0.308	mg/kg	2	5/30/23 16:06	
Hexachlorobutadiene	ND	U	0.148	0.308	mg/kg	2	5/30/23 16:06	
Hexachlorocyclopentadiene	ND	U	0.129	0.772	mg/kg	2	5/30/23 16:06	
Hexachloroethane	ND	U	0.0339	0.308	mg/kg	2	5/30/23 16:06	
Indeno(1,2,3-cd)pyrene	**5.80**	D	**0.0332**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	J, RC:6H,SH
Isophorone	ND	U	0.0202	0.308	mg/kg	2	5/30/23 16:06	
Naphthalene	**0.484**	D	**0.0229**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Nitrobenzene	ND	U	0.0524	0.308	mg/kg	2	5/30/23 16:06	
n-Nitroso-di-n-propylamine	ND	U	0.0165	0.308	mg/kg	2	5/30/23 16:06	
n-Nitrosodiphenylamine	ND	U	0.0659	0.308	mg/kg	2	5/30/23 16:06	
Pentachlorophenol	ND	U	0.0424	0.772	mg/kg	2	5/30/23 16:06	
Phenanthrene	**0.806**	D	**0.0406**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	
Phenol	ND	U	0.0251	0.308	mg/kg	2	5/30/23 16:06	
Pyrene	**2.88**	D	**0.0227**	**0.308**	**mg/kg**	**2**	**5/30/23 16:06**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,5,7-Cyclooctatetraene	3.33	5.81	J, D	mg/kg	2	5/30/23 16:06
1,3,5-Hexatriene, 3-methyl-, (Z)-	1.40	4.04	J, D	mg/kg	2	5/30/23 16:06
2-Pentanone, 4-hydroxy-4-methyl-	~~28.9~~ R, RC:2	5.20	J, D, B	mg/kg	2	5/30/23 16:06
Benzene, (1-nitroethyl)-	1.31	7.76	J, D	mg/kg	2	5/30/23 16:06
Benzene, 1-ethenyl-3-methyl-	3.35	6.74	J, D	mg/kg	2	5/30/23 16:06
Benzene, 1-methyl-3-(1-methylethyl)-	1.30	8.46	J, D	mg/kg	2	5/30/23 16:06
Benzene, ethenylmethyl-	1.10	6.78	J, D	mg/kg	2	5/30/23 16:06
Heneicosane	1.39	11.25	J, D	mg/kg	2	5/30/23 16:06
Indene	1.10	7.18	J, D	mg/kg	2	5/30/23 16:06

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-20230518** Collected: **5/18/2023 12:48:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 2-ethenyl-	1.94	9.69	J, D	mg/kg	2	5/30/23 16:06
Nonadecane	1.12	11.68	J, D	mg/kg	2	5/30/23 16:06
unknown (01)	1.03	4.13	J, D	mg/kg	2	5/30/23 16:06
unknown (02)	1.03	8.02	J, D	mg/kg	2	5/30/23 16:06
unknown (03)	1.22	10.91	J, D	mg/kg	2	5/30/23 16:06
unknown (04)	5.81	16.71	J, D	mg/kg	2	5/30/23 16:06
TIC Total	~~55.3~~ 26.4					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000308	0.00211	mg/kg	1	5/30/23 16:38
1,1,2,2-Tetrachloroethane	ND	U	0.000291	0.00211	mg/kg	1	5/30/23 16:38
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000902	0.00211	mg/kg	1	5/30/23 16:38
1,1,2-Trichloroethane	ND	U	0.000355	0.00211	mg/kg	1	5/30/23 16:38
1,1-Dichloroethane	ND	U	0.000308	0.00211	mg/kg	1	5/30/23 16:38
1,1-Dichloroethene	ND	U	0.000390	0.00211	mg/kg	1	5/30/23 16:38
1,2,3-Trichlorobenzene	ND	U	0.000455	0.00211	mg/kg	1	5/30/23 16:38
1,2,4-Trichlorobenzene	ND	U	0.000562	0.00211	mg/kg	1	5/30/23 16:38
1,2,4-Trimethylbenzene	ND	U	0.000291	0.00211	mg/kg	1	5/30/23 16:38
1,2-Dibromo-3-chloropropane	ND	U	0.000515	0.00211	mg/kg	1	5/30/23 16:38
1,2-Dibromoethane	ND	U	0.000266	0.00211	mg/kg	1	5/30/23 16:38
1,2-Dichlorobenzene	ND	U	0.000372	0.00211	mg/kg	1	5/30/23 16:38
1,2-Dichloroethane	ND	U	0.000297	0.00211	mg/kg	1	5/30/23 16:38
1,2-Dichloropropane	ND	U	0.000346	0.00211	mg/kg	1	5/30/23 16:38
1,3-Dichlorobenzene	ND	U	0.000155	0.00211	mg/kg	1	5/30/23 16:38
1,4-Dichlorobenzene	ND	U	0.000304	0.00211	mg/kg	1	5/30/23 16:38
2-Butanone	ND	U	0.000344	0.00527	mg/kg	1	5/30/23 16:38
2-Hexanone	ND	U	0.000197	0.00211	mg/kg	1	5/30/23 16:38
4-Methyl-2-pentanone	ND	U	0.000264	0.00211	mg/kg	1	5/30/23 16:38
Acetone	ND	U	0.000639	0.00527	mg/kg	1	5/30/23 16:38
Benzene	ND	U	0.000192	0.00211	mg/kg	1	5/30/23 16:38
Bromochloromethane	ND	U	0.000389	0.00211	mg/kg	1	5/30/23 16:38
Bromodichloromethane	ND	U	0.000265	0.00211	mg/kg	1	5/30/23 16:38
Bromoform	ND	U	0.000370	0.00211	mg/kg	1	5/30/23 16:38
Bromomethane	ND	U	0.000608	0.00211	mg/kg	1	5/30/23 16:38
Carbon disulfide	ND	U	0.000303	0.00211	mg/kg	1	5/30/23 16:38
Carbon Tetrachloride	ND	U	0.000317	0.00211	mg/kg	1	5/30/23 16:38

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-202 30518** Collected: **5/18/2023 12:48:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.000306	0.00211	mg/kg	1	5/30/23 16:38
Chlorodibromomethane	ND	U	0.000259	0.00211	mg/kg	1	5/30/23 16:38
Chloroethane	ND	U	0.000360	0.00211	mg/kg	1	5/30/23 16:38
Chloroform	ND	U	0.000354	0.00211	mg/kg	1	5/30/23 16:38
Chloromethane	ND	U	0.000812	0.00211	mg/kg	1	5/30/23 16:38
cis-1,2-Dichloroethene	ND	U	0.000102	0.00211	mg/kg	1	5/30/23 16:38
cis-1,3-Dichloropropene	ND	U	0.000267	0.00211	mg/kg	1	5/30/23 16:38
Cyclohexane	ND	U	0.000467	0.00211	mg/kg	1	5/30/23 16:38
Dichlorodifluoromethane	ND	U	0.000712	0.00211	mg/kg	1	5/30/23 16:38
EthylBenzene	ND	U	0.000286	0.00211	mg/kg	1	5/30/23 16:38
Isopropylbenzene	ND	U	0.000331	0.00211	mg/kg	1	5/30/23 16:38
m+p-Xylenes	ND	U	0.000532	0.00422	mg/kg	1	5/30/23 16:38
Methyl Acetate	ND	U	0.000279	0.00211	mg/kg	1	5/30/23 16:38
Methyl tert-Butyl Ether	ND	U	0.000356	0.00211	mg/kg	1	5/30/23 16:38
Methylcyclohexane	ND	U	0.000339	0.00211	mg/kg	1	5/30/23 16:38
Methylene Chloride	ND	U	0.000634	0.00211	mg/kg	1	5/30/23 16:38
o-Xylene	ND	U	0.000271	0.00211	mg/kg	1	5/30/23 16:38
Styrene	ND	U	0.000302	0.00211	mg/kg	1	5/30/23 16:38
tert-Butyl alcohol	ND	U	0.00443	0.0211	mg/kg	1	5/30/23 16:38
Tetrachloroethene	ND	U	0.000209	0.00211	mg/kg	1	5/30/23 16:38
Toluene	ND	U	0.000170	0.00211	mg/kg	1	5/30/23 16:38
Total Xylenes	ND	U	0.000271	0.00211	mg/kg	1	5/30/23 16:38
trans-1,2-Dichloroethene	ND	U	0.000286	0.00211	mg/kg	1	5/30/23 16:38
trans-1,3-Dichloropropene	ND	U	0.000403	0.00211	mg/kg	1	5/30/23 16:38
Trichloroethene	ND	U	0.000310	0.00211	mg/kg	1	5/30/23 16:38
Trichlorofluoromethane	ND	U	0.000242	0.00211	mg/kg	1	5/30/23 16:38
Vinyl chloride	ND	U	0.000401	0.00211	mg/kg	1	5/30/23 16:38

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.00616	5.27	J	mg/kg	1	5/30/23 16:38
TIC Total	**0.006**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-08 (Soil) Sample Name: **OH-SB-29-1.5-2.5-20230518** Collected: **5/18/2023 12:48:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.2**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.252**		**0.00847**	**0.0711**	**mg/kg**	**1**	**5/22/23 15:16**

23E0932-09 (Soil) Sample Name: **DUP-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.0242	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1221	ND	U	0.0475	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1232	ND	U	0.0605	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1242	ND	U	0.0354	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1248	ND	U	0.0371	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1254	ND	U	0.0291	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1260	**4.45**	D	**0.0226**	**0.180**	**mg/kg**	**5**	**6/10/23 8:21**	J, RC:8
Aroclor-1262	ND	U	0.0485	0.180	mg/kg	5	6/10/23 8:21	
Aroclor-1268	ND	U	0.0218	0.180	mg/kg	5	6/10/23 8:21	
Total PCBs	**4.45**	D	**0.0168**	**0.180**	**mg/kg**	**5**	**6/10/23 8:21**	J, RC:8

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0107	0.109	mg/kg	1	6/3/23 19:58
2,4-D	ND	U	0.0181	0.109	mg/kg	1	6/3/23 19:58

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.795**		**0.00546**	**0.0218**	**mg/kg**	**1**	**5/23/23 14:06**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12700**		**0.166**	**2.79**	**mg/kg**	**1**	**6/2/23 9:38**
Antimony	**1.40**		**0.152**	**1.39**	**mg/kg**	**1**	**6/2/23 9:38**
Arsenic	**6.59**		**0.0994**	**1.39**	**mg/kg**	**1**	**6/2/23 9:38**
Barium	**117**		**0.0421**	**0.557**	**mg/kg**	**1**	**6/2/23 9:38**
Beryllium	**0.626**		**0.00323**	**0.0279**	**mg/kg**	**1**	**6/2/23 9:38**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-09 (Soil) Sample Name: **DUP-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	**1.68**		**0.0543**	**0.279**	**mg/kg**	**1**	**6/2/23 9:38**	
Calcium	**22200**		**3.13**	**27.9**	**mg/kg**	**1**	**6/2/23 9:38**	
Chromium	**38.5**		**0.0315**	**0.279**	**mg/kg**	**1**	**6/2/23 9:38**	
Cobalt	**8.58**		**0.0285**	**0.223**	**mg/kg**	**1**	**6/2/23 9:38**	
Copper	**208**		**0.0780**	**0.279**	**mg/kg**	**1**	**6/2/23 9:38**	
Iron	**29800**	D	**7.89**	**55.7**	**mg/kg**	**10**	**6/2/23 10:35**	
Lead	**387**		**0.116**	**1.39**	**mg/kg**	**1**	**6/2/23 9:38**	
Magnesium	**9300**		**9.85**	**55.7**	**mg/kg**	**1**	**6/2/23 9:38**	
Manganese	**292**		**0.0347**	**0.279**	**mg/kg**	**1**	**6/2/23 9:38**	
Nickel	**127**		**0.0245**	**0.139**	**mg/kg**	**1**	**6/2/23 9:38**	
Potassium	**1290**		**33.1**	**111**	**mg/kg**	**1**	**6/2/23 9:38**	
Selenium	ND	U	0.268	1.39	mg/kg	1	6/2/23 9:38	
Silver	**0.315**		**0.0474**	**0.167**	**mg/kg**	**1**	**6/2/23 9:38**	J, RC:8
Sodium	**980**		**5.31**	**55.7**	**mg/kg**	**1**	**6/2/23 9:38**	
Thallium	ND	U	0.0938	1.39	mg/kg	1	6/2/23 9:38	
Vanadium	**641**	D	**0.641**	**5.57**	**mg/kg**	**10**	**6/2/23 10:35**	
Zinc	**365**	D	**0.851**	**8.36**	**mg/kg**	**10**	**6/2/23 10:35**	J, RC:8

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.00414**		**0.000650**	**0.00142**	**mg/kg**	**1**	**5/30/23 19:18**	J, RC:3H
4,4'-DDE [2C]	**0.00353**		**0.000777**	**0.00142**	**mg/kg**	**1**	**5/30/23 19:18**	J, RC:3H
4,4'-DDT	**0.00630**		**0.00100**	**0.00142**	**mg/kg**	**1**	**5/30/23 19:18**	J, RC:8
Aldrin	ND	U	0.000673	0.00142	mg/kg	1	5/30/23 19:18	
alpha-BHC	ND	U	0.000423	0.00142	mg/kg	1	5/30/23 19:18	
beta-BHC	ND	U	0.000678	0.00142	mg/kg	1	5/30/23 19:18	
Chlordane [2C]	**0.00739**		**0.000631**	**0.00142**	**mg/kg**	**1**	**5/30/23 19:18**	J, RC:3H
delta-BHC	ND	U	0.000660	0.00142	mg/kg	1	5/30/23 19:18	
Dieldrin	ND	U	0.000743	0.00142	mg/kg	1	5/30/23 19:18	
Endosulfan I	ND	U	0.000671	0.00142	mg/kg	1	5/30/23 19:18	
Endosulfan II	ND	U	0.000646	0.00142	mg/kg	1	5/30/23 19:18	
Endosulfan sulfate	ND	U	0.000534	0.00142	mg/kg	1	5/30/23 19:18	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000646	0.00142	mg/kg	1	5/30/23 19:18	
Endrin	ND	U	0.000491	0.00142	mg/kg	1	5/30/23 19:18	
Endrin aldehyde	ND	U	0.000566	0.00142	mg/kg	1	5/30/23 19:18	
Endrin ketone	ND	U	0.000500	0.00142	mg/kg	1	5/30/23 19:18	
gamma-BHC (Lindane)	ND	U	0.000450	0.00142	mg/kg	1	5/30/23 19:18	
Heptachlor	ND	U	0.000380	0.00142	mg/kg	1	5/30/23 19:18	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-09 (Soil) Sample Name: **DUP-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor Epoxide	ND	U	0.000717	0.00142	mg/kg	1	5/30/23 19:18
Methoxychlor	ND	U	0.000416	0.00142	mg/kg	1	5/30/23 19:18
Toxaphene	ND	U	0.0684	0.0721	mg/kg	1	5/30/23 19:18

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00822	0.0728	mg/kg	2	5/30/23 16:37	
2,3,4,6-Tetrachlorophenol	ND	U	0.0448	0.291	mg/kg	2	5/30/23 16:37	
2,4,5-Trichlorophenol	ND	U	0.0395	0.291	mg/kg	2	5/30/23 16:37	
2,4,6-Trichlorophenol	ND	U	0.0182	0.291	mg/kg	2	5/30/23 16:37	
2,4-Dichlorophenol	ND	U	0.0293	0.291	mg/kg	2	5/30/23 16:37	
2,4-Dimethylphenol	ND	U	0.0286	0.291	mg/kg	2	5/30/23 16:37	
2,4-Dinitrophenol	ND	U	0.0420	1.46	mg/kg	2	5/30/23 16:37	
2,4-Dinitrotoluene	ND	U	0.0310	0.291	mg/kg	2	5/30/23 16:37	
2,6-Dinitrotoluene	ND	U	0.0695	0.291	mg/kg	2	5/30/23 16:37	
2-Chloronaphthalene	ND	U	0.0334	0.291	mg/kg	2	5/30/23 16:37	
2-Chlorophenol	ND	U	0.0385	0.291	mg/kg	2	5/30/23 16:37	
2-Methylnaphthalene	**0.0858**	J, D	**0.0697**	**0.437**	**mg/kg**	**2**	**5/30/23 16:37**	
2-Methylphenol	ND	U	0.0575	0.291	mg/kg	2	5/30/23 16:37	
2-Nitroaniline	ND	U	0.0234	0.291	mg/kg	2	5/30/23 16:37	
2-Nitrophenol	ND	U	0.0323	0.291	mg/kg	2	5/30/23 16:37	
3,3'-Dichlorobenzidine	ND	U	0.0306	0.291	mg/kg	2	5/30/23 16:37	
3+4-Methylphenol	ND	U	0.0533	0.291	mg/kg	2	5/30/23 16:37	
3-Nitroaniline	ND	U	0.0540	0.291	mg/kg	2	5/30/23 16:37	
4,6-Dinitro-2-methylphenol	ND	U	0.0548	0.728	mg/kg	2	5/30/23 16:37	
4-Bromophenyl-phenyl ether	ND	U	0.0415	0.291	mg/kg	2	5/30/23 16:37	
4-Chloro-3-methylphenol	ND	U	0.0459	0.291	mg/kg	2	5/30/23 16:37	
4-Chloroaniline	ND	U	0.0102	0.291	mg/kg	2	5/30/23 16:37	
4-Chlorophenyl phenyl ether	ND	U	0.0157	0.291	mg/kg	2	5/30/23 16:37	
4-Nitroaniline	ND	U	0.146	0.291	mg/kg	2	5/30/23 16:37	
4-Nitrophenol	ND	U	0.0186	0.291	mg/kg	2	5/30/23 16:37	
Acenaphthene	**0.181**	J, D	**0.0166**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Acenaphthylene	**0.227**	J, D	**0.0101**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Acetophenone	ND	U	0.0288	0.291	mg/kg	2	5/30/23 16:37	
Anthracene	**0.555**	D	**0.0422**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Atrazine	ND	U	0.0273	0.291	mg/kg	2	5/30/23 16:37	
Benzaldehyde	ND	U	0.0894	0.291	mg/kg	2	5/30/23 16:37	UJ, RC:SL
Benzo(a)anthracene	**2.35**	D	**0.0293**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Benzo(a)pyrene	**3.94**	D	**0.0507**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-09 (Soil) Sample Name: **DUP-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(b)fluoranthene	**5.46**	D	**0.0409**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Benzo(g,h,i)perylene	**2.64**	D	**0.0236**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	J, RC:6H,SH
Benzo(k)fluoranthene	**1.97**	D	**0.0334**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Biphenyl	ND	U	0.0256	0.291	mg/kg	2	5/30/23 16:37	
bis(2-chloroethoxy)methane	ND	U	0.0402	0.291	mg/kg	2	5/30/23 16:37	
bis(2-chloroethyl)ether	ND	U	0.0319	0.291	mg/kg	2	5/30/23 16:37	
bis(2-chloroisopropyl)ether	ND	U	0.105	0.291	mg/kg	2	5/30/23 16:37	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**9.06**	D	**0.0581**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Butylbenzylphthalate	**5.13**	D	**0.0264**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	J, RC:8
Caprolactam	ND	U	0.0376	0.291	mg/kg	2	5/30/23 16:37	
Carbazole	**0.217**	J, D	**0.0559**	**0.728**	**mg/kg**	**2**	**5/30/23 16:37**	
Chrysene	**2.86**	D	**0.0199**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Dibenzo(a,h)anthracene	**0.257**	J, D	**0.0288**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	J, RC:6H
Dibenzofuran	**0.123**	J, D	**0.0173**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Diethylphthalate	ND	U	0.0564	0.291	mg/kg	2	5/30/23 16:37	
Dimethylphthalate	ND	U	0.0180	0.291	mg/kg	2	5/30/23 16:37	
Di-n-butylphthalate	ND	U	0.119	0.291	mg/kg	2	5/30/23 16:37	
Di-n-octylphthalate	ND	U	0.0596	0.291	mg/kg	2	5/30/23 16:37	
Fluoranthene	**4.69**	D	**0.0273**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Fluorene	**0.204**	J, D	**0.0243**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Hexachlorobenzene	ND	U	0.0380	0.291	mg/kg	2	5/30/23 16:37	
Hexachlorobutadiene	ND	U	0.140	0.291	mg/kg	2	5/30/23 16:37	
Hexachlorocyclopentadiene	ND	U	0.121	0.728	mg/kg	2	5/30/23 16:37	
Hexachloroethane	ND	U	0.0319	0.291	mg/kg	2	5/30/23 16:37	
Indeno(1,2,3-cd)pyrene	**2.34**	D	**0.0312**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	J, RC:6H,SH
Isophorone	ND	U	0.0191	0.291	mg/kg	2	5/30/23 16:37	
Naphthalene	**0.117**	J, D	**0.0215**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Nitrobenzene	ND	U	0.0494	0.291	mg/kg	2	5/30/23 16:37	
n-Nitroso-di-n-propylamine	ND	U	0.0156	0.291	mg/kg	2	5/30/23 16:37	
n-Nitrosodiphenylamine	ND	U	0.0621	0.291	mg/kg	2	5/30/23 16:37	
Pentachlorophenol	ND	U	0.0400	0.728	mg/kg	2	5/30/23 16:37	
Phenanthrene	**1.48**	D	**0.0382**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	
Phenol	ND	U	0.0236	0.291	mg/kg	2	5/30/23 16:37	
Pyrene	**6.05**	D	**0.0214**	**0.291**	**mg/kg**	**2**	**5/30/23 16:37**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~26.7~~ R, RC:2	5.21	J, D, B	mg/kg	2	5/30/23 16:37
Tridecane, 1-iodo-	0.743	11.28	J, D	mg/kg	2	5/30/23 16:37

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-09 (Soil) Sample Name: **DUP-20230518** Collected: **5/18/2023 12:00:00AM**

TIC Total **27.4** 0.743

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000295	0.00202	mg/kg	1	5/30/23 17:10	
1,1,2,2-Tetrachloroethane	ND	U	0.000279	0.00202	mg/kg	1	5/30/23 17:10	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000866	0.00202	mg/kg	1	5/30/23 17:10	
1,1,2-Trichloroethane	ND	U	0.000341	0.00202	mg/kg	1	5/30/23 17:10	
1,1-Dichloroethane	ND	U	0.000295	0.00202	mg/kg	1	5/30/23 17:10	
1,1-Dichloroethene	ND	U	0.000374	0.00202	mg/kg	1	5/30/23 17:10	
1,2,3-Trichlorobenzene	ND	U	0.000437	0.00202	mg/kg	1	5/30/23 17:10	
1,2,4-Trichlorobenzene	ND	U	0.000539	0.00202	mg/kg	1	5/30/23 17:10	
1,2,4-Trimethylbenzene	ND	U	0.000279	0.00202	mg/kg	1	5/30/23 17:10	
1,2-Dibromo-3-chloropropane	ND	U	0.000494	0.00202	mg/kg	1	5/30/23 17:10	
1,2-Dibromoethane	ND	U	0.000255	0.00202	mg/kg	1	5/30/23 17:10	
1,2-Dichlorobenzene	ND	U	0.000357	0.00202	mg/kg	1	5/30/23 17:10	
1,2-Dichloroethane	ND	U	0.000285	0.00202	mg/kg	1	5/30/23 17:10	
1,2-Dichloropropane	ND	U	0.000332	0.00202	mg/kg	1	5/30/23 17:10	
1,3-Dichlorobenzene	ND	U	0.000149	0.00202	mg/kg	1	5/30/23 17:10	
1,4-Dichlorobenzene	ND	U	0.000291	0.00202	mg/kg	1	5/30/23 17:10	
2-Butanone	ND	U	0.000330	0.00506	mg/kg	1	5/30/23 17:10	
2-Hexanone	ND	U	0.000189	0.00202	mg/kg	1	5/30/23 17:10	
4-Methyl-2-pentanone	ND	U	0.000253	0.00202	mg/kg	1	5/30/23 17:10	
Acetone	ND	U	0.000613	0.00506	mg/kg	1	5/30/23 17:10	
Benzene	ND	U	0.000184	0.00202	mg/kg	1	5/30/23 17:10	
Bromochloromethane	ND	U	0.000373	0.00202	mg/kg	1	5/30/23 17:10	
Bromodichloromethane	ND	U	0.000254	0.00202	mg/kg	1	5/30/23 17:10	
Bromoform	ND	U	0.000355	0.00202	mg/kg	1	5/30/23 17:10	
Bromomethane	ND	U	0.000584	0.00202	mg/kg	1	5/30/23 17:10	
Carbon disulfide	ND	U	0.000290	0.00202	mg/kg	1	5/30/23 17:10	
Carbon Tetrachloride	ND	U	0.000304	0.00202	mg/kg	1	5/30/23 17:10	
Chlorobenzene	ND	U	0.000293	0.00202	mg/kg	1	5/30/23 17:10	
Chlorodibromomethane	ND	U	0.000249	0.00202	mg/kg	1	5/30/23 17:10	
Chloroethane	ND	U	0.000345	0.00202	mg/kg	1	5/30/23 17:10	
Chloroform	ND	U	0.000340	0.00202	mg/kg	1	5/30/23 17:10	
Chloromethane	ND	U	0.000779	0.00202	mg/kg	1	5/30/23 17:10	
cis-1,2-Dichloroethene	ND	U	0.0000978	0.00202	mg/kg	1	5/30/23 17:10	
cis-1,3-Dichloropropene	ND	U	0.000256	0.00202	mg/kg	1	5/30/23 17:10	
Cyclohexane	ND	U	0.000448	0.00202	mg/kg	1	5/30/23 17:10	
Dichlorodifluoromethane	ND	U	0.000683	0.00202	mg/kg	1	5/30/23 17:10	UJ, RC:SL
EthylBenzene	ND	U	0.000274	0.00202	mg/kg	1	5/30/23 17:10	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-09 (Soil) Sample Name: **DUP-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000318	0.00202	mg/kg	1	5/30/23 17:10
m+p-Xylenes	ND	U	0.000511	0.00405	mg/kg	1	5/30/23 17:10
Methyl Acetate	ND	U	0.000268	0.00202	mg/kg	1	5/30/23 17:10
Methyl tert-Butyl Ether	ND	U	0.000342	0.00202	mg/kg	1	5/30/23 17:10
Methylcyclohexane	ND	U	0.000326	0.00202	mg/kg	1	5/30/23 17:10
Methylene Chloride	ND	U	0.000608	0.00202	mg/kg	1	5/30/23 17:10
o-Xylene	ND	U	0.000260	0.00202	mg/kg	1	5/30/23 17:10
Styrene	ND	U	0.000289	0.00202	mg/kg	1	5/30/23 17:10
tert-Butyl alcohol	ND	U	0.00425	0.0202	mg/kg	1	5/30/23 17:10
Tetrachloroethene	ND	U	0.000200	0.00202	mg/kg	1	5/30/23 17:10
Toluene	ND	U	0.000163	0.00202	mg/kg	1	5/30/23 17:10
Total Xylenes	ND	U	0.000260	0.00202	mg/kg	1	5/30/23 17:10
trans-1,2-Dichloroethene	ND	U	0.000274	0.00202	mg/kg	1	5/30/23 17:10
trans-1,3-Dichloropropene	ND	U	0.000386	0.00202	mg/kg	1	5/30/23 17:10
Trichloroethene	ND	U	0.000297	0.00202	mg/kg	1	5/30/23 17:10
Trichlorofluoromethane	ND	U	0.000233	0.00202	mg/kg	1	5/30/23 17:10
Vinyl chloride	ND	U	0.000384	0.00202	mg/kg	1	5/30/23 17:10

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Propanone	0.00801	4.47	J	mg/kg	1	5/30/23 17:10
Methane, chlorofluoro-	0.00572	5.27	J	mg/kg	1	5/30/23 17:10
TIC Total	**0.014**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.5**				**%**	**1**	**5/19/23 11:46**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyanide	**1.13**		**0.00781**	**0.0655**	**mg/kg**	**1**	**5/22/23 15:16**	J, RC:8

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-10 (Ground Water) Sample Name: **TB-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/19/23 19:09	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/19/23 19:09	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/19/23 19:09	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/19/23 19:09	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/19/23 19:09	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/19/23 19:09	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/19/23 19:09	RC:SL
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/19/23 19:09	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/19/23 19:09	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/19/23 19:09	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/19/23 19:09	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/19/23 19:09	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/19/23 19:09	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/19/23 19:09	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/19/23 19:09	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/19/23 19:09	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/19/23 19:09	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/19/23 19:09	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/19/23 19:09	
Acetone	ND	U	10.0	10.0	ug/L	1	5/19/23 19:09	
Benzene	ND	U	0.129	1.00	ug/L	1	5/19/23 19:09	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/19/23 19:09	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/19/23 19:09	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/19/23 19:09	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/19/23 19:09	RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/19/23 19:09	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/19/23 19:09	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/19/23 19:09	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/19/23 19:09	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/19/23 19:09	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/19/23 19:09	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/19/23 19:09	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/19/23 19:09	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/19/23 19:09	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/19/23 19:09	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/19/23 19:09	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/19/23 19:09	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/19/23 19:09	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E0932
Date to Lab: 5/18/2023 4:40:00PM

23E0932-10 (Ground Water) Sample Name: **TB-20230518** Collected: **5/18/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/19/23 19:09	UJ, RC:3L
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/19/23 19:09	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/19/23 19:09	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/19/23 19:09	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/19/23 19:09	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/19/23 19:09	
Styrene	ND	U	0.176	1.00	ug/L	1	5/19/23 19:09	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/19/23 19:09	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/19/23 19:09	
Toluene	ND	U	0.205	1.00	ug/L	1	5/19/23 19:09	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/19/23 19:09	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/19/23 19:09	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/19/23 19:09	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/19/23 19:09	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/19/23 19:09	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/19/23 19:09	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-01	**Date Collected**	: 05/18/23 07:00
Client ID	: OH-SB-18-5.0-6.0-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/14/23 05:34
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172329	**Analyst**	: CNC
Sample Amount	: 15.38 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 69
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	188	2.84	0.815	
91-20-3C1	C1-Naphthalenes	77.3	2.84	0.815	
91-20-3C2	C2-Naphthalenes	86.1	2.84	0.815	
91-20-3C3	C3-Naphthalenes	98.5	2.84	0.815	
91-20-3C4	C4-Naphthalenes	77.3	2.84	0.815	
208-96-8	Acenaphthylene	16.7	2.84	0.541	
83-32-9	Acenaphthene	130	2.84	0.500	
86-73-7	Fluorene	155	2.84	0.756	
86-73-7C1	C1-Fluorenes	83.3	2.84	0.756	
86-73-7C2	C2-Fluorenes	88.7	2.84	0.756	
86-73-7C3	C3-Fluorenes	124	2.84	0.756	
85-01-8	Phenanthrene	1620	2.84	0.939	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	714	2.84	0.939	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	441	2.84	0.939	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	547	2.84	0.939	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1550	2.84	0.939	
120-12-7	Anthracene	343	2.84	0.584	
206-44-0	Fluoranthene	1660	2.84	0.901	
129-00-0	Pyrene	1400	2.84	0.746	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	696	2.84	0.746	
56-55-3	Benz(a)anthracene	600	2.84	0.578	
218-01-9	Chrysene	591	2.84	0.573	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-01	Date Collected	: 05/18/23 07:00
Client ID	: OH-SB-18-5.0-6.0-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/14/23 05:34
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172329	Analyst	: CNC
Sample Amount	: 15.38 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 69
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	468	2.84	0.573	
218-01-9C2	C2-Chrysenes BS	412	2.84	0.573	
218-01-9C3	C3-Chrysenes	346	2.84	0.573	
218-01-9C4	C4-Chrysenes	292	2.84	0.573	
205-99-2	Benzo(b)fluoranthene	424	2.84	0.737	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	418	2.84	0.563	
192-97-2	Benzo(e)pyrene	338	2.84	0.585	
50-32-8	Benzo(a)pyrene	472	2.84	0.809	
198-55-0	Perylene	111	2.84	0.547	
193-39-5	Indeno(1,2,3-cd)pyrene	320	2.84	0.769	J, RC:SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	89.4	2.84	0.766	
191-24-2	Benzo(g,h,i)perylene	333	2.84	0.753	J, RC:SL

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-02	**Date Collected**	: 05/18/23 07:50
Client ID	: OH-SB-17-1.5-2.5-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/14/23 06:58
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172330	**Analyst**	: CNC
Sample Amount	: 5.05 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	434	26.0	7.47	
91-20-3C1	C1-Naphthalenes	366	26.0	7.47	
91-20-3C2	C2-Naphthalenes	540	26.0	7.47	
91-20-3C3	C3-Naphthalenes	536	26.0	7.47	
91-20-3C4	C4-Naphthalenes	396	26.0	7.47	
208-96-8	Acenaphthylene	780	26.0	4.96	
83-32-9	Acenaphthene	419	26.0	4.58	
86-73-7	Fluorene	474	26.0	6.93	
86-73-7C1	C1-Fluorenes	365	26.0	6.93	
86-73-7C2	C2-Fluorenes	510	26.0	6.93	
86-73-7C3	C3-Fluorenes	831	26.0	6.93	
85-01-8	Phenanthrene	5760	26.0	8.61	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	3560	26.0	8.61	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	2560	26.0	8.61	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1090	26.0	8.61	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	535	26.0	8.61	
120-12-7	Anthracene	1870	26.0	5.36	
206-44-0	Fluoranthene	9570	26.0	8.26	
129-00-0	Pyrene	12500	26.0	6.84	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	5040	26.0	6.84	
56-55-3	Benz(a)anthracene	6080	26.0	5.30	
218-01-9	Chrysene	6070	26.0	5.26	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-02	Date Collected	: 05/18/23 07:50
Client ID	: OH-SB-17-1.5-2.5-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/14/23 06:58
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172330	Analyst	: CNC
Sample Amount	: 5.05 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	3700	26.0	5.26	
218-01-9C2	C2-Chrysenes BS	2420	26.0	5.26	
218-01-9C3	C3-Chrysenes	1840	26.0	5.26	
218-01-9C4	C4-Chrysenes	895	26.0	5.26	
205-99-2	Benzo(b)fluoranthene	7060	26.0	6.76	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	6380	26.0	5.16	
192-97-2	Benzo(e)pyrene	5340	26.0	5.36	
50-32-8	Benzo(a)pyrene	8200	26.0	7.42	
198-55-0	Perylene	2110	26.0	5.02	
193-39-5	Indeno(1,2,3-cd)pyrene	5830	26.0	7.06	J, RC:SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1550	26.0	7.02	
191-24-2	Benzo(g,h,i)perylene	5560	26.0	6.91	J, RC:SL

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-03D	**Date Collected**	: 05/18/23 09:02
Client ID	: OH-SB-17-10.8-11.8-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/18/23 15:43
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206162334	**Analyst**	: CNC
Sample Amount	: 10.22 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 61
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	371000	382	110.	
91-20-3C1	C1-Naphthalenes	102000	382	110.	
91-20-3C2	C2-Naphthalenes	73600	382	110.	
91-20-3C3	C3-Naphthalenes	30800	382	110.	
91-20-3C4	C4-Naphthalenes	8890	382	110.	
208-96-8	Acenaphthylene	62000	382	73.0	
83-32-9	Acenaphthene	45800	382	67.4	
86-73-7	Fluorene	102000	382	102.	
86-73-7C1	C1-Fluorenes	25900	382	102.	
86-73-7C2	C2-Fluorenes	13400	382	102.	
86-73-7C3	C3-Fluorenes	5700	382	102.	
85-01-8	Phenanthrene	358000	382	127.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	91100	382	127.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	35100	382	127.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	11200	382	127.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	3660	382	127.	
120-12-7	Anthracene	110000	382	78.8	
206-44-0	Fluoranthene	186000	382	122.	
129-00-0	Pyrene	166000	382	100.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	90700	382	100.	
56-55-3	Benz(a)anthracene	103000	382	78.0	
218-01-9	Chrysene	80000	382	77.3	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-03D	**Date Collected**	: 05/18/23 09:02
Client ID	: OH-SB-17-10.8-11.8-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/18/23 15:43
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206162334	**Analyst**	: CNC
Sample Amount	: 10.22 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 61
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	42200	382	77.3	
218-01-9C2	C2-Chrysenes BS	20000	382	77.3	
218-01-9C3	C3-Chrysenes	16200	382	77.3	
218-01-9C4	C4-Chrysenes	7230	382	77.3	
205-99-2	Benzo(b)fluoranthene	56600	382	99.5	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	65000	382	75.9	
192-97-2	Benzo(e)pyrene	46400	382	78.9	
50-32-8	Benzo(a)pyrene	93100	382	109.	
198-55-0	Perylene	19600	382	73.8	
193-39-5	Indeno(1,2,3-cd)pyrene	46300	382	104.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	12800	382	103.	
191-24-2	Benzo(g,h,i)perylene	41200	382	102.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-04	Date Collected	: 05/18/23 10:00
Client ID	: OH-SB-23-1.0-2.0-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/14/23 17:21
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172337	Analyst	: CNC
Sample Amount	: 2.69 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	103	17.6	5.07	
91-20-3C1	C1-Naphthalenes	72.2	17.6	5.07	
91-20-3C2	C2-Naphthalenes	109	17.6	5.07	
91-20-3C3	C3-Naphthalenes	138	17.6	5.07	
91-20-3C4	C4-Naphthalenes	177	17.6	5.07	J, RC:8
208-96-8	Acenaphthylene	216	17.6	3.37	
83-32-9	Acenaphthene	121	17.6	3.11	
86-73-7	Fluorene	165	17.6	4.71	J, RC:8
86-73-7C1	C1-Fluorenes	72.2	17.6	4.71	
86-73-7C2	C2-Fluorenes	187	17.6	4.71	J, RC:8
86-73-7C3	C3-Fluorenes	352	17.6	4.71	
85-01-8	Phenanthrene	1120	17.6	5.84	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	504	17.6	5.84	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	593	17.6	5.84	J, RC:8
PHENANTHC3	C3-Phenanthrenes/Anthracenes	447	17.6	5.84	J, RC:8
PHENANTHC4	C4-Phenanthrenes/Anthracenes	332	17.6	5.84	J, RC:8
120-12-7	Anthracene	430	17.6	3.64	
206-44-0	Fluoranthene	3230	17.6	5.60	
129-00-0	Pyrene	4880	17.6	4.64	J, RC:8
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1910	17.6	4.64	J, RC:8
56-55-3	Benz(a)anthracene	2160	17.6	3.60	
218-01-9	Chrysene	2360	17.6	3.57	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-04	Date Collected	: 05/18/23 10:00
Client ID	: OH-SB-23-1.0-2.0-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/14/23 17:21
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172337	Analyst	: CNC
Sample Amount	: 2.69 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 90
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	1360	17.6	3.57	J, RC:8
218-01-9C2	C2-Chrysenes BS	935	17.6	3.57	J, RC:8
218-01-9C3	C3-Chrysenes	993	17.6	3.57	J, RC:8
218-01-9C4	C4-Chrysenes	572	17.6	3.57	
205-99-2	Benzo(b)fluoranthene	3650	17.6	4.59	J, RC:8
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2980	17.6	3.50	J, RC:8
192-97-2	Benzo(e)pyrene	2520	17.6	3.64	J, RC:8
50-32-8	Benzo(a)pyrene	3320	17.6	5.04	J, RC:8
198-55-0	Perylene	958	17.6	3.40	J, RC:8
193-39-5	Indeno(1,2,3-cd)pyrene	2740	17.6	4.79	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	749	17.6	4.77	J, RC:8
191-24-2	Benzo(g,h,i)perylene	2600	17.6	4.69	J, RC:8

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-05	**Date Collected**	: 05/18/23 11:05
Client ID	: OH-SB-23-7.5-8.3-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/14/23 18:46
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172338	**Analyst**	: CNC
Sample Amount	: 10.59 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 63
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	400	4.47	1.28	
91-20-3C1	C1-Naphthalenes	57.2	4.47	1.28	
91-20-3C2	C2-Naphthalenes	139	4.47	1.28	
91-20-3C3	C3-Naphthalenes	116	4.47	1.28	
91-20-3C4	C4-Naphthalenes	78.6	4.47	1.28	
208-96-8	Acenaphthylene	53.6	4.47	0.852	
83-32-9	Acenaphthene	684	4.47	0.788	
86-73-7	Fluorene	128	4.47	1.19	
86-73-7C1	C1-Fluorenes	128	4.47	1.19	
86-73-7C2	C2-Fluorenes	60.0	4.47	1.19	
86-73-7C3	C3-Fluorenes	49.9	4.47	1.19	
85-01-8	Phenanthrene	239	4.47	1.48	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	160	4.47	1.48	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	94.8	4.47	1.48	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	47.8	4.47	1.48	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	31.1	4.47	1.48	
120-12-7	Anthracene	183	4.47	0.921	
206-44-0	Fluoranthene	534	4.47	1.42	
129-00-0	Pyrene	428	4.47	1.18	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	228	4.47	1.18	
56-55-3	Benz(a)anthracene	196	4.47	0.911	
218-01-9	Chrysene	182	4.47	0.903	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-05	**Date Collected**	: 05/18/23 11:05
Client ID	: OH-SB-23-7.5-8.3-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/14/23 18:46
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172338	**Analyst**	: CNC
Sample Amount	: 10.59 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 63
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	105	4.47	0.903	
218-01-9C2	C2-Chrysenes BS	63.8	4.47	0.903	
218-01-9C3	C3-Chrysenes	54.7	4.47	0.903	
218-01-9C4	C4-Chrysenes	34.1	4.47	0.903	
205-99-2	Benzo(b)fluoranthene	135	4.47	1.16	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	126	4.47	0.887	
192-97-2	Benzo(e)pyrene	115	4.47	0.922	
50-32-8	Benzo(a)pyrene	150	4.47	1.28	
198-55-0	Perylene	41.9	4.47	0.862	
193-39-5	Indeno(1,2,3-cd)pyrene	56.6	4.47	1.21	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	18.8	4.47	1.21	
191-24-2	Benzo(g,h,i)perylene	59.2	4.47	1.19	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-06D2	**Date Collected**	: 05/18/23 11:25
Client ID	: OH-SB-23-14.8-15.8-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/19/23 06:12
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 50
Lab File ID	: F1206162338	**Analyst**	: CNC
Sample Amount	: 2.99 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 63
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	3220000	7990	2300	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-06D	Date Collected	: 05/18/23 11:25
Client ID	: OH-SB-23-14.8-15.8-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/16/23 03:19
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 10
Lab File ID	: F1206172361	Analyst	: CNC
Sample Amount	: 2.99 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 63
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	~~2410000~~	1600	459.	E
91-20-3C1	C1-Naphthalenes	823000	1600	459.	
91-20-3C2	C2-Naphthalenes	407000	1600	459.	
91-20-3C3	C3-Naphthalenes	164000	1600	459.	
91-20-3C4	C4-Naphthalenes	46300	1600	459.	
208-96-8	Acenaphthylene	463000	1600	305.	
83-32-9	Acenaphthene	363000	1600	282.	
86-73-7	Fluorene	576000	1600	426.	
86-73-7C1	C1-Fluorenes	142000	1600	426.	
86-73-7C2	C2-Fluorenes	75100	1600	426.	
86-73-7C3	C3-Fluorenes	32500	1600	426.	
85-01-8	Phenanthrene	2010000	1600	529.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	522000	1600	529.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	189000	1600	529.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	55800	1600	529.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	18500	1600	529.	
120-12-7	Anthracene	732000	1600	329.	
206-44-0	Fluoranthene	1030000	1600	508.	
129-00-0	Pyrene	932000	1600	420.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	488000	1600	420.	
56-55-3	Benz(a)anthracene	519000	1600	326.	
218-01-9	Chrysene	384000	1600	323.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-06D	**Date Collected**	: 05/18/23 11:25
Client ID	: OH-SB-23-14.8-15.8-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/16/23 03:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206172361	**Analyst**	: CNC
Sample Amount	: 2.99 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 63
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	209000	1600	323.	
218-01-9C2	C2-Chrysenes BS	99000	1600	323.	
218-01-9C3	C3-Chrysenes	77800	1600	323.	
218-01-9C4	C4-Chrysenes	34700	1600	323.	
205-99-2	Benzo(b)fluoranthene	278000	1600	416.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	305000	1600	317.	
192-97-2	Benzo(e)pyrene	224000	1600	330.	
50-32-8	Benzo(a)pyrene	448000	1600	456.	
198-55-0	Perylene	98700	1600	308.	
193-39-5	Indeno(1,2,3-cd)pyrene	209000	1600	434.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	59100	1600	432.	
191-24-2	Benzo(g,h,i)perylene	192000	1600	424.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-07	**Date Collected**	: 05/18/23 12:48
Client ID	: OH-SB-29-1.5-2.5-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/14/23 21:36
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172340	**Analyst**	: CNC
Sample Amount	: 5.25 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	439	14.8	4.26	
91-20-3C1	C1-Naphthalenes	166	14.8	4.26	
91-20-3C2	C2-Naphthalenes	235	14.8	4.26	
91-20-3C3	C3-Naphthalenes	176	14.8	4.26	
91-20-3C4	C4-Naphthalenes	172	14.8	4.26	
208-96-8	Acenaphthylene	4590	14.8	2.83	
83-32-9	Acenaphthene	66.8	14.8	2.61	
86-73-7	Fluorene	70.9	14.8	3.96	
86-73-7C1	C1-Fluorenes	223	14.8	3.96	
86-73-7C2	C2-Fluorenes	556	14.8	3.96	G
86-73-7C3	C3-Fluorenes	628	14.8	3.96	
85-01-8	Phenanthrene	540	14.8	4.92	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	863	14.8	4.92	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1210	14.8	4.92	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	855	14.8	4.92	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	626	14.8	4.92	
120-12-7	Anthracene	1080	14.8	3.06	
206-44-0	Fluoranthene	1880	14.8	4.71	
129-00-0	Pyrene	3680	14.8	3.90	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2580	14.8	3.90	
56-55-3	Benz(a)anthracene	1910	14.8	3.02	
218-01-9	Chrysene	2240	14.8	3.00	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-07	**Date Collected**	: 05/18/23 12:48
Client ID	: OH-SB-29-1.5-2.5-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/14/23 21:36
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172340	**Analyst**	: CNC
Sample Amount	: 5.25 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	3130	14.8	3.00	
218-01-9C2	C2-Chrysenes BS	3340	14.8	3.00	
218-01-9C3	C3-Chrysenes	2720	14.8	3.00	
218-01-9C4	C4-Chrysenes	1480	14.8	3.00	
205-99-2	Benzo(b)fluoranthene	3540	14.8	3.86	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3080	14.8	2.94	
192-97-2	Benzo(e)pyrene	5930	14.8	3.06	
50-32-8	Benzo(a)pyrene	4420	14.8	4.23	
198-55-0	Perylene	1200	14.8	2.86	
193-39-5	Indeno(1,2,3-cd)pyrene	8800	14.8	4.03	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1700	14.8	4.01	
191-24-2	Benzo(g,h,i)perylene	~~24300~~	14.8	3.94	E

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328286
Project Name	: 23E0932	**Project Number**	: 23E0932
Lab ID	: L2328286-07D	**Date Collected**	: 05/18/23 12:48
Client ID	: OH-SB-29-1.5-2.5-20230518	**Date Received**	: 05/19/23
Sample Location	:	**Date Analyzed**	: 06/16/23 01:54
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 2
Lab File ID	: F1206172360	**Analyst**	: CNC
Sample Amount	: 5.25 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
191-24-2	Benzo(g,h,i)perylene	22500	29.7	7.88	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-08	Date Collected	: 05/18/23 00:00
Client ID	: DUP-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/14/23 23:01
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172341	Analyst	: CNC
Sample Amount	: 2.54 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	76.0	13.0	3.72	
91-20-3C1	C1-Naphthalenes	55.1	13.0	3.72	
91-20-3C2	C2-Naphthalenes	80.8	13.0	3.72	
91-20-3C3	C3-Naphthalenes	92.6	13.0	3.72	
91-20-3C4	C4-Naphthalenes	94.1	13.0	3.72	J, RC:8
208-96-8	Acenaphthylene	168	13.0	2.47	
83-32-9	Acenaphthene	90.5	13.0	2.28	
86-73-7	Fluorene	87.1	13.0	3.45	J, RC:8
86-73-7C1	C1-Fluorenes	40.4	13.0	3.45	
86-73-7C2	C2-Fluorenes	101	13.0	3.45	J, RC:8
86-73-7C3	C3-Fluorenes	216	13.0	3.45	
85-01-8	Phenanthrene	927	13.0	4.29	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	401	13.0	4.29	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	309	13.0	4.29	J, RC:8
PHENANTHC3	C3-Phenanthrenes/Anthracenes	234	13.0	4.29	J, RC:8
PHENANTHC4	C4-Phenanthrenes/Anthracenes	145	13.0	4.29	J, RC:8
120-12-7	Anthracene	307	13.0	2.67	
206-44-0	Fluoranthene	2140	13.0	4.11	
129-00-0	Pyrene	2600	13.0	3.41	J, RC:8
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	985	13.0	3.41	J, RC:8
56-55-3	Benz(a)anthracene	1480	13.0	2.64	
218-01-9	Chrysene	1530	13.0	2.62	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328286
Project Name	: 23E0932	Project Number	: 23E0932
Lab ID	: L2328286-08	Date Collected	: 05/18/23 00:00
Client ID	: DUP-20230518	Date Received	: 05/19/23
Sample Location	:	Date Analyzed	: 06/14/23 23:01
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172341	Analyst	: CNC
Sample Amount	: 2.54 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	803	13.0	2.62	J, RC:8
218-01-9C2	C2-Chrysenes BS	525	13.0	2.62	J, RC:8
218-01-9C3	C3-Chrysenes	530	13.0	2.62	J, RC:8
218-01-9C4	C4-Chrysenes	346	13.0	2.62	
205-99-2	Benzo(b)fluoranthene	2050	13.0	3.37	J, RC:8
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1750	13.0	2.57	J, RC:8
192-97-2	Benzo(e)pyrene	1470	13.0	2.67	J, RC:8
50-32-8	Benzo(a)pyrene	1800	13.0	3.70	J, RC:8
198-55-0	Perylene	541	13.0	2.50	J, RC:8
193-39-5	Indeno(1,2,3-cd)pyrene	1650	13.0	3.51	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	446	13.0	3.50	J, RC:8
191-24-2	Benzo(g,h,i)perylene	1530	13.0	3.44	J, RC:8

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2328529 and 23E01015
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 18, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-29-10-0-11.0-20230519	23E1015-01	5/19/2023	Soil
OH-SB-27-1.0-2.0-20230519	23E1015-02	5/19/2023	Soil
OH-SB-27-10.0-11.0-20230519	23E1015-03	5/19/2023	Soil
OH-SB-28-0.5-1.5-20230519	23E1015-04	5/19/2023	Soil
OH-SB-28-15.0-16.0-20230519	23E1015-05	5/19/2023	Soil
FB-20230519	23E1015-06	5/19/2023	Water
TB-20230519	23E1015-07	5/19/2023	Water

Data validation was performed on the analytical data for seven (7) samples collected May 19,2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, surrogates, laboratory control samples and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample FB-20230519 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.
- Per the chain of custody, sample 23E1015-04 (logged in at APL Lab as OH-SB-28-005-105-20230519) was revised in the DV Report and database to OH-SB-28-0.5-1.5-20230519.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	FB-20230519 TB-20230519	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-SB-29-10-0-11.0-20230519 OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519 OH-SB-28-15.0-16.0-20230519	Cyclohexane	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-SB-29-10-0-11.0-20230519 OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519 OH-SB-28-15.0-16.0-20230519	Cyclohexane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	FB-20230519 TB-20230519	Chloromethane Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown (5.97). Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	OH-SB-29-10-0-11.0-20230519 OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519 OH-SB-28-15.0-16.0-20230519	Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230519	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol 4-Nitrophenol Benzaldehyde Bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	OH-SB-29-10-0-11.0-20230519 OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519 OH-SB-28-15.0-16.0-20230519	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol Benzaldehyde Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.
-

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8151A	OH-SB-27-1.0-2.0-20230519	2,4-DCAA	10% < %R < CL	J (Detects) UJ (NDs)	3L
	FB-20230519	2,4-DCAA	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-28-15.0-16.0-20230519	TCMX	10% < %R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519	DCB	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

-

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	OH-SB-29-10-0-11.0-20230519 OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519 OH-SB-28-15.0-16.0-20230519	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
	FB-20230519	Aldrin alpha-Chlordane Chlordane Endosulfan sulfate Endrin gamma-Chlordane	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS and/or MSD analysis performed on sample OH-SB-29-10-0-11.0-20230519 for PCBs exhibited acceptable recoveries and RPDs.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	0H-SB-29-10-0-11.0-20230519 0H-SB-27-1.0-2.0-20230519 0H-SB-27-10.0-11.0-20230519 0H-SB-28-0.5-1.5-20230519 0H-SB-28-15.0-16.0-20230519	2,4,5-TP (Silvex)	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8081A	0H-SB-28-15.0-16.0-20230519	Methoxychlor			

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-29-10-0-11.0-20230519 OH-SB-27-1.0-2.0-20230519 OH-SB-27-10.0-11.0-20230519 OH-SB-28-0.5-1.5-20230519 OH-SB-28-15.0-16.0-20230519	Silver	20% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 18, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1015

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 18, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E1015

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-29-10-0-11.0-20230519	23E1015-01	Soil	05/19/2023 07:35	05/19/2023 16:55
OH-SB-27-1.0-2.0-20230519	23E1015-02	Soil	05/19/2023 08:15	05/19/2023 16:55
OH-SB-27-10.0-11.0-20230519	23E1015-03	Soil	05/19/2023 09:30	05/19/2023 16:55
OH-SB-28-005-105-20230519	23E1015-04	Soil	05/19/2023 09:45	05/19/2023 16:55
OH-SB-28-15.0-16.0-20230519	23E1015-05	Soil	05/19/2023 12:25	05/19/2023 16:55
FB-20230519	23E1015-06	Ground Water	05/19/2023 10:35	05/19/2023 16:55
TB-20230519	23E1015-07	Ground Water	05/19/2023 00:00	05/19/2023 16:55

PN: 23E1015

APL 23E1015

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd Floor, Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-773-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: Loft.
PROJECT MGR: Siyuan Wang	ADDRESS:
PROJECT or PO #: 156856	SAMPLED BY: M.M.

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

✓ NY State Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E1015-01	OH-SB-29-10.0-11.0-20230519	05/19/23	0135	X		S	5		VOC, SVOC, PCB, Pesticides, Herbicides, TAL Metals, TCN, ECN, Alkylated PAH by 8270
-02	OH-SB-27-10.0-20.0-20230519		0815	X		S	5		" "
-03	OH-SB-27-10.0-11.0-20230519		0930	X		S	5		" " "
-04	OH-SB-28-0.5-1.5-20230519		0965	X		S	5		" " "
-05	OH-SB-28-15.0-16.0-20230519		1225	X		S	5		
-06	FB-20230519		1035	X		DI	9		
-07	TB-20230519		LAB	X		DI	2		

RELINQUISHED BY (Print) Virenda Pujara	DATE 05/19/23	RECEIVED BY (Print) MARIN ALPHA	05/19/23
Signature	Time 1311	Signature	13:15
RELINQUISHED BY (Print) MARIN ALPHA	DATE 5/19/23	RECEIVED BY (Print) Rosedeg	
Signature	Time 1655	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS: The preservatives in the vials of OH-SB-28-0.5-1.5-20230519 were spilled due to improper closing of Bottlecap. The ziplock bag is wet with the preservative.

Cooler Temp. upon receipt at lab 3.1

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spikes (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low and high).

Method 200.7
The percent recovery for Silver was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all criteria.

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Samples 23E1015-02, -03 and -04 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PCBs [8082A]

Samples 23E1015-01, -02 and -04 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]

Samples 23E1015-02, -03, -04 and -05 have surrogates outside of the QC limits (low and high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

Samples 23E1015-06 (FB) and -07 (TB) have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Reviewed By: _____ (SK) 8/18/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-20230519**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3700		0.182	3.07	mg/kg dry	1	6/6/23 10:31
Arsenic	3.59		0.109	1.53	mg/kg dry	1	6/6/23 10:31
Barium	6.46		0.0464	0.613	mg/kg dry	1	6/6/23 10:31
Beryllium	0.204		0.00355	0.0307	mg/kg dry	1	6/6/23 10:31
Calcium	468		3.45	30.7	mg/kg dry	1	6/6/23 10:31
Chromium	9.29		0.0346	0.307	mg/kg dry	1	6/6/23 10:31
Cobalt	1.35		0.0313	0.245	mg/kg dry	1	6/6/23 10:31
Copper	0.975		0.0858	0.307	mg/kg dry	1	6/6/23 10:31
Iron	7980		0.869	6.13	mg/kg dry	1	6/6/23 10:31
Lead	4.09		0.128	1.53	mg/kg dry	1	6/6/23 10:31
Magnesium	879		10.8	61.3	mg/kg dry	1	6/6/23 10:31
Manganese	33.2		0.0382	0.307	mg/kg dry	1	6/6/23 10:31
Nickel	2.45		0.0269	0.153	mg/kg dry	1	6/6/23 10:31
Potassium	1470		36.5	123	mg/kg dry	1	6/6/23 10:31
Sodium	1250		5.85	61.3	mg/kg dry	1	6/6/23 10:31
Vanadium	10.9		0.0705	0.613	mg/kg dry	1	6/6/23 10:31
Zinc	8.86		0.0937	0.920	mg/kg dry	1	6/6/23 10:31

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2-Pentanone, 4-hydroxy-4-methyl-	27.7	J, B			mg/kg dry	1	5/30/23 17:09
TIC_3-Eicosene, (E)-	0.508	J			mg/kg dry	1	5/30/23 17:09
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	2.20	J			mg/kg dry	1	5/30/23 17:09
TIC_Octadecanoic acid, butyl ester	1.13	J, B			mg/kg dry	1	5/30/23 17:09
TIC_unknown	0.594	J, B			mg/kg dry	1	5/30/23 17:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopropane, ethyl-	0.00565	J			mg/kg dry	1	5/27/23 6:54
TIC_Furan, 2,5-dihydro-3-methyl-	0.00545	J			mg/kg dry	1	5/27/23 6:54

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.141		0.00806	0.0677	mg/kg dry	1	5/22/23 15:16

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-20230519**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-20230519**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.11		0.00544	0.0218	mg/kg dry	1	5/23/23 14:15

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7220		0.160	2.69	mg/kg dry	1	6/6/23 10:33
Arsenic	17.2		0.0961	1.35	mg/kg dry	1	6/6/23 10:33
Barium	96.5		0.0407	0.539	mg/kg dry	1	6/6/23 10:33
Beryllium	0.425		0.00312	0.0269	mg/kg dry	1	6/6/23 10:33
Cadmium	2.75		0.0525	0.269	mg/kg dry	1	6/6/23 10:33
Calcium	60300	D	30.3	269	mg/kg dry	10	6/6/23 11:29
Chromium	35.3		0.0304	0.269	mg/kg dry	1	6/6/23 10:33
Cobalt	7.44		0.0275	0.216	mg/kg dry	1	6/6/23 10:33
Copper	291	D	0.754	2.69	mg/kg dry	10	6/6/23 11:29
Iron	37200	D	7.63	53.9	mg/kg dry	10	6/6/23 11:29
Lead	222		0.112	1.35	mg/kg dry	1	6/6/23 10:33
Magnesium	15300		9.52	53.9	mg/kg dry	1	6/6/23 10:33
Manganese	295		0.0335	0.269	mg/kg dry	1	6/6/23 10:33
Nickel	91.3		0.0237	0.135	mg/kg dry	1	6/6/23 10:33
Potassium	242		32.0	108	mg/kg dry	1	6/6/23 10:33
Silver	0.416		0.0458	0.162	mg/kg dry	1	6/6/23 10:33
Sodium	597		5.14	53.9	mg/kg dry	1	6/6/23 10:33
Vanadium	528	D	0.620	5.39	mg/kg dry	10	6/6/23 11:29
Zinc	423	D	0.823	8.08	mg/kg dry	10	6/6/23 11:29

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE [2C]	0.000885	J	0.000774	0.00141	mg/kg dry	1	5/30/23 21:30
4,4'-DDT	0.0599		0.000999	0.00141	mg/kg dry	1	5/30/23 21:30
Chlordane	0.00463		0.000629	0.00141	mg/kg dry	1	5/30/23 21:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.136	J, D	0.0165	0.289	mg/kg dry	2	5/30/23 17:40
Acenaphthylene	0.146	J, D	0.0101	0.289	mg/kg dry	2	5/30/23 17:40
Anthracene	0.452	D	0.0420	0.289	mg/kg dry	2	5/30/23 17:40
Benzo(a)anthracene	1.55	D	0.0292	0.289	mg/kg dry	2	5/30/23 17:40
Benzo(a)pyrene	1.62	D	0.0505	0.289	mg/kg dry	2	5/30/23 17:40
Benzo(b)fluoranthene	2.09	D	0.0407	0.289	mg/kg dry	2	5/30/23 17:40
Benzo(g,h,i)perylene	1.05	D	0.0235	0.289	mg/kg dry	2	5/30/23 17:40
Benzo(k)fluoranthene	0.696	D	0.0333	0.289	mg/kg dry	2	5/30/23 17:40
bis(2-ethylhexyl)phthalate	0.465	D	0.0579	0.289	mg/kg dry	2	5/30/23 17:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-20230519**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbazole	0.161	J, D	0.0557	0.725	mg/kg dry	2	5/30/23 17:40
Chrysene	1.55	D	0.0199	0.289	mg/kg dry	2	5/30/23 17:40
Dibenzo(a,h)anthracene	0.107	D, J	0.0287	0.289	mg/kg dry	2	5/30/23 17:40
Dibenzofuran	0.0754	D, J	0.0173	0.289	mg/kg dry	2	5/30/23 17:40
Fluoranthene	2.88	D	0.0272	0.289	mg/kg dry	2	5/30/23 17:40
Fluorene	0.126	J, D	0.0242	0.289	mg/kg dry	2	5/30/23 17:40
Indeno(1,2,3-cd)pyrene	0.868	D	0.0311	0.289	mg/kg dry	2	5/30/23 17:40
Naphthalene	0.0538	J, D	0.0215	0.289	mg/kg dry	2	5/30/23 17:40
Phenanthrene	1.52	D	0.0381	0.289	mg/kg dry	2	5/30/23 17:40
Pyrene	2.24	D	0.0213	0.289	mg/kg dry	2	5/30/23 17:40
TIC_2-Pentanone, 4-hydroxy-4-methyl-	22.7	J, D, B			mg/kg dry	2	5/30/23 17:40
TIC_Hexadecanoic acid, butyl ester	3.97	J, B, D			mg/kg dry	2	5/30/23 17:40
TIC_Octadecanoic acid, butyl ester	5.80	J, D, B			mg/kg dry	2	5/30/23 17:40

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-20230519**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.274		0.00643	0.0257	mg/kg dry	1	5/23/23 14:15

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6130		0.190	3.20	mg/kg dry	1	6/6/23 10:35
Arsenic	14.9		0.114	1.60	mg/kg dry	1	6/6/23 10:35
Barium	23.0		0.0484	0.640	mg/kg dry	1	6/6/23 10:35
Beryllium	0.433		0.00371	0.0320	mg/kg dry	1	6/6/23 10:35
Calcium	2460		3.60	32.0	mg/kg dry	1	6/6/23 10:35
Chromium	18.5		0.0361	0.320	mg/kg dry	1	6/6/23 10:35
Cobalt	4.29		0.0327	0.256	mg/kg dry	1	6/6/23 10:35
Copper	19.9		0.0895	0.320	mg/kg dry	1	6/6/23 10:35
Iron	13000		0.907	6.40	mg/kg dry	1	6/6/23 10:35
Lead	48.7		0.134	1.60	mg/kg dry	1	6/6/23 10:35
Magnesium	4400		11.3	64.0	mg/kg dry	1	6/6/23 10:35
Manganese	191		0.0398	0.320	mg/kg dry	1	6/6/23 10:35
Nickel	14.3		0.0281	0.160	mg/kg dry	1	6/6/23 10:35
Potassium	1430		38.1	128	mg/kg dry	1	6/6/23 10:35
Selenium	2.01		0.307	1.60	mg/kg dry	1	6/6/23 10:35
Sodium	3250		6.10	64.0	mg/kg dry	1	6/6/23 10:35

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-20230519**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	20.2		0.0736	0.640	mg/kg dry	1	6/6/23 10:35
Zinc	50.6		0.0978	0.960	mg/kg dry	1	6/6/23 10:35

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00977		0.000766	0.00167	mg/kg dry	1	5/30/23 21:52
4,4'-DDE [2C]	0.00532		0.000915	0.00167	mg/kg dry	1	5/30/23 21:52
Chlordane [2C]	0.00847		0.000744	0.00167	mg/kg dry	1	5/30/23 21:52

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	1.04		0.00977	0.171	mg/kg dry	1	5/30/23 18:10
Acenaphthylene	10.5		0.00596	0.171	mg/kg dry	1	5/30/23 18:10
Anthracene	0.957		0.0248	0.171	mg/kg dry	1	5/30/23 18:10
Benzo(a)anthracene	6.96		0.0172	0.171	mg/kg dry	1	5/30/23 18:10
Benzo(a)pyrene	16.1	D	0.298	1.71	mg/kg dry	10	6/1/23 17:59
Benzo(b)fluoranthene	11.0	D	0.241	1.71	mg/kg dry	10	6/1/23 17:59
Benzo(g,h,i)perylene	11.4	D	0.139	1.71	mg/kg dry	10	6/1/23 17:59
Benzo(k)fluoranthene	4.79		0.0197	0.171	mg/kg dry	1	5/30/23 18:10
Chrysene	3.58		0.0117	0.171	mg/kg dry	1	5/30/23 18:10
Dibenzo(a,h)anthracene	0.554		0.0170	0.171	mg/kg dry	1	5/30/23 18:10
Fluoranthene	2.97		0.0161	0.171	mg/kg dry	1	5/30/23 18:10
Fluorene	1.49		0.0143	0.171	mg/kg dry	1	5/30/23 18:10
Indeno(1,2,3-cd)pyrene	6.29		0.0184	0.171	mg/kg dry	1	5/30/23 18:10
Naphthalene	0.314		0.0127	0.171	mg/kg dry	1	5/30/23 18:10
Phenanthrene	0.365		0.0225	0.171	mg/kg dry	1	5/30/23 18:10
Pyrene	68.6	D	0.126	1.71	mg/kg dry	10	6/1/23 17:59
TIC_1,3,5,7-Cyclooctatetraene	4.16	J			mg/kg dry	1	5/30/23 18:10
TIC_2-Pentanone, 4-hydroxy-4-methyl-	25.8	J, B			mg/kg dry	1	5/30/23 18:10
TIC_Benzene, 1-ethenyl-3-methyl-	6.97	J			mg/kg dry	1	5/30/23 18:10
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	5.26	J			mg/kg dry	1	5/30/23 18:10
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	8.83	J			mg/kg dry	1	5/30/23 18:10
TIC_Dibenzo[a,e]cyclooctene	5.00	J			mg/kg dry	1	5/30/23 18:10
TIC_Indene	3.80	J			mg/kg dry	1	5/30/23 18:10
TIC_Naphthalene, 2-ethenyl-	4.17	J			mg/kg dry	1	5/30/23 18:10
TIC_unknown (01)	23.2	J			mg/kg dry	1	5/30/23 18:10
TIC_unknown (02)	7.08	J			mg/kg dry	1	5/30/23 18:10
TIC_unknown (03)	3.88	J			mg/kg dry	1	5/30/23 18:10

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-20230519**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (04)	5.06	J			mg/kg dry	1	5/30/23 18:10
TIC_unknown (05)	5.16	J			mg/kg dry	1	5/30/23 18:10
TIC_unknown (06)	5.50	J			mg/kg dry	1	5/30/23 18:10
TIC_unknown (07)	5.58	J			mg/kg dry	1	5/30/23 18:10

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.0143		0.000330	0.00230	mg/kg dry	1	5/27/23 7:57
Methylene Chloride	0.102		0.000690	0.00230	mg/kg dry	1	5/27/23 7:57
TIC_2-Aminoacetanilide	0.00713	J			mg/kg dry	1	5/27/23 7:57
TIC_3-Decyn-1-ol	0.00671	J			mg/kg dry	1	5/27/23 7:57
TIC_3-Methyl-2-(2-oxopropyl)furan	0.0183	J			mg/kg dry	1	5/27/23 7:57
TIC_3-Octyne, 2,2,7-trimethyl-	0.0191	J			mg/kg dry	1	5/27/23 7:57
TIC_Bicyclo[2.2.1]heptan-2-ol, 3,3-dimethyl-	0.00944	J			mg/kg dry	1	5/27/23 7:57
TIC_Bicyclo[3.1.1]heptane, 6-methyl-2-methyl	0.00622	J			mg/kg dry	1	5/27/23 7:57
TIC_Bicyclo[3.3.1]nonane	0.0136	J			mg/kg dry	1	5/27/23 7:57
TIC_Cyclohexane, (bromomethyl)-	0.00953	J			mg/kg dry	1	5/27/23 7:57
TIC_Cyclohexane, 1,2-diethyl-1-methyl-	0.00909	J			mg/kg dry	1	5/27/23 7:57
TIC_Cyclohexane, 1-methyl-4-(1-methylbutyl)-	0.0287	J			mg/kg dry	1	5/27/23 7:57
TIC_Cyclopentane, 1,2-dimethyl-3-(1-methylet	0.0121	J			mg/kg dry	1	5/27/23 7:57
TIC_Cyclopentaneacetaldehyde, 2-formyl-3-met	0.0181	J			mg/kg dry	1	5/27/23 7:57
TIC_Naphthalene, 1-(1,1-dimethylethyl)decahy	0.0123	J			mg/kg dry	1	5/27/23 7:57
TIC_Spiro[3.5]nonan-1-one, 5-methyl-, trans-	0.0233	J			mg/kg dry	1	5/27/23 7:57

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20230519**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.22		0.00550	0.0220	mg/kg dry	1	5/23/23 14:15

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	80100	D	1.63	27.4	mg/kg dry	10	6/6/23 11:31
Arsenic	5.44		0.0976	1.37	mg/kg dry	1	6/6/23 10:38

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20230519**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	73.9		0.0414	0.547	mg/kg dry	1	6/6/23 10:38
Beryllium	0.282		0.00317	0.0274	mg/kg dry	1	6/6/23 10:38
Cadmium	2.25		0.0533	0.274	mg/kg dry	1	6/6/23 10:38
Calcium	19200		3.08	27.4	mg/kg dry	1	6/6/23 10:38
Chromium	231		0.0309	0.274	mg/kg dry	1	6/6/23 10:38
Cobalt	4.32		0.0280	0.219	mg/kg dry	1	6/6/23 10:38
Copper	246		0.0765	0.274	mg/kg dry	1	6/6/23 10:38
Iron	49200	D	7.75	54.7	mg/kg dry	10	6/6/23 11:31
Lead	380		0.114	1.37	mg/kg dry	1	6/6/23 10:38
Magnesium	9360		9.66	54.7	mg/kg dry	1	6/6/23 10:38
Manganese	157		0.0340	0.274	mg/kg dry	1	6/6/23 10:38
Nickel	38.6		0.0240	0.137	mg/kg dry	1	6/6/23 10:38
Potassium	156		32.5	109	mg/kg dry	1	6/6/23 10:38
Silver	0.446		0.0465	0.164	mg/kg dry	1	6/6/23 10:38
Sodium	276		5.22	54.7	mg/kg dry	1	6/6/23 10:38
Vanadium	163		0.0629	0.547	mg/kg dry	1	6/6/23 10:38
Zinc	225		0.0836	0.821	mg/kg dry	1	6/6/23 10:38

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00899		0.000654	0.00143	mg/kg dry	1	5/30/23 22:14
4,4'-DDT	0.0437		0.00101	0.00143	mg/kg dry	1	5/30/23 22:14
Chlordane	0.00350		0.000636	0.00143	mg/kg dry	1	5/30/23 22:14

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.108	J, D	0.0167	0.293	mg/kg dry	2	5/30/23 18:40
Acenaphthylene	0.192	J, D	0.0102	0.293	mg/kg dry	2	5/30/23 18:40
Anthracene	0.284	J, D	0.0425	0.293	mg/kg dry	2	5/30/23 18:40
Benzo(a)anthracene	1.13	D	0.0295	0.293	mg/kg dry	2	5/30/23 18:40
Benzo(a)pyrene	1.28	D	0.0510	0.293	mg/kg dry	2	5/30/23 18:40
Benzo(b)fluoranthene	1.57	D	0.0411	0.293	mg/kg dry	2	5/30/23 18:40
Benzo(g,h,i)perylene	0.978	D	0.0238	0.293	mg/kg dry	2	5/30/23 18:40
Benzo(k)fluoranthene	0.630	D	0.0337	0.293	mg/kg dry	2	5/30/23 18:40
bis(2-ethylhexyl)phthalate	7.13	D	0.0585	0.293	mg/kg dry	2	5/30/23 18:40
Butylbenzylphthalate	0.492	D	0.0266	0.293	mg/kg dry	2	5/30/23 18:40
Carbazole	0.139	J, D	0.0563	0.732	mg/kg dry	2	5/30/23 18:40
Chrysene	1.23	D	0.0201	0.293	mg/kg dry	2	5/30/23 18:40
Dibenzo(a,h)anthracene	0.0897	D, J	0.0290	0.293	mg/kg dry	2	5/30/23 18:40
Fluoranthene	2.17	D	0.0275	0.293	mg/kg dry	2	5/30/23 18:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20230519**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	0.0863	J, D	0.0244	0.293	mg/kg dry	2	5/30/23 18:40
Indeno(1,2,3-cd)pyrene	0.755	D	0.0315	0.293	mg/kg dry	2	5/30/23 18:40
Naphthalene	0.0562	J, D	0.0217	0.293	mg/kg dry	2	5/30/23 18:40
Phenanthrene	1.02	D	0.0385	0.293	mg/kg dry	2	5/30/23 18:40
Pyrene	1.84	D	0.0215	0.293	mg/kg dry	2	5/30/23 18:40
TIC_2-Pentanone, 4-hydroxy-4-methyl-	25.1	J, D, B			mg/kg dry	2	5/30/23 18:40
TIC_Hexadecanoic acid, butyl ester	0.696	J, D, B			mg/kg dry	2	5/30/23 18:40

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-20230519**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0823		0.00595	0.0238	mg/kg dry	1	5/23/23 14:22

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6650		0.176	2.96	mg/kg dry	1	6/6/23 10:40
Arsenic	4.14		0.106	1.48	mg/kg dry	1	6/6/23 10:40
Barium	65.6		0.0448	0.592	mg/kg dry	1	6/6/23 10:40
Beryllium	0.589		0.00343	0.0296	mg/kg dry	1	6/6/23 10:40
Calcium	16600		3.33	29.6	mg/kg dry	1	6/6/23 10:40
Chromium	6.48		0.0334	0.296	mg/kg dry	1	6/6/23 10:40
Cobalt	2.84		0.0303	0.237	mg/kg dry	1	6/6/23 10:40
Copper	11.0		0.0828	0.296	mg/kg dry	1	6/6/23 10:40
Iron	10800		0.839	5.92	mg/kg dry	1	6/6/23 10:40
Lead	16.9		0.124	1.48	mg/kg dry	1	6/6/23 10:40
Magnesium	7830		10.5	59.2	mg/kg dry	1	6/6/23 10:40
Manganese	136		0.0368	0.296	mg/kg dry	1	6/6/23 10:40
Nickel	7.31		0.0260	0.148	mg/kg dry	1	6/6/23 10:40
Potassium	2570		35.2	118	mg/kg dry	1	6/6/23 10:40
Sodium	2340		5.65	59.2	mg/kg dry	1	6/6/23 10:40
Vanadium	15.3		0.0681	0.592	mg/kg dry	1	6/6/23 10:40
Zinc	26.7		0.0905	0.888	mg/kg dry	1	6/6/23 10:40

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.117	J	0.00903	0.158	mg/kg dry	1	5/30/23 19:11
Acenaphthylene	0.0748	J	0.00551	0.158	mg/kg dry	1	5/30/23 19:11
Anthracene	0.664		0.0230	0.158	mg/kg dry	1	5/30/23 19:11

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-20230519**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	0.463		0.0160	0.158	mg/kg dry	1	5/30/23 19:11
Benzo(a)pyrene	0.343		0.0276	0.158	mg/kg dry	1	5/30/23 19:11
Benzo(b)fluoranthene	0.358		0.0223	0.158	mg/kg dry	1	5/30/23 19:11
Benzo(g,h,i)perylene	0.219		0.0129	0.158	mg/kg dry	1	5/30/23 19:11
Benzo(k)fluoranthene	0.192		0.0182	0.158	mg/kg dry	1	5/30/23 19:11
bis(2-ethylhexyl)phthalate	0.118	J	0.0317	0.158	mg/kg dry	1	5/30/23 19:11
Carbazole	0.0513	J	0.0305	0.396	mg/kg dry	1	5/30/23 19:11
Chrysene	0.430		0.0109	0.158	mg/kg dry	1	5/30/23 19:11
Dibenzo(a,h)anthracene	0.0558	J	0.0157	0.158	mg/kg dry	1	5/30/23 19:11
Dibenzofuran	0.0581	J	0.00944	0.158	mg/kg dry	1	5/30/23 19:11
Fluoranthene	1.25		0.0149	0.158	mg/kg dry	1	5/30/23 19:11
Fluorene	0.148	J	0.0132	0.158	mg/kg dry	1	5/30/23 19:11
Indeno(1,2,3-cd)pyrene	0.159		0.0170	0.158	mg/kg dry	1	5/30/23 19:11
Naphthalene	0.113	J	0.0117	0.158	mg/kg dry	1	5/30/23 19:11
Phenanthrene	0.432		0.0208	0.158	mg/kg dry	1	5/30/23 19:11
Pyrene	1.18		0.0117	0.158	mg/kg dry	1	5/30/23 19:11
TIC_2-Pentanone, 4-hydroxy-4-methyl-	23.7	J, B			mg/kg dry	1	5/30/23 19:11
TIC_Acetic acid, 1-methylpropyl ester	0.470	J			mg/kg dry	1	5/30/23 19:11
TIC_Hexadecanoic acid, butyl ester	1.37	J, B			mg/kg dry	1	5/30/23 19:11
TIC_Octadecanoic acid, butyl ester	0.783	J, B			mg/kg dry	1	5/30/23 19:11
TIC_unknown	0.598	J, B			mg/kg dry	1	5/30/23 19:11

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Monoethyl carbonotrithioate	0.00512	J			mg/kg dry	1	5/27/23 9:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-2 0230519** Collected: **5/19/2023 7:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00551	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1221	ND	U	0.0108	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1232	ND	U	0.0138	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1242	ND	U	0.00808	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1248	ND	U	0.00845	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1254	ND	U	0.00663	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1260	ND	U	0.00515	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1262	ND	U	0.0111	0.0411	mg/kg	1	5/23/23 14:05
Aroclor-1268	ND	U	0.00497	0.0411	mg/kg	1	5/23/23 14:05
Total PCBs	ND	U	0.00384	0.0411	mg/kg	1	5/23/23 14:05

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.125	mg/kg	1	6/3/23 20:22 UJ, RC:3L
2,4-D	ND	U	0.0207	0.125	mg/kg	1	6/3/23 20:22

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00623	0.0249	mg/kg	1	5/23/23 14:15

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3700**		**0.182**	**3.07**	**mg/kg**	**1**	**6/6/23 10:31**
Antimony	ND	U	0.167	1.53	mg/kg	1	6/6/23 10:31
Arsenic	**3.59**		**0.109**	**1.53**	**mg/kg**	**1**	**6/6/23 10:31**
Barium	**6.46**		**0.0464**	**0.613**	**mg/kg**	**1**	**6/6/23 10:31**
Beryllium	**0.204**		**0.00355**	**0.0307**	**mg/kg**	**1**	**6/6/23 10:31**
Cadmium	ND	U	0.0598	0.307	mg/kg	1	6/6/23 10:31
Calcium	**468**		**3.45**	**30.7**	**mg/kg**	**1**	**6/6/23 10:31**
Chromium	**9.29**		**0.0346**	**0.307**	**mg/kg**	**1**	**6/6/23 10:31**
Cobalt	**1.35**		**0.0313**	**0.245**	**mg/kg**	**1**	**6/6/23 10:31**
Copper	**0.975**		**0.0858**	**0.307**	**mg/kg**	**1**	**6/6/23 10:31**
Iron	**7980**		**0.869**	**6.13**	**mg/kg**	**1**	**6/6/23 10:31**
Lead	**4.09**		**0.128**	**1.53**	**mg/kg**	**1**	**6/6/23 10:31**
Magnesium	**879**		**10.8**	**61.3**	**mg/kg**	**1**	**6/6/23 10:31**
Manganese	**33.2**		**0.0382**	**0.307**	**mg/kg**	**1**	**6/6/23 10:31**
Nickel	**2.45**		**0.0269**	**0.153**	**mg/kg**	**1**	**6/6/23 10:31**
Potassium	**1470**		**36.5**	**123**	**mg/kg**	**1**	**6/6/23 10:31**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-2 0230519** Collected: **5/19/2023 7:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.294	1.53	mg/kg	1	6/6/23 10:31	
Silver	ND	U	0.0522	0.184	mg/kg	1	6/6/23 10:31	UJ, RC:6L
Sodium	**1250**		**5.85**	**61.3**	**mg/kg**	**1**	**6/6/23 10:31**	
Thallium	ND	U	0.103	1.53	mg/kg	1	6/6/23 10:31	
Vanadium	**10.9**		**0.0705**	**0.613**	**mg/kg**	**1**	**6/6/23 10:31**	
Zinc	**8.86**		**0.0937**	**0.920**	**mg/kg**	**1**	**6/6/23 10:31**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000741	0.00162	mg/kg	1	5/30/23 21:08	
4,4'-DDE	ND	U	0.000885	0.00162	mg/kg	1	5/30/23 21:08	
4,4'-DDT	ND	U	0.00114	0.00162	mg/kg	1	5/30/23 21:08	
Aldrin	ND	U	0.000767	0.00162	mg/kg	1	5/30/23 21:08	
alpha-BHC	ND	U	0.000482	0.00162	mg/kg	1	5/30/23 21:08	
beta-BHC	ND	U	0.000773	0.00162	mg/kg	1	5/30/23 21:08	
Chlordane	ND	U	0.000720	0.00162	mg/kg	1	5/30/23 21:08	
delta-BHC	ND	U	0.000752	0.00162	mg/kg	1	5/30/23 21:08	
Dieldrin	ND	U	0.000847	0.00162	mg/kg	1	5/30/23 21:08	
Endosulfan I	ND	U	0.000765	0.00162	mg/kg	1	5/30/23 21:08	
Endosulfan II	ND	U	0.000736	0.00162	mg/kg	1	5/30/23 21:08	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000609	0.00162	mg/kg	1	5/30/23 21:08	
Endosulfans, Total (alpha and beta)	ND	U	0.000736	0.00162	mg/kg	1	5/30/23 21:08	
Endrin	ND	U	0.000559	0.00162	mg/kg	1	5/30/23 21:08	
Endrin aldehyde	ND	U	0.000645	0.00162	mg/kg	1	5/30/23 21:08	
Endrin ketone	ND	U	0.000570	0.00162	mg/kg	1	5/30/23 21:08	
gamma-BHC (Lindane)	ND	U	0.000513	0.00162	mg/kg	1	5/30/23 21:08	
Heptachlor	ND	U	0.000433	0.00162	mg/kg	1	5/30/23 21:08	
Heptachlor Epoxide	ND	U	0.000817	0.00162	mg/kg	1	5/30/23 21:08	
Methoxychlor	ND	U	0.000474	0.00162	mg/kg	1	5/30/23 21:08	
Toxaphene	ND	U	0.0780	0.0822	mg/kg	1	5/30/23 21:08	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00468	0.0415	mg/kg	1	5/30/23 17:09
2,3,4,6-Tetrachlorophenol	ND	U	0.0255	0.166	mg/kg	1	5/30/23 17:09
2,4,5-Trichlorophenol	ND	U	0.0225	0.166	mg/kg	1	5/30/23 17:09
2,4,6-Trichlorophenol	ND	U	0.0104	0.166	mg/kg	1	5/30/23 17:09

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-2 0230519** Collected: **5/19/2023 7:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dichlorophenol	ND	U	0.0167	0.166	mg/kg	1	5/30/23 17:09
2,4-Dimethylphenol	ND	U	0.0163	0.166	mg/kg	1	5/30/23 17:09
2,4-Dinitrophenol	ND	U	0.0239	0.831	mg/kg	1	5/30/23 17:09
2,4-Dinitrotoluene	ND	U	0.0177	0.166	mg/kg	1	5/30/23 17:09
2,6-Dinitrotoluene	ND	U	0.0396	0.166	mg/kg	1	5/30/23 17:09
2-Chloronaphthalene	ND	U	0.0191	0.166	mg/kg	1	5/30/23 17:09
2-Chlorophenol	ND	U	0.0219	0.166	mg/kg	1	5/30/23 17:09
2-Methylnaphthalene	ND	U	0.0397	0.249	mg/kg	1	5/30/23 17:09
2-Methylphenol	ND	U	0.0328	0.166	mg/kg	1	5/30/23 17:09
2-Nitroaniline	ND	U	0.0133	0.166	mg/kg	1	5/30/23 17:09
2-Nitrophenol	ND	U	0.0184	0.166	mg/kg	1	5/30/23 17:09
3,3'-Dichlorobenzidine	ND	U	0.0174	0.166	mg/kg	1	5/30/23 17:09
3+4-Methylphenol	ND	U	0.0304	0.166	mg/kg	1	5/30/23 17:09
3-Nitroaniline	ND	U	0.0308	0.166	mg/kg	1	5/30/23 17:09
4,6-Dinitro-2-methylphenol	ND	U	0.0313	0.415	mg/kg	1	5/30/23 17:09
4-Bromophenyl-phenyl ether	ND	U	0.0237	0.166	mg/kg	1	5/30/23 17:09
4-Chloro-3-methylphenol	ND	U	0.0262	0.166	mg/kg	1	5/30/23 17:09
4-Chloroaniline	ND	U	0.00580	0.166	mg/kg	1	5/30/23 17:09
4-Chlorophenyl phenyl ether	ND	U	0.00895	0.166	mg/kg	1	5/30/23 17:09
4-Nitroaniline	ND	U	0.0829	0.166	mg/kg	1	5/30/23 17:09
4-Nitrophenol	ND	U	0.0106	0.166	mg/kg	1	5/30/23 17:09
Acenaphthene	ND	U	0.00945	0.166	mg/kg	1	5/30/23 17:09
Acenaphthylene	ND	U	0.00577	0.166	mg/kg	1	5/30/23 17:09
Acetophenone	ND	U	0.0164	0.166	mg/kg	1	5/30/23 17:09
Anthracene	ND	U	0.0240	0.166	mg/kg	1	5/30/23 17:09
Atrazine	ND	U	0.0156	0.166	mg/kg	1	5/30/23 17:09
Benzaldehyde	ND	U	0.0509	0.166	mg/kg	1	5/30/23 17:09
Benzo(a)anthracene	ND	U	0.0167	0.166	mg/kg	1	5/30/23 17:09
Benzo(a)pyrene	ND	U	0.0289	0.166	mg/kg	1	5/30/23 17:09
Benzo(b)fluoranthene	ND	U	0.0233	0.166	mg/kg	1	5/30/23 17:09
Benzo(g,h,i)perylene	ND	U	0.0134	0.166	mg/kg	1	5/30/23 17:09
Benzo(k)fluoranthene	ND	U	0.0191	0.166	mg/kg	1	5/30/23 17:09
Biphenyl	ND	U	0.0146	0.166	mg/kg	1	5/30/23 17:09
bis(2-chloroethoxy)methane	ND	U	0.0229	0.166	mg/kg	1	5/30/23 17:09
bis(2-chloroethyl)ether	ND	U	0.0182	0.166	mg/kg	1	5/30/23 17:09
bis(2-chloroisopropyl)ether	ND	U	0.0597	0.166	mg/kg	1	5/30/23 17:09
bis(2-ethylhexyl)phthalate	ND	U	0.0331	0.166	mg/kg	1	5/30/23 17:09
Butylbenzylphthalate	ND	U	0.0151	0.166	mg/kg	1	5/30/23 17:09

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-2 0230519** Collected: **5/19/2023 7:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0214	0.166	mg/kg	1	5/30/23 17:09
Carbazole	ND	U	0.0319	0.415	mg/kg	1	5/30/23 17:09
Chrysene	ND	U	0.0114	0.166	mg/kg	1	5/30/23 17:09
Dibenzo(a,h)anthracene	ND	U	0.0164	0.166	mg/kg	1	5/30/23 17:09
Dibenzofuran	ND	U	0.00988	0.166	mg/kg	1	5/30/23 17:09
Diethylphthalate	ND	U	0.0321	0.166	mg/kg	1	5/30/23 17:09
Dimethylphthalate	ND	U	0.0103	0.166	mg/kg	1	5/30/23 17:09
Di-n-butylphthalate	ND	U	0.0677	0.166	mg/kg	1	5/30/23 17:09
Di-n-octylphthalate	ND	U	0.0340	0.166	mg/kg	1	5/30/23 17:09
Fluoranthene	ND	U	0.0156	0.166	mg/kg	1	5/30/23 17:09
Fluorene	ND	U	0.0138	0.166	mg/kg	1	5/30/23 17:09
Hexachlorobenzene	ND	U	0.0217	0.166	mg/kg	1	5/30/23 17:09
Hexachlorobutadiene	ND	U	0.0796	0.166	mg/kg	1	5/30/23 17:09
Hexachlorocyclopentadiene	ND	U	0.0691	0.415	mg/kg	1	5/30/23 17:09
Hexachloroethane	ND	U	0.0182	0.166	mg/kg	1	5/30/23 17:09
Indeno(1,2,3-cd)pyrene	ND	U	0.0178	0.166	mg/kg	1	5/30/23 17:09
Isophorone	ND	U	0.0109	0.166	mg/kg	1	5/30/23 17:09
Naphthalene	ND	U	0.0123	0.166	mg/kg	1	5/30/23 17:09
Nitrobenzene	ND	U	0.0281	0.166	mg/kg	1	5/30/23 17:09
n-Nitroso-di-n-propylamine	ND	U	0.00888	0.166	mg/kg	1	5/30/23 17:09
n-Nitrosodiphenylamine	ND	U	0.0354	0.166	mg/kg	1	5/30/23 17:09
Pentachlorophenol	ND	U	0.0228	0.415	mg/kg	1	5/30/23 17:09
Phenanthrene	ND	U	0.0218	0.166	mg/kg	1	5/30/23 17:09
Phenol	ND	U	0.0134	0.166	mg/kg	1	5/30/23 17:09
Pyrene	ND	U	0.0122	0.166	mg/kg	1	5/30/23 17:09

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~27.7~~	5.21	J, B	mg/kg	1	5/30/23 17:09	R, RC:2
3-Eicosene, (E)-	0.508	14.11	J	mg/kg	1	5/30/23 17:09	
Hexadecanoic acid, 1,1-dimethylethyl est	2.20	12.83	J	mg/kg	1	5/30/23 17:09	
Octadecanoic acid, butyl ester	~~1.13~~	13.64	J, B	mg/kg	1	5/30/23 17:09	R, RC:2
unknown	~~0.594~~	5.97	J, B	mg/kg	1	5/30/23 17:09	R, RC:2
TIC Total	~~32.1~~ 2.7						

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-2 0230519** Collected: **5/19/2023 7:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000267	0.00183	mg/kg	1	5/27/23 6:54
1,1,2,2-Tetrachloroethane	ND	U	0.000253	0.00183	mg/kg	1	5/27/23 6:54
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000784	0.00183	mg/kg	1	5/27/23 6:54
1,1,2-Trichloroethane	ND	U	0.000309	0.00183	mg/kg	1	5/27/23 6:54
1,1-Dichloroethane	ND	U	0.000267	0.00183	mg/kg	1	5/27/23 6:54
1,1-Dichloroethene	ND	U	0.000339	0.00183	mg/kg	1	5/27/23 6:54
1,2,3-Trichlorobenzene	ND	U	0.000396	0.00183	mg/kg	1	5/27/23 6:54
1,2,4-Trichlorobenzene	ND	U	0.000488	0.00183	mg/kg	1	5/27/23 6:54
1,2,4-Trimethylbenzene	ND	U	0.000253	0.00183	mg/kg	1	5/27/23 6:54
1,2-Dibromo-3-chloropropane	ND	U	0.000447	0.00183	mg/kg	1	5/27/23 6:54
1,2-Dibromoethane	ND	U	0.000231	0.00183	mg/kg	1	5/27/23 6:54
1,2-Dichlorobenzene	ND	U	0.000323	0.00183	mg/kg	1	5/27/23 6:54
1,2-Dichloroethane	ND	U	0.000258	0.00183	mg/kg	1	5/27/23 6:54
1,2-Dichloropropane	ND	U	0.000300	0.00183	mg/kg	1	5/27/23 6:54
1,3-Dichlorobenzene	ND	U	0.000135	0.00183	mg/kg	1	5/27/23 6:54
1,4-Dichlorobenzene	ND	U	0.000264	0.00183	mg/kg	1	5/27/23 6:54
2-Butanone	ND	U	0.000299	0.00458	mg/kg	1	5/27/23 6:54
2-Hexanone	ND	U	0.000171	0.00183	mg/kg	1	5/27/23 6:54
4-Methyl-2-pentanone	ND	U	0.000229	0.00183	mg/kg	1	5/27/23 6:54
Acetone	ND	U	0.000555	0.00458	mg/kg	1	5/27/23 6:54
Benzene	ND	U	0.000167	0.00183	mg/kg	1	5/27/23 6:54
Bromochloromethane	ND	U	0.000338	0.00183	mg/kg	1	5/27/23 6:54
Bromodichloromethane	ND	U	0.000230	0.00183	mg/kg	1	5/27/23 6:54
Bromoform	ND	U	0.000321	0.00183	mg/kg	1	5/27/23 6:54
Bromomethane	ND	U	0.000528	0.00183	mg/kg	1	5/27/23 6:54
Carbon disulfide	ND	U	0.000263	0.00183	mg/kg	1	5/27/23 6:54
Carbon Tetrachloride	ND	U	0.000276	0.00183	mg/kg	1	5/27/23 6:54
Chlorobenzene	ND	U	0.000266	0.00183	mg/kg	1	5/27/23 6:54
Chlorodibromomethane	ND	U	0.000225	0.00183	mg/kg	1	5/27/23 6:54
Chloroethane	ND	U	0.000312	0.00183	mg/kg	1	5/27/23 6:54
Chloroform	ND	U	0.000308	0.00183	mg/kg	1	5/27/23 6:54
Chloromethane	ND	U	0.000705	0.00183	mg/kg	1	5/27/23 6:54
cis-1,2-Dichloroethene	ND	U	0.0000885	0.00183	mg/kg	1	5/27/23 6:54
cis-1,3-Dichloropropene	ND	U	0.000232	0.00183	mg/kg	1	5/27/23 6:54
Cyclohexane	ND	U	0.000406	0.00183	mg/kg	1	5/27/23 6:54
Dichlorodifluoromethane	ND	U	0.000618	0.00183	mg/kg	1	5/27/23 6:54
EthylBenzene	ND	U	0.000248	0.00183	mg/kg	1	5/27/23 6:54

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-01 (Soil) Sample Name: **OH-SB-29-10-0-11.0-2 0230519** Collected: **5/19/2023 7:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000288	0.00183	mg/kg	1	5/27/23 6:54
m+p-Xylenes	ND	U	0.000462	0.00366	mg/kg	1	5/27/23 6:54
Methyl Acetate	ND	U	0.000243	0.00183	mg/kg	1	5/27/23 6:54
Methyl tert-Butyl Ether	ND	U	0.000310	0.00183	mg/kg	1	5/27/23 6:54
Methylcyclohexane	ND	U	0.000295	0.00183	mg/kg	1	5/27/23 6:54
Methylene Chloride	ND	U	0.000550	0.00183	mg/kg	1	5/27/23 6:54
o-Xylene	ND	U	0.000235	0.00183	mg/kg	1	5/27/23 6:54
Styrene	ND	U	0.000262	0.00183	mg/kg	1	5/27/23 6:54
tert-Butyl alcohol	ND	U	0.00385	0.0183	mg/kg	1	5/27/23 6:54
Tetrachloroethene	ND	U	0.000181	0.00183	mg/kg	1	5/27/23 6:54
Toluene	ND	U	0.000147	0.00183	mg/kg	1	5/27/23 6:54
Total Xylenes	ND	U	0.000235	0.00183	mg/kg	1	5/27/23 6:54
trans-1,2-Dichloroethene	ND	U	0.000248	0.00183	mg/kg	1	5/27/23 6:54
trans-1,3-Dichloropropene	ND	U	0.000350	0.00183	mg/kg	1	5/27/23 6:54
Trichloroethene	ND	U	0.000269	0.00183	mg/kg	1	5/27/23 6:54
Trichlorofluoromethane	ND	U	0.000211	0.00183	mg/kg	1	5/27/23 6:54
Vinyl chloride	ND	U	0.000348	0.00183	mg/kg	1	5/27/23 6:54

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopropane, ethyl-	0.00565	5.38	J	mg/kg	1	5/27/23 6:54
Furan, 2,5-dihydro-3-methyl-	0.00545	5.24	J	mg/kg	1	5/27/23 6:54
TIC Total	**0.011**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.3**				**%**	**1**	**5/22/23 11:19**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.141**		**0.00806**	**0.0677**	**mg/kg**	**1**	**5/22/23 15:16**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-20230519** Collected: **5/19/2023 8:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00482	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1221	ND	U	0.00947	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1232	ND	U	0.0121	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1242	ND	U	0.00706	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1248	ND	U	0.00738	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1254	ND	U	0.00580	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1260	ND	U	0.00450	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1262	ND	U	0.00966	0.0359	mg/kg	1	5/31/23 23:19
Aroclor-1268	ND	U	0.00434	0.0359	mg/kg	1	5/31/23 23:19
Total PCBs	ND	U	0.00335	0.0359	mg/kg	1	5/31/23 23:19

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0107	0.109	mg/kg	1	6/3/23 20:46	UJ, RC:3L,SL
2,4-D	ND	U	0.0181	0.109	mg/kg	1	6/3/23 20:46	UJ, RC:3L

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.11**		**0.00544**	**0.0218**	**mg/kg**	**1**	**5/23/23 14:15**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7220**		**0.160**	**2.69**	**mg/kg**	**1**	**6/6/23 10:33**
Antimony	ND	U	0.147	1.35	mg/kg	1	6/6/23 10:33
Arsenic	**17.2**		**0.0961**	**1.35**	**mg/kg**	**1**	**6/6/23 10:33**
Barium	**96.5**		**0.0407**	**0.539**	**mg/kg**	**1**	**6/6/23 10:33**
Beryllium	**0.425**		**0.00312**	**0.0269**	**mg/kg**	**1**	**6/6/23 10:33**
Cadmium	**2.75**		**0.0525**	**0.269**	**mg/kg**	**1**	**6/6/23 10:33**
Calcium	**60300**	D	**30.3**	**269**	**mg/kg**	**10**	**6/6/23 11:29**
Chromium	**35.3**		**0.0304**	**0.269**	**mg/kg**	**1**	**6/6/23 10:33**
Cobalt	**7.44**		**0.0275**	**0.216**	**mg/kg**	**1**	**6/6/23 10:33**
Copper	**291**	D	**0.754**	**2.69**	**mg/kg**	**10**	**6/6/23 11:29**
Iron	**37200**	D	**7.63**	**53.9**	**mg/kg**	**10**	**6/6/23 11:29**
Lead	**222**		**0.112**	**1.35**	**mg/kg**	**1**	**6/6/23 10:33**
Magnesium	**15300**		**9.52**	**53.9**	**mg/kg**	**1**	**6/6/23 10:33**
Manganese	**295**		**0.0335**	**0.269**	**mg/kg**	**1**	**6/6/23 10:33**
Nickel	**91.3**		**0.0237**	**0.135**	**mg/kg**	**1**	**6/6/23 10:33**
Potassium	**242**		**32.0**	**108**	**mg/kg**	**1**	**6/6/23 10:33**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-202 30519** Collected: **5/19/2023 8:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.259	1.35	mg/kg	1	6/6/23 10:33	
Silver	**0.416**		**0.0458**	**0.162**	**mg/kg**	**1**	**6/6/23 10:33**	J, RC:6L
Sodium	**597**		**5.14**	**53.9**	**mg/kg**	**1**	**6/6/23 10:33**	
Thallium	ND	U	0.0906	1.35	mg/kg	1	6/6/23 10:33	
Vanadium	**528**	D	**0.620**	**5.39**	**mg/kg**	**10**	**6/6/23 11:29**	
Zinc	**423**	D	**0.823**	**8.08**	**mg/kg**	**10**	**6/6/23 11:29**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000648	0.00141	mg/kg	1	5/30/23 21:30	
4,4'-DDE [2C]	**0.000885**	J	**0.000774**	**0.00141**	**mg/kg**	**1**	**5/30/23 21:30**	J, RC:3H
4,4'-DDT	**0.0599**		**0.000999**	**0.00141**	**mg/kg**	**1**	**5/30/23 21:30**	
Aldrin	ND	U	0.000670	0.00141	mg/kg	1	5/30/23 21:30	
alpha-BHC	ND	U	0.000421	0.00141	mg/kg	1	5/30/23 21:30	
beta-BHC	ND	U	0.000676	0.00141	mg/kg	1	5/30/23 21:30	
Chlordane	**0.00463**		**0.000629**	**0.00141**	**mg/kg**	**1**	**5/30/23 21:30**	
delta-BHC	ND	U	0.000657	0.00141	mg/kg	1	5/30/23 21:30	
Dieldrin	ND	U	0.000740	0.00141	mg/kg	1	5/30/23 21:30	
Endosulfan I	ND	U	0.000668	0.00141	mg/kg	1	5/30/23 21:30	
Endosulfan II	ND	U	0.000643	0.00141	mg/kg	1	5/30/23 21:30	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000532	0.00141	mg/kg	1	5/30/23 21:30	
Endosulfans, Total (alpha and beta)	ND	U	0.000643	0.00141	mg/kg	1	5/30/23 21:30	
Endrin	ND	U	0.000489	0.00141	mg/kg	1	5/30/23 21:30	
Endrin aldehyde	ND	U	0.000564	0.00141	mg/kg	1	5/30/23 21:30	
Endrin ketone	ND	U	0.000498	0.00141	mg/kg	1	5/30/23 21:30	
gamma-BHC (Lindane)	ND	U	0.000448	0.00141	mg/kg	1	5/30/23 21:30	
Heptachlor	ND	U	0.000379	0.00141	mg/kg	1	5/30/23 21:30	
Heptachlor Epoxide	ND	U	0.000714	0.00141	mg/kg	1	5/30/23 21:30	
Methoxychlor	ND	U	0.000415	0.00141	mg/kg	1	5/30/23 21:30	
Toxaphene	ND	U	0.0682	0.0718	mg/kg	1	5/30/23 21:30	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00818	0.0725	mg/kg	2	5/30/23 17:40
2,3,4,6-Tetrachlorophenol	ND	U	0.0446	0.289	mg/kg	2	5/30/23 17:40
2,4,5-Trichlorophenol	ND	U	0.0394	0.289	mg/kg	2	5/30/23 17:40
2,4,6-Trichlorophenol	ND	U	0.0181	0.289	mg/kg	2	5/30/23 17:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-20230519** Collected: **5/19/2023 8:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dichlorophenol	ND	U	0.0292	0.289	mg/kg	2	5/30/23 17:40
2,4-Dimethylphenol	ND	U	0.0285	0.289	mg/kg	2	5/30/23 17:40
2,4-Dinitrophenol	ND	U	0.0418	1.45	mg/kg	2	5/30/23 17:40
2,4-Dinitrotoluene	ND	U	0.0309	0.289	mg/kg	2	5/30/23 17:40
2,6-Dinitrotoluene	ND	U	0.0692	0.289	mg/kg	2	5/30/23 17:40
2-Chloronaphthalene	ND	U	0.0333	0.289	mg/kg	2	5/30/23 17:40
2-Chlorophenol	ND	U	0.0383	0.289	mg/kg	2	5/30/23 17:40
2-Methylnaphthalene	ND	U	0.0694	0.435	mg/kg	2	5/30/23 17:40
2-Methylphenol	ND	U	0.0572	0.289	mg/kg	2	5/30/23 17:40
2-Nitroaniline	ND	U	0.0233	0.289	mg/kg	2	5/30/23 17:40
2-Nitrophenol	ND	U	0.0322	0.289	mg/kg	2	5/30/23 17:40
3,3'-Dichlorobenzidine	ND	U	0.0305	0.289	mg/kg	2	5/30/23 17:40
3+4-Methylphenol	ND	U	0.0531	0.289	mg/kg	2	5/30/23 17:40
3-Nitroaniline	ND	U	0.0538	0.289	mg/kg	2	5/30/23 17:40
4,6-Dinitro-2-methylphenol	ND	U	0.0546	0.725	mg/kg	2	5/30/23 17:40
4-Bromophenyl-phenyl ether	ND	U	0.0414	0.289	mg/kg	2	5/30/23 17:40
4-Chloro-3-methylphenol	ND	U	0.0457	0.289	mg/kg	2	5/30/23 17:40
4-Chloroaniline	ND	U	0.0101	0.289	mg/kg	2	5/30/23 17:40
4-Chlorophenyl phenyl ether	ND	U	0.0156	0.289	mg/kg	2	5/30/23 17:40
4-Nitroaniline	ND	U	0.145	0.289	mg/kg	2	5/30/23 17:40
4-Nitrophenol	ND	U	0.0185	0.289	mg/kg	2	5/30/23 17:40
Acenaphthene	**0.136**	J, D	**0.0165**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Acenaphthylene	**0.146**	J, D	**0.0101**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Acetophenone	ND	U	0.0287	0.289	mg/kg	2	5/30/23 17:40
Anthracene	**0.452**	D	**0.0420**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Atrazine	ND	U	0.0272	0.289	mg/kg	2	5/30/23 17:40
Benzaldehyde	ND	U	0.0890	0.289	mg/kg	2	5/30/23 17:40
Benzo(a)anthracene	**1.55**	D	**0.0292**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Benzo(a)pyrene	**1.62**	D	**0.0505**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Benzo(b)fluoranthene	**2.09**	D	**0.0407**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Benzo(g,h,i)perylene	**1.05**	D	**0.0235**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Benzo(k)fluoranthene	**0.696**	D	**0.0333**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Biphenyl	ND	U	0.0255	0.289	mg/kg	2	5/30/23 17:40
bis(2-chloroethoxy)methane	ND	U	0.0401	0.289	mg/kg	2	5/30/23 17:40
bis(2-chloroethyl)ether	ND	U	0.0318	0.289	mg/kg	2	5/30/23 17:40
bis(2-chloroisopropyl)ether	ND	U	0.104	0.289	mg/kg	2	5/30/23 17:40
bis(2-ethylhexyl)phthalate	**0.465**	D	**0.0579**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**
Butylbenzylphthalate	ND	U	0.0263	0.289	mg/kg	2	5/30/23 17:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-202 30519** Collected: **5/19/2023 8:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0374	0.289	mg/kg	2	5/30/23 17:40	
Carbazole	**0.161**	J, D	**0.0557**	**0.725**	**mg/kg**	**2**	**5/30/23 17:40**	
Chrysene	**1.55**	D	**0.0199**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	
Dibenzo(a,h)anthracene	**0.107**	D, J	**0.0287**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	J, RC:6H
Dibenzofuran	**0.0754**	D, J	**0.0173**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	
Diethylphthalate	ND	U	0.0562	0.289	mg/kg	2	5/30/23 17:40	
Dimethylphthalate	ND	U	0.0180	0.289	mg/kg	2	5/30/23 17:40	
Di-n-butylphthalate	ND	U	0.118	0.289	mg/kg	2	5/30/23 17:40	
Di-n-octylphthalate	ND	U	0.0594	0.289	mg/kg	2	5/30/23 17:40	
Fluoranthene	**2.88**	D	**0.0272**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	
Fluorene	**0.126**	J, D	**0.0242**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	
Hexachlorobenzene	ND	U	0.0379	0.289	mg/kg	2	5/30/23 17:40	
Hexachlorobutadiene	ND	U	0.139	0.289	mg/kg	2	5/30/23 17:40	
Hexachlorocyclopentadiene	ND	U	0.121	0.725	mg/kg	2	5/30/23 17:40	
Hexachloroethane	ND	U	0.0318	0.289	mg/kg	2	5/30/23 17:40	
Indeno(1,2,3-cd)pyrene	**0.868**	D	**0.0311**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	J, RC:6H,SH
Isophorone	ND	U	0.0190	0.289	mg/kg	2	5/30/23 17:40	
Naphthalene	**0.0538**	J, D	**0.0215**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	
Nitrobenzene	ND	U	0.0492	0.289	mg/kg	2	5/30/23 17:40	
n-Nitroso-di-n-propylamine	ND	U	0.0155	0.289	mg/kg	2	5/30/23 17:40	
n-Nitrosodiphenylamine	ND	U	0.0618	0.289	mg/kg	2	5/30/23 17:40	
Pentachlorophenol	ND	U	0.0398	0.725	mg/kg	2	5/30/23 17:40	
Phenanthrene	**1.52**	D	**0.0381**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	
Phenol	ND	U	0.0235	0.289	mg/kg	2	5/30/23 17:40	
Pyrene	**2.24**	D	**0.0213**	**0.289**	**mg/kg**	**2**	**5/30/23 17:40**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~22.7~~	5.21	J, D, B	mg/kg	2	5/30/23 17:40	R, RC:2
Hexadecanoic acid, butyl ester	~~3.97~~	12.83	J, B, D	mg/kg	2	5/30/23 17:40	R, RC:2
Octadecanoic acid, butyl ester	~~5.80~~	13.64	J, D, B	mg/kg	2	5/30/23 17:40	R, RC:2
TIC Total	~~32.5~~						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-20230519** Collected: **5/19/2023 8:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000331	0.00227	mg/kg	1	5/27/23 7:26
1,1,2,2-Tetrachloroethane	ND	U	0.000313	0.00227	mg/kg	1	5/27/23 7:26
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000970	0.00227	mg/kg	1	5/27/23 7:26
1,1,2-Trichloroethane	ND	U	0.000382	0.00227	mg/kg	1	5/27/23 7:26
1,1-Dichloroethane	ND	U	0.000331	0.00227	mg/kg	1	5/27/23 7:26
1,1-Dichloroethene	ND	U	0.000419	0.00227	mg/kg	1	5/27/23 7:26
1,2,3-Trichlorobenzene	ND	U	0.000490	0.00227	mg/kg	1	5/27/23 7:26
1,2,4-Trichlorobenzene	ND	U	0.000604	0.00227	mg/kg	1	5/27/23 7:26
1,2,4-Trimethylbenzene	ND	U	0.000313	0.00227	mg/kg	1	5/27/23 7:26
1,2-Dibromo-3-chloropropane	ND	U	0.000553	0.00227	mg/kg	1	5/27/23 7:26
1,2-Dibromoethane	ND	U	0.000286	0.00227	mg/kg	1	5/27/23 7:26
1,2-Dichlorobenzene	ND	U	0.000400	0.00227	mg/kg	1	5/27/23 7:26
1,2-Dichloroethane	ND	U	0.000320	0.00227	mg/kg	1	5/27/23 7:26
1,2-Dichloropropane	ND	U	0.000372	0.00227	mg/kg	1	5/27/23 7:26
1,3-Dichlorobenzene	ND	U	0.000167	0.00227	mg/kg	1	5/27/23 7:26
1,4-Dichlorobenzene	ND	U	0.000326	0.00227	mg/kg	1	5/27/23 7:26
2-Butanone	ND	U	0.000370	0.00567	mg/kg	1	5/27/23 7:26
2-Hexanone	ND	U	0.000212	0.00227	mg/kg	1	5/27/23 7:26
4-Methyl-2-pentanone	ND	U	0.000283	0.00227	mg/kg	1	5/27/23 7:26
Acetone	ND	U	0.000687	0.00567	mg/kg	1	5/27/23 7:26
Benzene	ND	U	0.000206	0.00227	mg/kg	1	5/27/23 7:26
Bromochloromethane	ND	U	0.000418	0.00227	mg/kg	1	5/27/23 7:26
Bromodichloromethane	ND	U	0.000285	0.00227	mg/kg	1	5/27/23 7:26
Bromoform	ND	U	0.000398	0.00227	mg/kg	1	5/27/23 7:26
Bromomethane	ND	U	0.000654	0.00227	mg/kg	1	5/27/23 7:26
Carbon disulfide	ND	U	0.000325	0.00227	mg/kg	1	5/27/23 7:26
Carbon Tetrachloride	ND	U	0.000341	0.00227	mg/kg	1	5/27/23 7:26
Chlorobenzene	ND	U	0.000329	0.00227	mg/kg	1	5/27/23 7:26
Chlorodibromomethane	ND	U	0.000279	0.00227	mg/kg	1	5/27/23 7:26
Chloroethane	ND	U	0.000387	0.00227	mg/kg	1	5/27/23 7:26
Chloroform	ND	U	0.000381	0.00227	mg/kg	1	5/27/23 7:26
Chloromethane	ND	U	0.000873	0.00227	mg/kg	1	5/27/23 7:26
cis-1,2-Dichloroethene	ND	U	0.000110	0.00227	mg/kg	1	5/27/23 7:26
cis-1,3-Dichloropropene	ND	U	0.000287	0.00227	mg/kg	1	5/27/23 7:26
Cyclohexane	ND	U	0.000502	0.00227	mg/kg	1	5/27/23 7:26
Dichlorodifluoromethane	ND	U	0.000765	0.00227	mg/kg	1	5/27/23 7:26
EthylBenzene	ND	U	0.000307	0.00227	mg/kg	1	5/27/23 7:26

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-02 (Soil) Sample Name: **OH-SB-27-1.0-2.0-202 30519** Collected: **5/19/2023 8:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000356	0.00227	mg/kg	1	5/27/23 7:26
m+p-Xylenes	ND	U	0.000573	0.00453	mg/kg	1	5/27/23 7:26
Methyl Acetate	ND	U	0.000300	0.00227	mg/kg	1	5/27/23 7:26
Methyl tert-Butyl Ether	ND	U	0.000383	0.00227	mg/kg	1	5/27/23 7:26
Methylcyclohexane	ND	U	0.000365	0.00227	mg/kg	1	5/27/23 7:26
Methylene Chloride	ND	U	0.000681	0.00227	mg/kg	1	5/27/23 7:26
o-Xylene	ND	U	0.000291	0.00227	mg/kg	1	5/27/23 7:26
Styrene	ND	U	0.000324	0.00227	mg/kg	1	5/27/23 7:26
tert-Butyl alcohol	ND	U	0.00476	0.0227	mg/kg	1	5/27/23 7:26
Tetrachloroethene	ND	U	0.000224	0.00227	mg/kg	1	5/27/23 7:26
Toluene	ND	U	0.000183	0.00227	mg/kg	1	5/27/23 7:26
Total Xylenes	ND	U	0.000291	0.00227	mg/kg	1	5/27/23 7:26
trans-1,2-Dichloroethene	ND	U	0.000307	0.00227	mg/kg	1	5/27/23 7:26
trans-1,3-Dichloropropene	ND	U	0.000433	0.00227	mg/kg	1	5/27/23 7:26
Trichloroethene	ND	U	0.000333	0.00227	mg/kg	1	5/27/23 7:26
Trichlorofluoromethane	ND	U	0.000261	0.00227	mg/kg	1	5/27/23 7:26
Vinyl chloride	ND	U	0.000431	0.00227	mg/kg	1	5/27/23 7:26

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.9**				**%**	**1**	**5/22/23 11:19**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00679	0.0570	mg/kg	1	5/22/23 15:16

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-2 0230519** Collected: **5/19/2023 9:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00569	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1221	ND	U	0.0112	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1232	ND	U	0.0142	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1242	ND	U	0.00834	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1248	ND	U	0.00873	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1254	ND	U	0.00685	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1260	ND	U	0.00532	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1262	ND	U	0.0114	0.0425	mg/kg	1	5/31/23 23:41
Aroclor-1268	ND	U	0.00514	0.0425	mg/kg	1	5/31/23 23:41
Total PCBs	ND	U	0.00396	0.0425	mg/kg	1	5/31/23 23:41

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0126	0.129	mg/kg	1	6/3/23 21:09 UJ, RC:SL
2,4-D	ND	U	0.0214	0.129	mg/kg	1	6/3/23 21:09

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.274**		**0.00643**	**0.0257**	**mg/kg**	**1**	**5/23/23 14:15**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6130**		**0.190**	**3.20**	**mg/kg**	**1**	**6/6/23 10:35**
Antimony	ND	U	0.174	1.60	mg/kg	1	6/6/23 10:35
Arsenic	**14.9**		**0.114**	**1.60**	**mg/kg**	**1**	**6/6/23 10:35**
Barium	**23.0**		**0.0484**	**0.640**	**mg/kg**	**1**	**6/6/23 10:35**
Beryllium	**0.433**		**0.00371**	**0.0320**	**mg/kg**	**1**	**6/6/23 10:35**
Cadmium	ND	U	0.0624	0.320	mg/kg	1	6/6/23 10:35
Calcium	**2460**		**3.60**	**32.0**	**mg/kg**	**1**	**6/6/23 10:35**
Chromium	**18.5**		**0.0361**	**0.320**	**mg/kg**	**1**	**6/6/23 10:35**
Cobalt	**4.29**		**0.0327**	**0.256**	**mg/kg**	**1**	**6/6/23 10:35**
Copper	**19.9**		**0.0895**	**0.320**	**mg/kg**	**1**	**6/6/23 10:35**
Iron	**13000**		**0.907**	**6.40**	**mg/kg**	**1**	**6/6/23 10:35**
Lead	**48.7**		**0.134**	**1.60**	**mg/kg**	**1**	**6/6/23 10:35**
Magnesium	**4400**		**11.3**	**64.0**	**mg/kg**	**1**	**6/6/23 10:35**
Manganese	**191**		**0.0398**	**0.320**	**mg/kg**	**1**	**6/6/23 10:35**
Nickel	**14.3**		**0.0281**	**0.160**	**mg/kg**	**1**	**6/6/23 10:35**
Potassium	**1430**		**38.1**	**128**	**mg/kg**	**1**	**6/6/23 10:35**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-2 0230519** Collected: **5/19/2023 9:30:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	**2.01**		**0.307**	**1.60**	**mg/kg**	**1**	**6/6/23 10:35**	
Silver	ND	U	0.0544	0.192	mg/kg	1	6/6/23 10:35	UJ, RC:6L
Sodium	**3250**		**6.10**	**64.0**	**mg/kg**	**1**	**6/6/23 10:35**	
Thallium	ND	U	0.108	1.60	mg/kg	1	6/6/23 10:35	
Vanadium	**20.2**		**0.0736**	**0.640**	**mg/kg**	**1**	**6/6/23 10:35**	
Zinc	**50.6**		**0.0978**	**0.960**	**mg/kg**	**1**	**6/6/23 10:35**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.00977**		**0.000766**	**0.00167**	**mg/kg**	**1**	**5/30/23 21:52**	J, RC:3H
4,4'-DDE [2C]	**0.00532**		**0.000915**	**0.00167**	**mg/kg**	**1**	**5/30/23 21:52**	J, RC:3H
4,4'-DDT	ND	U	0.00118	0.00167	mg/kg	1	5/30/23 21:52	
Aldrin	ND	U	0.000793	0.00167	mg/kg	1	5/30/23 21:52	
alpha-BHC	ND	U	0.000498	0.00167	mg/kg	1	5/30/23 21:52	
beta-BHC	ND	U	0.000799	0.00167	mg/kg	1	5/30/23 21:52	
Chlordane [2C]	**0.00847**		**0.000744**	**0.00167**	**mg/kg**	**1**	**5/30/23 21:52**	J, RC:3H
delta-BHC	ND	U	0.000777	0.00167	mg/kg	1	5/30/23 21:52	
Dieldrin	ND	U	0.000875	0.00167	mg/kg	1	5/30/23 21:52	
Endosulfan I	ND	U	0.000790	0.00167	mg/kg	1	5/30/23 21:52	
Endosulfan II	ND	U	0.000760	0.00167	mg/kg	1	5/30/23 21:52	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000629	0.00167	mg/kg	1	5/30/23 21:52	
Endosulfans, Total (alpha and beta)	ND	U	0.000760	0.00167	mg/kg	1	5/30/23 21:52	
Endrin	ND	U	0.000578	0.00167	mg/kg	1	5/30/23 21:52	
Endrin aldehyde	ND	U	0.000666	0.00167	mg/kg	1	5/30/23 21:52	
Endrin ketone	ND	U	0.000589	0.00167	mg/kg	1	5/30/23 21:52	
gamma-BHC (Lindane)	ND	U	0.000530	0.00167	mg/kg	1	5/30/23 21:52	
Heptachlor	ND	U	0.000448	0.00167	mg/kg	1	5/30/23 21:52	
Heptachlor Epoxide	ND	U	0.000844	0.00167	mg/kg	1	5/30/23 21:52	
Methoxychlor	ND	U	0.000490	0.00167	mg/kg	1	5/30/23 21:52	
Toxaphene	ND	U	0.0806	0.0849	mg/kg	1	5/30/23 21:52	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00484	0.0428	mg/kg	1	5/30/23 18:10
2,3,4,6-Tetrachlorophenol	ND	U	0.0264	0.171	mg/kg	1	5/30/23 18:10
2,4,5-Trichlorophenol	ND	U	0.0233	0.171	mg/kg	1	5/30/23 18:10
2,4,6-Trichlorophenol	ND	U	0.0107	0.171	mg/kg	1	5/30/23 18:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-2 0230519** Collected: **5/19/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dichlorophenol	ND	U	0.0172	0.171	mg/kg	1	5/30/23 18:10
2,4-Dimethylphenol	ND	U	0.0169	0.171	mg/kg	1	5/30/23 18:10
2,4-Dinitrophenol	ND	U	0.0247	0.858	mg/kg	1	5/30/23 18:10
2,4-Dinitrotoluene	ND	U	0.0183	0.171	mg/kg	1	5/30/23 18:10
2,6-Dinitrotoluene	ND	U	0.0409	0.171	mg/kg	1	5/30/23 18:10
2-Chloronaphthalene	ND	U	0.0197	0.171	mg/kg	1	5/30/23 18:10
2-Chlorophenol	ND	U	0.0226	0.171	mg/kg	1	5/30/23 18:10
2-Methylnaphthalene	ND	U	0.0410	0.257	mg/kg	1	5/30/23 18:10
2-Methylphenol	ND	U	0.0338	0.171	mg/kg	1	5/30/23 18:10
2-Nitroaniline	ND	U	0.0138	0.171	mg/kg	1	5/30/23 18:10
2-Nitrophenol	ND	U	0.0190	0.171	mg/kg	1	5/30/23 18:10
3,3'-Dichlorobenzidine	ND	U	0.0180	0.171	mg/kg	1	5/30/23 18:10
3+4-Methylphenol	ND	U	0.0314	0.171	mg/kg	1	5/30/23 18:10
3-Nitroaniline	ND	U	0.0318	0.171	mg/kg	1	5/30/23 18:10
4,6-Dinitro-2-methylphenol	ND	U	0.0323	0.428	mg/kg	1	5/30/23 18:10
4-Bromophenyl-phenyl ether	ND	U	0.0244	0.171	mg/kg	1	5/30/23 18:10
4-Chloro-3-methylphenol	ND	U	0.0270	0.171	mg/kg	1	5/30/23 18:10
4-Chloroaniline	ND	U	0.00600	0.171	mg/kg	1	5/30/23 18:10
4-Chlorophenyl phenyl ether	ND	U	0.00925	0.171	mg/kg	1	5/30/23 18:10
4-Nitroaniline	ND	U	0.0857	0.171	mg/kg	1	5/30/23 18:10
4-Nitrophenol	ND	U	0.0110	0.171	mg/kg	1	5/30/23 18:10
Acenaphthene	**1.04**		**0.00977**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**
Acenaphthylene	**10.5**		**0.00596**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**
Acetophenone	ND	U	0.0170	0.171	mg/kg	1	5/30/23 18:10
Anthracene	**0.957**		**0.0248**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**
Atrazine	ND	U	0.0161	0.171	mg/kg	1	5/30/23 18:10
Benzaldehyde	ND	U	0.0526	0.171	mg/kg	1	5/30/23 18:10
Benzo(a)anthracene	**6.96**		**0.0172**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**
Benzo(a)pyrene	**16.1**	D	**0.298**	**1.71**	**mg/kg**	**10**	**6/1/23 17:59**
Benzo(b)fluoranthene	**11.0**	D	**0.241**	**1.71**	**mg/kg**	**10**	**6/1/23 17:59**
Benzo(g,h,i)perylene	**11.4**	D	**0.139**	**1.71**	**mg/kg**	**10**	**6/1/23 17:59**
Benzo(k)fluoranthene	**4.79**		**0.0197**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**
Biphenyl	ND	U	0.0151	0.171	mg/kg	1	5/30/23 18:10
bis(2-chloroethoxy)methane	ND	U	0.0237	0.171	mg/kg	1	5/30/23 18:10
bis(2-chloroethyl)ether	ND	U	0.0188	0.171	mg/kg	1	5/30/23 18:10
bis(2-chloroisopropyl)ether	ND	U	0.0616	0.171	mg/kg	1	5/30/23 18:10
bis(2-ethylhexyl)phthalate	ND	U	0.0342	0.171	mg/kg	1	5/30/23 18:10
Butylbenzylphthalate	ND	U	0.0156	0.171	mg/kg	1	5/30/23 18:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-2 0230519** Collected: **5/19/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0221	0.171	mg/kg	1	5/30/23 18:10	
Carbazole	ND	U	0.0329	0.428	mg/kg	1	5/30/23 18:10	
Chrysene	**3.58**		**0.0117**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	
Dibenzo(a,h)anthracene	**0.554**		**0.0170**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	J, RC:6H
Dibenzofuran	ND	U	0.0102	0.171	mg/kg	1	5/30/23 18:10	
Diethylphthalate	ND	U	0.0332	0.171	mg/kg	1	5/30/23 18:10	
Dimethylphthalate	ND	U	0.0106	0.171	mg/kg	1	5/30/23 18:10	
Di-n-butylphthalate	ND	U	0.0700	0.171	mg/kg	1	5/30/23 18:10	
Di-n-octylphthalate	ND	U	0.0351	0.171	mg/kg	1	5/30/23 18:10	
Fluoranthene	**2.97**		**0.0161**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	
Fluorene	**1.49**		**0.0143**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	
Hexachlorobenzene	ND	U	0.0224	0.171	mg/kg	1	5/30/23 18:10	
Hexachlorobutadiene	ND	U	0.0822	0.171	mg/kg	1	5/30/23 18:10	
Hexachlorocyclopentadiene	ND	U	0.0714	0.428	mg/kg	1	5/30/23 18:10	
Hexachloroethane	ND	U	0.0188	0.171	mg/kg	1	5/30/23 18:10	
Indeno(1,2,3-cd)pyrene	**6.29**		**0.0184**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	J, RC:6H,SH
Isophorone	ND	U	0.0112	0.171	mg/kg	1	5/30/23 18:10	
Naphthalene	**0.314**		**0.0127**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	
Nitrobenzene	ND	U	0.0291	0.171	mg/kg	1	5/30/23 18:10	
n-Nitroso-di-n-propylamine	ND	U	0.00917	0.171	mg/kg	1	5/30/23 18:10	
n-Nitrosodiphenylamine	ND	U	0.0365	0.171	mg/kg	1	5/30/23 18:10	
Pentachlorophenol	ND	U	0.0235	0.428	mg/kg	1	5/30/23 18:10	
Phenanthrene	**0.365**		**0.0225**	**0.171**	**mg/kg**	**1**	**5/30/23 18:10**	
Phenol	ND	U	0.0139	0.171	mg/kg	1	5/30/23 18:10	
Pyrene	**68.6**	D	**0.126**	**1.71**	**mg/kg**	**10**	**6/1/23 17:59**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1,3,5,7-Cyclooctatetraene	4.16	5.81	J	mg/kg	1	5/30/23 18:10	
2-Pentanone, 4-hydroxy-4-methyl-	~~25.8~~	5.21	J, B	mg/kg	1	5/30/23 18:10	R, RC:2
Benzene, 1-ethenyl-3-methyl-	6.97	6.74	J	mg/kg	1	5/30/23 18:10	
Benzene, 1-methyl-2-(1-methylethyl)-	5.26	12.10	J	mg/kg	1	5/30/23 18:10	
Benzene, 1-methyl-3-(1-methylethyl)-	8.83	12.23	J	mg/kg	1	5/30/23 18:10	
Dibenzo[a,e]cyclooctene	5.00	11.78	J	mg/kg	1	5/30/23 18:10	
Indene	3.80	7.18	J	mg/kg	1	5/30/23 18:10	
Naphthalene, 2-ethenyl-	4.17	9.69	J	mg/kg	1	5/30/23 18:10	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-2 0230519** Collected: **5/19/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	23.2	12.13	J	mg/kg	1	5/30/23 18:10
unknown (02)	7.08	12.45	J	mg/kg	1	5/30/23 18:10
unknown (03)	3.88	12.51	J	mg/kg	1	5/30/23 18:10
unknown (04)	5.06	13.48	J	mg/kg	1	5/30/23 18:10
unknown (05)	5.16	13.53	J	mg/kg	1	5/30/23 18:10
unknown (06)	5.50	13.65	J	mg/kg	1	5/30/23 18:10
unknown (07)	5.58	13.68	J	mg/kg	1	5/30/23 18:10
TIC Total	~~119~~ 93.2					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000335	0.00230	mg/kg	1	5/27/23 7:57
1,1,2,2-Tetrachloroethane	ND	U	0.000317	0.00230	mg/kg	1	5/27/23 7:57
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000983	0.00230	mg/kg	1	5/27/23 7:57
1,1,2-Trichloroethane	ND	U	0.000387	0.00230	mg/kg	1	5/27/23 7:57
1,1-Dichloroethane	ND	U	0.000335	0.00230	mg/kg	1	5/27/23 7:57
1,1-Dichloroethene	ND	U	0.000425	0.00230	mg/kg	1	5/27/23 7:57
1,2,3-Trichlorobenzene	ND	U	0.000496	0.00230	mg/kg	1	5/27/23 7:57
1,2,4-Trichlorobenzene	ND	U	0.000612	0.00230	mg/kg	1	5/27/23 7:57
1,2,4-Trimethylbenzene	ND	U	0.000317	0.00230	mg/kg	1	5/27/23 7:57
1,2-Dibromo-3-chloropropane	ND	U	0.000561	0.00230	mg/kg	1	5/27/23 7:57
1,2-Dibromoethane	ND	U	0.000289	0.00230	mg/kg	1	5/27/23 7:57
1,2-Dichlorobenzene	ND	U	0.000406	0.00230	mg/kg	1	5/27/23 7:57
1,2-Dichloroethane	ND	U	0.000324	0.00230	mg/kg	1	5/27/23 7:57
1,2-Dichloropropane	ND	U	0.000377	0.00230	mg/kg	1	5/27/23 7:57
1,3-Dichlorobenzene	ND	U	0.000169	0.00230	mg/kg	1	5/27/23 7:57
1,4-Dichlorobenzene	ND	U	0.000331	0.00230	mg/kg	1	5/27/23 7:57
2-Butanone	ND	U	0.000375	0.00574	mg/kg	1	5/27/23 7:57
2-Hexanone	ND	U	0.000215	0.00230	mg/kg	1	5/27/23 7:57
4-Methyl-2-pentanone	ND	U	0.000287	0.00230	mg/kg	1	5/27/23 7:57
Acetone	ND	U	0.000696	0.00574	mg/kg	1	5/27/23 7:57
Benzene	ND	U	0.000209	0.00230	mg/kg	1	5/27/23 7:57
Bromochloromethane	ND	U	0.000424	0.00230	mg/kg	1	5/27/23 7:57
Bromodichloromethane	ND	U	0.000288	0.00230	mg/kg	1	5/27/23 7:57
Bromoform	ND	U	0.000403	0.00230	mg/kg	1	5/27/23 7:57
Bromomethane	ND	U	0.000663	0.00230	mg/kg	1	5/27/23 7:57
Carbon disulfide	**0.0143**		**0.000330**	**0.00230**	**mg/kg**	**1**	**5/27/23 7:57**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: **OH-SB-27-10.0-11.0-2 0230519** Collected: **5/19/2023 9:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon Tetrachloride	ND	U	0.000346	0.00230	mg/kg	1	5/27/23 7:57
Chlorobenzene	ND	U	0.000333	0.00230	mg/kg	1	5/27/23 7:57
Chlorodibromomethane	ND	U	0.000283	0.00230	mg/kg	1	5/27/23 7:57
Chloroethane	ND	U	0.000392	0.00230	mg/kg	1	5/27/23 7:57
Chloroform	ND	U	0.000386	0.00230	mg/kg	1	5/27/23 7:57
Chloromethane	ND	U	0.000885	0.00230	mg/kg	1	5/27/23 7:57
cis-1,2-Dichloroethene	ND	U	0.000111	0.00230	mg/kg	1	5/27/23 7:57
cis-1,3-Dichloropropene	ND	U	0.000291	0.00230	mg/kg	1	5/27/23 7:57
Cyclohexane	ND	U	0.000509	0.00230	mg/kg	1	5/27/23 7:57
Dichlorodifluoromethane	ND	U	0.000775	0.00230	mg/kg	1	5/27/23 7:57
EthylBenzene	ND	U	0.000311	0.00230	mg/kg	1	5/27/23 7:57
Isopropylbenzene	ND	U	0.000361	0.00230	mg/kg	1	5/27/23 7:57
m+p-Xylenes	ND	U	0.000580	0.00460	mg/kg	1	5/27/23 7:57
Methyl Acetate	ND	U	0.000304	0.00230	mg/kg	1	5/27/23 7:57
Methyl tert-Butyl Ether	ND	U	0.000388	0.00230	mg/kg	1	5/27/23 7:57
Methylcyclohexane	ND	U	0.000370	0.00230	mg/kg	1	5/27/23 7:57
Methylene Chloride	**0.102**		**0.000690**	**0.00230**	**mg/kg**	**1**	**5/27/23 7:57**
o-Xylene	ND	U	0.000295	0.00230	mg/kg	1	5/27/23 7:57
Styrene	ND	U	0.000329	0.00230	mg/kg	1	5/27/23 7:57
tert-Butyl alcohol	ND	U	0.00482	0.0230	mg/kg	1	5/27/23 7:57
Tetrachloroethene	ND	U	0.000227	0.00230	mg/kg	1	5/27/23 7:57
Toluene	ND	U	0.000185	0.00230	mg/kg	1	5/27/23 7:57
Total Xylenes	ND	U	0.000295	0.00230	mg/kg	1	5/27/23 7:57
trans-1,2-Dichloroethene	ND	U	0.000311	0.00230	mg/kg	1	5/27/23 7:57
trans-1,3-Dichloropropene	ND	U	0.000439	0.00230	mg/kg	1	5/27/23 7:57
Trichloroethene	ND	U	0.000338	0.00230	mg/kg	1	5/27/23 7:57
Trichlorofluoromethane	ND	U	0.000264	0.00230	mg/kg	1	5/27/23 7:57
Vinyl chloride	ND	U	0.000437	0.00230	mg/kg	1	5/27/23 7:57

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Aminoacetanilide	0.00713	22.03	J	mg/kg	1	5/27/23 7:57
3-Decyn-1-ol	0.00671	20.59	J	mg/kg	1	5/27/23 7:57
3-Methyl-2-(2-oxopropyl)furan	0.0183	23.79	J	mg/kg	1	5/27/23 7:57
3-Octyne, 2,2,7-trimethyl-	0.0191	23.37	J	mg/kg	1	5/27/23 7:57
Bicyclo[2.2.1]heptan-2-ol, 3,3-dimethyl-	0.00944	22.94	J	mg/kg	1	5/27/23 7:57
Bicyclo[3.1.1]heptane, 6-methyl-2-methyl	0.00622	19.70	J	mg/kg	1	5/27/23 7:57

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1015
Project: Owls Head Phase 2 **Date to Lab:** 5/19/2023 4:55:00PM

23E1015-03 (Soil) Sample Name: OH-SB-27-10.0-11.0-2 0230519 Collected: 5/19/2023 9:30:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Bicyclo[3.3.1]nonane	0.0136	21.71	J	mg/kg	1	5/27/23 7:57
Cyclohexane, (bromomethyl)-	0.00953	22.82	J	mg/kg	1	5/27/23 7:57
Cyclohexane, 1,2-diethyl-1-methyl-	0.00909	23.59	J	mg/kg	1	5/27/23 7:57
Cyclohexane, 1-methyl-4-(1-methylbutyl)-	0.0287	22.40	J	mg/kg	1	5/27/23 7:57
Cyclopentane, 1,2-dimethyl-3-(1-methylet	0.0121	19.09	J	mg/kg	1	5/27/23 7:57
Cyclopentaneacetaldehyde, 2-formyl-3-met	0.0181	21.57	J	mg/kg	1	5/27/23 7:57
Naphthalene, 1-(1,1-dimethylethyl)decahy	0.0123	23.21	J	mg/kg	1	5/27/23 7:57
Spiro[3.5]nonan-1-one, 5-methyl-, trans-	0.0233	21.25	J	mg/kg	1	5/27/23 7:57
TIC Total	**0.194**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**77.7**				**%**	**1**	**5/22/23 11:19**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00920	0.0772	mg/kg	1	5/22/23 15:16

23E1015-04 (Soil) Sample Name: OH-SB-28-005-105-20 230519 Collected: 5/19/2023 9:45:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00487	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1221	ND	U	0.00957	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1232	ND	U	0.0122	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1242	ND	U	0.00713	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1248	ND	U	0.00746	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1254	ND	U	0.00586	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1260	ND	U	0.00454	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1262	ND	U	0.00977	0.0363	mg/kg	1	6/1/23 0:04
Aroclor-1268	ND	U	0.00439	0.0363	mg/kg	1	6/1/23 0:04
Total PCBs	ND	U	0.00339	0.0363	mg/kg	1	6/1/23 0:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20 230519** Collected: **5/19/2023 9:45:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	6/3/23 21:33	UJ, RC:SL
2,4-D	ND	U	0.0183	0.110	mg/kg	1	6/3/23 21:33	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**1.22**		**0.00550**	**0.0220**	**mg/kg**	**1**	**5/23/23 14:15**	

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**80100**	D	**1.63**	**27.4**	**mg/kg**	**10**	**6/6/23 11:31**	
Antimony	ND	U	0.149	1.37	mg/kg	1	6/6/23 10:38	
Arsenic	**5.44**		**0.0976**	**1.37**	**mg/kg**	**1**	**6/6/23 10:38**	
Barium	**73.9**		**0.0414**	**0.547**	**mg/kg**	**1**	**6/6/23 10:38**	
Beryllium	**0.282**		**0.00317**	**0.0274**	**mg/kg**	**1**	**6/6/23 10:38**	
Cadmium	**2.25**		**0.0533**	**0.274**	**mg/kg**	**1**	**6/6/23 10:38**	
Calcium	**19200**		**3.08**	**27.4**	**mg/kg**	**1**	**6/6/23 10:38**	
Chromium	**231**		**0.0309**	**0.274**	**mg/kg**	**1**	**6/6/23 10:38**	
Cobalt	**4.32**		**0.0280**	**0.219**	**mg/kg**	**1**	**6/6/23 10:38**	
Copper	**246**		**0.0765**	**0.274**	**mg/kg**	**1**	**6/6/23 10:38**	
Iron	**49200**	D	**7.75**	**54.7**	**mg/kg**	**10**	**6/6/23 11:31**	
Lead	**380**		**0.114**	**1.37**	**mg/kg**	**1**	**6/6/23 10:38**	
Magnesium	**9360**		**9.66**	**54.7**	**mg/kg**	**1**	**6/6/23 10:38**	
Manganese	**157**		**0.0340**	**0.274**	**mg/kg**	**1**	**6/6/23 10:38**	
Nickel	**38.6**		**0.0240**	**0.137**	**mg/kg**	**1**	**6/6/23 10:38**	
Potassium	**156**		**32.5**	**109**	**mg/kg**	**1**	**6/6/23 10:38**	
Selenium	ND	U	0.263	1.37	mg/kg	1	6/6/23 10:38	
Silver	**0.446**		**0.0465**	**0.164**	**mg/kg**	**1**	**6/6/23 10:38**	J, RC:6L
Sodium	**276**		**5.22**	**54.7**	**mg/kg**	**1**	**6/6/23 10:38**	
Thallium	ND	U	0.0921	1.37	mg/kg	1	6/6/23 10:38	
Vanadium	**163**		**0.0629**	**0.547**	**mg/kg**	**1**	**6/6/23 10:38**	
Zinc	**225**		**0.0836**	**0.821**	**mg/kg**	**1**	**6/6/23 10:38**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD [2C]	**0.00899**		**0.000654**	**0.00143**	**mg/kg**	**1**	**5/30/23 22:14**	J, RC:3H
4,4'-DDE [2C]	ND	U	0.000782	0.00143	mg/kg	1	5/30/23 22:14	
4,4'-DDT	**0.0437**		**0.00101**	**0.00143**	**mg/kg**	**1**	**5/30/23 22:14**	J, RC:3H
Aldrin	ND	U	0.000677	0.00143	mg/kg	1	5/30/23 22:14	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20 230519** Collected: **5/19/2023 9:45:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000426	0.00143	mg/kg	1	5/30/23 22:14	
beta-BHC	ND	U	0.000683	0.00143	mg/kg	1	5/30/23 22:14	
Chlordane	**0.00350**		**0.000636**	**0.00143**	**mg/kg**	**1**	**5/30/23 22:14**	J, RC:3H
delta-BHC	ND	U	0.000664	0.00143	mg/kg	1	5/30/23 22:14	
Dieldrin	ND	U	0.000748	0.00143	mg/kg	1	5/30/23 22:14	
Endosulfan I	ND	U	0.000675	0.00143	mg/kg	1	5/30/23 22:14	
Endosulfan II	ND	U	0.000650	0.00143	mg/kg	1	5/30/23 22:14	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000538	0.00143	mg/kg	1	5/30/23 22:14	
Endosulfans, Total (alpha and beta)	ND	U	0.000650	0.00143	mg/kg	1	5/30/23 22:14	
Endrin	ND	U	0.000494	0.00143	mg/kg	1	5/30/23 22:14	
Endrin aldehyde	ND	U	0.000570	0.00143	mg/kg	1	5/30/23 22:14	
Endrin ketone	ND	U	0.000504	0.00143	mg/kg	1	5/30/23 22:14	
gamma-BHC (Lindane)	ND	U	0.000453	0.00143	mg/kg	1	5/30/23 22:14	
Heptachlor	ND	U	0.000383	0.00143	mg/kg	1	5/30/23 22:14	
Heptachlor Epoxide	ND	U	0.000721	0.00143	mg/kg	1	5/30/23 22:14	
Methoxychlor	ND	U	0.000419	0.00143	mg/kg	1	5/30/23 22:14	
Toxaphene	ND	U	0.0689	0.0726	mg/kg	1	5/30/23 22:14	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00827	0.0732	mg/kg	2	5/30/23 18:40
2,3,4,6-Tetrachlorophenol	ND	U	0.0451	0.293	mg/kg	2	5/30/23 18:40
2,4,5-Trichlorophenol	ND	U	0.0398	0.293	mg/kg	2	5/30/23 18:40
2,4,6-Trichlorophenol	ND	U	0.0183	0.293	mg/kg	2	5/30/23 18:40
2,4-Dichlorophenol	ND	U	0.0295	0.293	mg/kg	2	5/30/23 18:40
2,4-Dimethylphenol	ND	U	0.0288	0.293	mg/kg	2	5/30/23 18:40
2,4-Dinitrophenol	ND	U	0.0422	1.47	mg/kg	2	5/30/23 18:40
2,4-Dinitrotoluene	ND	U	0.0312	0.293	mg/kg	2	5/30/23 18:40
2,6-Dinitrotoluene	ND	U	0.0699	0.293	mg/kg	2	5/30/23 18:40
2-Chloronaphthalene	ND	U	0.0337	0.293	mg/kg	2	5/30/23 18:40
2-Chlorophenol	ND	U	0.0387	0.293	mg/kg	2	5/30/23 18:40
2-Methylnaphthalene	ND	U	0.0702	0.440	mg/kg	2	5/30/23 18:40
2-Methylphenol	ND	U	0.0578	0.293	mg/kg	2	5/30/23 18:40
2-Nitroaniline	ND	U	0.0235	0.293	mg/kg	2	5/30/23 18:40
2-Nitrophenol	ND	U	0.0326	0.293	mg/kg	2	5/30/23 18:40
3,3'-Dichlorobenzidine	ND	U	0.0308	0.293	mg/kg	2	5/30/23 18:40
3+4-Methylphenol	ND	U	0.0537	0.293	mg/kg	2	5/30/23 18:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20 230519** Collected: **5/19/2023 9:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.0543	0.293	mg/kg	2	5/30/23 18:40	
4,6-Dinitro-2-methylphenol	ND	U	0.0552	0.732	mg/kg	2	5/30/23 18:40	
4-Bromophenyl-phenyl ether	ND	U	0.0418	0.293	mg/kg	2	5/30/23 18:40	
4-Chloro-3-methylphenol	ND	U	0.0462	0.293	mg/kg	2	5/30/23 18:40	
4-Chloroaniline	ND	U	0.0102	0.293	mg/kg	2	5/30/23 18:40	
4-Chlorophenyl phenyl ether	ND	U	0.0158	0.293	mg/kg	2	5/30/23 18:40	
4-Nitroaniline	ND	U	0.146	0.293	mg/kg	2	5/30/23 18:40	
4-Nitrophenol	ND	U	0.0187	0.293	mg/kg	2	5/30/23 18:40	
Acenaphthene	**0.108**	J, D	**0.0167**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Acenaphthylene	**0.192**	J, D	**0.0102**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Acetophenone	ND	U	0.0290	0.293	mg/kg	2	5/30/23 18:40	
Anthracene	**0.284**	J, D	**0.0425**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Atrazine	ND	U	0.0275	0.293	mg/kg	2	5/30/23 18:40	
Benzaldehyde	ND	U	0.0900	0.293	mg/kg	2	5/30/23 18:40	
Benzo(a)anthracene	**1.13**	D	**0.0295**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Benzo(a)pyrene	**1.28**	D	**0.0510**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Benzo(b)fluoranthene	**1.57**	D	**0.0411**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Benzo(g,h,i)perylene	**0.978**	D	**0.0238**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Benzo(k)fluoranthene	**0.630**	D	**0.0337**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Biphenyl	ND	U	0.0257	0.293	mg/kg	2	5/30/23 18:40	
bis(2-chloroethoxy)methane	ND	U	0.0405	0.293	mg/kg	2	5/30/23 18:40	
bis(2-chloroethyl)ether	ND	U	0.0321	0.293	mg/kg	2	5/30/23 18:40	
bis(2-chloroisopropyl)ether	ND	U	0.105	0.293	mg/kg	2	5/30/23 18:40	
bis(2-ethylhexyl)phthalate	**7.13**	D	**0.0585**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Butylbenzylphthalate	**0.492**	D	**0.0266**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Caprolactam	ND	U	0.0378	0.293	mg/kg	2	5/30/23 18:40	
Carbazole	**0.139**	J, D	**0.0563**	**0.732**	**mg/kg**	**2**	**5/30/23 18:40**	
Chrysene	**1.23**	D	**0.0201**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Dibenzo(a,h)anthracene	**0.0897**	D, J	**0.0290**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	J, RC:6H
Dibenzofuran	ND	U	0.0174	0.293	mg/kg	2	5/30/23 18:40	
Diethylphthalate	ND	U	0.0567	0.293	mg/kg	2	5/30/23 18:40	
Dimethylphthalate	ND	U	0.0182	0.293	mg/kg	2	5/30/23 18:40	
Di-n-butylphthalate	ND	U	0.120	0.293	mg/kg	2	5/30/23 18:40	
Di-n-octylphthalate	ND	U	0.0600	0.293	mg/kg	2	5/30/23 18:40	
Fluoranthene	**2.17**	D	**0.0275**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Fluorene	**0.0863**	J, D	**0.0244**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Hexachlorobenzene	ND	U	0.0383	0.293	mg/kg	2	5/30/23 18:40	
Hexachlorobutadiene	ND	U	0.141	0.293	mg/kg	2	5/30/23 18:40	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1015
Project: Owls Head Phase 2 **Date to Lab:** 5/19/2023 4:55:00PM

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20 230519** Collected: **5/19/2023 9:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorocyclopentadiene	ND	U	0.122	0.732	mg/kg	2	5/30/23 18:40	
Hexachloroethane	ND	U	0.0321	0.293	mg/kg	2	5/30/23 18:40	
Indeno(1,2,3-cd)pyrene	**0.755**	D	**0.0315**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	J, RC:6H,SH
Isophorone	ND	U	0.0192	0.293	mg/kg	2	5/30/23 18:40	
Naphthalene	**0.0562**	J, D	**0.0217**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Nitrobenzene	ND	U	0.0497	0.293	mg/kg	2	5/30/23 18:40	
n-Nitroso-di-n-propylamine	ND	U	0.0157	0.293	mg/kg	2	5/30/23 18:40	
n-Nitrosodiphenylamine	ND	U	0.0625	0.293	mg/kg	2	5/30/23 18:40	
Pentachlorophenol	ND	U	0.0403	0.732	mg/kg	2	5/30/23 18:40	
Phenanthrene	**1.02**	D	**0.0385**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	
Phenol	ND	U	0.0238	0.293	mg/kg	2	5/30/23 18:40	
Pyrene	**1.84**	D	**0.0215**	**0.293**	**mg/kg**	**2**	**5/30/23 18:40**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~25.1~~	5.20	J, D, B	mg/kg	2	5/30/23 18:40	R, RC:2
Hexadecanoic acid, butyl ester	~~0.696~~	12.83	J, D, B	mg/kg	2	5/30/23 18:40	R, RC:2
TIC Total	~~25.7~~						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000321	0.00220	mg/kg	1	5/27/23 8:29
1,1,2,2-Tetrachloroethane	ND	U	0.000304	0.00220	mg/kg	1	5/27/23 8:29
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000941	0.00220	mg/kg	1	5/27/23 8:29
1,1,2-Trichloroethane	ND	U	0.000371	0.00220	mg/kg	1	5/27/23 8:29
1,1-Dichloroethane	ND	U	0.000321	0.00220	mg/kg	1	5/27/23 8:29
1,1-Dichloroethene	ND	U	0.000407	0.00220	mg/kg	1	5/27/23 8:29
1,2,3-Trichlorobenzene	ND	U	0.000475	0.00220	mg/kg	1	5/27/23 8:29
1,2,4-Trichlorobenzene	ND	U	0.000586	0.00220	mg/kg	1	5/27/23 8:29
1,2,4-Trimethylbenzene	ND	U	0.000304	0.00220	mg/kg	1	5/27/23 8:29
1,2-Dibromo-3-chloropropane	ND	U	0.000537	0.00220	mg/kg	1	5/27/23 8:29
1,2-Dibromoethane	ND	U	0.000277	0.00220	mg/kg	1	5/27/23 8:29
1,2-Dichlorobenzene	ND	U	0.000388	0.00220	mg/kg	1	5/27/23 8:29
1,2-Dichloroethane	ND	U	0.000310	0.00220	mg/kg	1	5/27/23 8:29
1,2-Dichloropropane	ND	U	0.000361	0.00220	mg/kg	1	5/27/23 8:29
1,3-Dichlorobenzene	ND	U	0.000162	0.00220	mg/kg	1	5/27/23 8:29
1,4-Dichlorobenzene	ND	U	0.000317	0.00220	mg/kg	1	5/27/23 8:29

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-04 (Soil) Sample Name: **OH-SB-28-005-105-20 230519** Collected: **5/19/2023 9:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Butanone	ND	U	0.000359	0.00550	mg/kg	1	5/27/23 8:29
2-Hexanone	ND	U	0.000206	0.00220	mg/kg	1	5/27/23 8:29
4-Methyl-2-pentanone	ND	U	0.000275	0.00220	mg/kg	1	5/27/23 8:29
Acetone	ND	U	0.000666	0.00550	mg/kg	1	5/27/23 8:29
Benzene	ND	U	0.000200	0.00220	mg/kg	1	5/27/23 8:29
Bromochloromethane	ND	U	0.000406	0.00220	mg/kg	1	5/27/23 8:29
Bromodichloromethane	ND	U	0.000276	0.00220	mg/kg	1	5/27/23 8:29
Bromoform	ND	U	0.000386	0.00220	mg/kg	1	5/27/23 8:29
Bromomethane	ND	U	0.000635	0.00220	mg/kg	1	5/27/23 8:29
Carbon disulfide	ND	U	0.000316	0.00220	mg/kg	1	5/27/23 8:29
Carbon Tetrachloride	ND	U	0.000331	0.00220	mg/kg	1	5/27/23 8:29
Chlorobenzene	ND	U	0.000319	0.00220	mg/kg	1	5/27/23 8:29
Chlorodibromomethane	ND	U	0.000271	0.00220	mg/kg	1	5/27/23 8:29
Chloroethane	ND	U	0.000375	0.00220	mg/kg	1	5/27/23 8:29
Chloroform	ND	U	0.000370	0.00220	mg/kg	1	5/27/23 8:29
Chloromethane	ND	U	0.000847	0.00220	mg/kg	1	5/27/23 8:29
cis-1,2-Dichloroethene	ND	U	0.000106	0.00220	mg/kg	1	5/27/23 8:29
cis-1,3-Dichloropropene	ND	U	0.000278	0.00220	mg/kg	1	5/27/23 8:29
Cyclohexane	ND	U	0.000487	0.00220	mg/kg	1	5/27/23 8:29
Dichlorodifluoromethane	ND	U	0.000742	0.00220	mg/kg	1	5/27/23 8:29
EthylBenzene	ND	U	0.000298	0.00220	mg/kg	1	5/27/23 8:29
Isopropylbenzene	ND	U	0.000345	0.00220	mg/kg	1	5/27/23 8:29
m+p-Xylenes	ND	U	0.000555	0.00440	mg/kg	1	5/27/23 8:29
Methyl Acetate	ND	U	0.000291	0.00220	mg/kg	1	5/27/23 8:29
Methyl tert-Butyl Ether	ND	U	0.000372	0.00220	mg/kg	1	5/27/23 8:29
Methylcyclohexane	ND	U	0.000354	0.00220	mg/kg	1	5/27/23 8:29
Methylene Chloride	ND	U	0.000661	0.00220	mg/kg	1	5/27/23 8:29
o-Xylene	ND	U	0.000283	0.00220	mg/kg	1	5/27/23 8:29
Styrene	ND	U	0.000315	0.00220	mg/kg	1	5/27/23 8:29
tert-Butyl alcohol	ND	U	0.00462	0.0220	mg/kg	1	5/27/23 8:29
Tetrachloroethene	ND	U	0.000218	0.00220	mg/kg	1	5/27/23 8:29
Toluene	ND	U	0.000177	0.00220	mg/kg	1	5/27/23 8:29
Total Xylenes	ND	U	0.000283	0.00220	mg/kg	1	5/27/23 8:29
trans-1,2-Dichloroethene	ND	U	0.000298	0.00220	mg/kg	1	5/27/23 8:29
trans-1,3-Dichloropropene	ND	U	0.000420	0.00220	mg/kg	1	5/27/23 8:29
Trichloroethene	ND	U	0.000323	0.00220	mg/kg	1	5/27/23 8:29
Trichlorofluoromethane	ND	U	0.000253	0.00220	mg/kg	1	5/27/23 8:29
Vinyl chloride	ND	U	0.000418	0.00220	mg/kg	1	5/27/23 8:29

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1015
Project: Owls Head Phase 2 **Date to Lab:** 5/19/2023 4:55:00PM

23E1015-04 (Soil) Sample Name: OH-SB-28-005-105-20230519 Collected: 5/19/2023 9:45:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.9**				**%**	**1**	**5/22/23 11:19**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00712	0.0598	mg/kg	1	5/22/23 15:16

23E1015-05 (Soil) Sample Name: OH-SB-28-15.0-16.0-20230519 Collected: 5/19/2023 12:25:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00527	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1221	ND	U	0.0104	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1232	ND	U	0.0132	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1242	ND	U	0.00772	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1248	ND	U	0.00807	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1254	ND	U	0.00634	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1260	ND	U	0.00492	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1262	ND	U	0.0106	0.0393	mg/kg	1	6/1/23 1:32
Aroclor-1268	ND	U	0.00475	0.0393	mg/kg	1	6/1/23 1:32
Total PCBs	ND	U	0.00367	0.0393	mg/kg	1	6/1/23 1:32

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0117	0.119	mg/kg	1	6/3/23 21:57 UJ, RC:SL
2,4-D	ND	U	0.0198	0.119	mg/kg	1	6/3/23 21:57

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0823**		**0.00595**	**0.0238**	**mg/kg**	**1**	**5/23/23 14:22**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-2 0230519** Collected: **5/19/2023 12:25:00PM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**6650**		**0.176**	**2.96**	**mg/kg**	**1**	**6/6/23 10:40**	
Antimony	ND	U	0.161	1.48	mg/kg	1	6/6/23 10:40	
Arsenic	**4.14**		**0.106**	**1.48**	**mg/kg**	**1**	**6/6/23 10:40**	
Barium	**65.6**		**0.0448**	**0.592**	**mg/kg**	**1**	**6/6/23 10:40**	
Beryllium	**0.589**		**0.00343**	**0.0296**	**mg/kg**	**1**	**6/6/23 10:40**	
Cadmium	ND	U	0.0577	0.296	mg/kg	1	6/6/23 10:40	
Calcium	**16600**		**3.33**	**29.6**	**mg/kg**	**1**	**6/6/23 10:40**	
Chromium	**6.48**		**0.0334**	**0.296**	**mg/kg**	**1**	**6/6/23 10:40**	
Cobalt	**2.84**		**0.0303**	**0.237**	**mg/kg**	**1**	**6/6/23 10:40**	
Copper	**11.0**		**0.0828**	**0.296**	**mg/kg**	**1**	**6/6/23 10:40**	
Iron	**10800**		**0.839**	**5.92**	**mg/kg**	**1**	**6/6/23 10:40**	
Lead	**16.9**		**0.124**	**1.48**	**mg/kg**	**1**	**6/6/23 10:40**	
Magnesium	**7830**		**10.5**	**59.2**	**mg/kg**	**1**	**6/6/23 10:40**	
Manganese	**136**		**0.0368**	**0.296**	**mg/kg**	**1**	**6/6/23 10:40**	
Nickel	**7.31**		**0.0260**	**0.148**	**mg/kg**	**1**	**6/6/23 10:40**	
Potassium	**2570**		**35.2**	**118**	**mg/kg**	**1**	**6/6/23 10:40**	
Selenium	ND	U	0.284	1.48	mg/kg	1	6/6/23 10:40	
Silver	ND	U	0.0504	0.178	mg/kg	1	6/6/23 10:40	UJ, RC:6L
Sodium	**2340**		**5.65**	**59.2**	**mg/kg**	**1**	**6/6/23 10:40**	
Thallium	ND	U	0.0996	1.48	mg/kg	1	6/6/23 10:40	
Vanadium	**15.3**		**0.0681**	**0.592**	**mg/kg**	**1**	**6/6/23 10:40**	
Zinc	**26.7**		**0.0905**	**0.888**	**mg/kg**	**1**	**6/6/23 10:40**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000708	0.00155	mg/kg	1	6/6/23 21:15	UJ, RC:3L
4,4'-DDE	ND	U	0.000846	0.00155	mg/kg	1	6/6/23 21:15	
4,4'-DDT	ND	U	0.00109	0.00155	mg/kg	1	6/6/23 21:15	
Aldrin	ND	U	0.000733	0.00155	mg/kg	1	6/6/23 21:15	
alpha-BHC [2C]	ND	U	0.000461	0.00155	mg/kg	1	6/6/23 21:15	
beta-BHC	ND	U	0.000739	0.00155	mg/kg	1	6/6/23 21:15	
Chlordane	ND	U	0.000688	0.00155	mg/kg	1	6/6/23 21:15	
delta-BHC	ND	U	0.000719	0.00155	mg/kg	1	6/6/23 21:15	
Dieldrin	ND	U	0.000809	0.00155	mg/kg	1	6/6/23 21:15	
Endosulfan I	ND	U	0.000731	0.00155	mg/kg	1	6/6/23 21:15	
Endosulfan II	ND	U	0.000703	0.00155	mg/kg	1	6/6/23 21:15	RC:6L
Endosulfan sulfate	ND	U	0.000582	0.00155	mg/kg	1	6/6/23 21:15	

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-2 0230519** Collected: **5/19/2023 12:25:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfans, Total (alpha and beta)	ND	U	0.000703	0.00155	mg/kg	1	6/6/23 21:15	UJ, RC:3L
Endrin	ND	U	0.000534	0.00155	mg/kg	1	6/6/23 21:15	
Endrin aldehyde	ND	U	0.000617	0.00155	mg/kg	1	6/6/23 21:15	
Endrin ketone	ND	U	0.000545	0.00155	mg/kg	1	6/6/23 21:15	
gamma-BHC (Lindane)	ND	U	0.000490	0.00155	mg/kg	1	6/6/23 21:15	
Heptachlor	ND	U	0.000414	0.00155	mg/kg	1	6/6/23 21:15	
Heptachlor Epoxide	ND	U	0.000781	0.00155	mg/kg	1	6/6/23 21:15	
Methoxychlor	ND	U	0.000454	0.00155	mg/kg	1	6/6/23 21:15	RC:SL
Toxaphene	ND	U	0.0745	0.0786	mg/kg	1	6/6/23 21:15	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00448	0.0396	mg/kg	1	5/30/23 19:11
2,3,4,6-Tetrachlorophenol	ND	U	0.0244	0.158	mg/kg	1	5/30/23 19:11
2,4,5-Trichlorophenol	ND	U	0.0215	0.158	mg/kg	1	5/30/23 19:11
2,4,6-Trichlorophenol	ND	U	0.00992	0.158	mg/kg	1	5/30/23 19:11
2,4-Dichlorophenol	ND	U	0.0160	0.158	mg/kg	1	5/30/23 19:11
2,4-Dimethylphenol	ND	U	0.0156	0.158	mg/kg	1	5/30/23 19:11
2,4-Dinitrophenol	ND	U	0.0229	0.794	mg/kg	1	5/30/23 19:11
2,4-Dinitrotoluene	ND	U	0.0169	0.158	mg/kg	1	5/30/23 19:11
2,6-Dinitrotoluene	ND	U	0.0379	0.158	mg/kg	1	5/30/23 19:11
2-Chloronaphthalene	ND	U	0.0182	0.158	mg/kg	1	5/30/23 19:11
2-Chlorophenol	ND	U	0.0209	0.158	mg/kg	1	5/30/23 19:11
2-Methylnaphthalene	ND	U	0.0380	0.238	mg/kg	1	5/30/23 19:11
2-Methylphenol	ND	U	0.0313	0.158	mg/kg	1	5/30/23 19:11
2-Nitroaniline	ND	U	0.0127	0.158	mg/kg	1	5/30/23 19:11
2-Nitrophenol	ND	U	0.0176	0.158	mg/kg	1	5/30/23 19:11
3,3'-Dichlorobenzidine	ND	U	0.0167	0.158	mg/kg	1	5/30/23 19:11
3+4-Methylphenol	ND	U	0.0290	0.158	mg/kg	1	5/30/23 19:11
3-Nitroaniline	ND	U	0.0294	0.158	mg/kg	1	5/30/23 19:11
4,6-Dinitro-2-methylphenol	ND	U	0.0299	0.396	mg/kg	1	5/30/23 19:11
4-Bromophenyl-phenyl ether	ND	U	0.0226	0.158	mg/kg	1	5/30/23 19:11
4-Chloro-3-methylphenol	ND	U	0.0250	0.158	mg/kg	1	5/30/23 19:11
4-Chloroaniline	ND	U	0.00555	0.158	mg/kg	1	5/30/23 19:11
4-Chlorophenyl phenyl ether	ND	U	0.00856	0.158	mg/kg	1	5/30/23 19:11
4-Nitroaniline	ND	U	0.0793	0.158	mg/kg	1	5/30/23 19:11
4-Nitrophenol	ND	U	0.0101	0.158	mg/kg	1	5/30/23 19:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-2 0230519** Collected: **5/19/2023 12:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acenaphthene	**0.117**	J	**0.00903**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Acenaphthylene	**0.0748**	J	**0.00551**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Acetophenone	ND	U	0.0157	0.158	mg/kg	1	5/30/23 19:11	
Anthracene	**0.664**		**0.0230**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Atrazine	ND	U	0.0149	0.158	mg/kg	1	5/30/23 19:11	
Benzaldehyde	ND	U	0.0487	0.158	mg/kg	1	5/30/23 19:11	
Benzo(a)anthracene	**0.463**		**0.0160**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Benzo(a)pyrene	**0.343**		**0.0276**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Benzo(b)fluoranthene	**0.358**		**0.0223**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Benzo(g,h,i)perylene	**0.219**		**0.0129**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Benzo(k)fluoranthene	**0.192**		**0.0182**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Biphenyl	ND	U	0.0139	0.158	mg/kg	1	5/30/23 19:11	
bis(2-chloroethoxy)methane	ND	U	0.0219	0.158	mg/kg	1	5/30/23 19:11	
bis(2-chloroethyl)ether	ND	U	0.0174	0.158	mg/kg	1	5/30/23 19:11	
bis(2-chloroisopropyl)ether	ND	U	0.0570	0.158	mg/kg	1	5/30/23 19:11	
bis(2-ethylhexyl)phthalate	**0.118**	J	**0.0317**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Butylbenzylphthalate	ND	U	0.0144	0.158	mg/kg	1	5/30/23 19:11	
Caprolactam	ND	U	0.0205	0.158	mg/kg	1	5/30/23 19:11	
Carbazole	**0.0513**	J	**0.0305**	**0.396**	**mg/kg**	**1**	**5/30/23 19:11**	
Chrysene	**0.430**		**0.0109**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Dibenzo(a,h)anthracene	**0.0558**	J	**0.0157**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	J, RC:6H
Dibenzofuran	**0.0581**	J	**0.00944**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Diethylphthalate	ND	U	0.0307	0.158	mg/kg	1	5/30/23 19:11	
Dimethylphthalate	ND	U	0.00983	0.158	mg/kg	1	5/30/23 19:11	
Di-n-butylphthalate	ND	U	0.0648	0.158	mg/kg	1	5/30/23 19:11	
Di-n-octylphthalate	ND	U	0.0325	0.158	mg/kg	1	5/30/23 19:11	
Fluoranthene	**1.25**		**0.0149**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Fluorene	**0.148**	J	**0.0132**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Hexachlorobenzene	ND	U	0.0207	0.158	mg/kg	1	5/30/23 19:11	
Hexachlorobutadiene	ND	U	0.0761	0.158	mg/kg	1	5/30/23 19:11	
Hexachlorocyclopentadiene	ND	U	0.0661	0.396	mg/kg	1	5/30/23 19:11	
Hexachloroethane	ND	U	0.0174	0.158	mg/kg	1	5/30/23 19:11	
Indeno(1,2,3-cd)pyrene	**0.159**		**0.0170**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	J, RC:6H,SH
Isophorone	ND	U	0.0104	0.158	mg/kg	1	5/30/23 19:11	
Naphthalene	**0.113**	J	**0.0117**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**	
Nitrobenzene	ND	U	0.0269	0.158	mg/kg	1	5/30/23 19:11	
n-Nitroso-di-n-propylamine	ND	U	0.00849	0.158	mg/kg	1	5/30/23 19:11	
n-Nitrosodiphenylamine	ND	U	0.0338	0.158	mg/kg	1	5/30/23 19:11	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1015
Project: Owls Head Phase 2 **Date to Lab:** 5/19/2023 4:55:00PM

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-2 0230519** Collected: **5/19/2023 12:25:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pentachlorophenol	ND	U	0.0218	0.396	mg/kg	1	5/30/23 19:11
Phenanthrene	**0.432**		**0.0208**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**
Phenol	ND	U	0.0129	0.158	mg/kg	1	5/30/23 19:11
Pyrene	**1.18**		**0.0117**	**0.158**	**mg/kg**	**1**	**5/30/23 19:11**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~23.7~~	5.21	J, B	mg/kg	1	5/30/23 19:11	R, RC:2
Acetic acid, 1-methylpropyl ester	0.470	5.98	J	mg/kg	1	5/30/23 19:11	
Hexadecanoic acid, butyl ester	~~1.37~~	12.83	J, B	mg/kg	1	5/30/23 19:11	R, RC:2
Octadecanoic acid, butyl ester	~~0.783~~	13.64	J, B	mg/kg	1	5/30/23 19:11	R, RC:2
unknown	~~0.598~~	12.13	J, B	mg/kg	1	5/30/23 19:11	R, RC:2
TIC Total	~~**26.9**~~ 0.470						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000290	0.00198	mg/kg	1	5/27/23 9:00
1,1,2,2-Tetrachloroethane	ND	U	0.000274	0.00198	mg/kg	1	5/27/23 9:00
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000849	0.00198	mg/kg	1	5/27/23 9:00
1,1,2-Trichloroethane	ND	U	0.000334	0.00198	mg/kg	1	5/27/23 9:00
1,1-Dichloroethane	ND	U	0.000290	0.00198	mg/kg	1	5/27/23 9:00
1,1-Dichloroethene	ND	U	0.000367	0.00198	mg/kg	1	5/27/23 9:00
1,2,3-Trichlorobenzene	ND	U	0.000429	0.00198	mg/kg	1	5/27/23 9:00
1,2,4-Trichlorobenzene	ND	U	0.000529	0.00198	mg/kg	1	5/27/23 9:00
1,2,4-Trimethylbenzene	ND	U	0.000274	0.00198	mg/kg	1	5/27/23 9:00
1,2-Dibromo-3-chloropropane	ND	U	0.000484	0.00198	mg/kg	1	5/27/23 9:00
1,2-Dibromoethane	ND	U	0.000250	0.00198	mg/kg	1	5/27/23 9:00
1,2-Dichlorobenzene	ND	U	0.000350	0.00198	mg/kg	1	5/27/23 9:00
1,2-Dichloroethane	ND	U	0.000280	0.00198	mg/kg	1	5/27/23 9:00
1,2-Dichloropropane	ND	U	0.000325	0.00198	mg/kg	1	5/27/23 9:00
1,3-Dichlorobenzene	ND	U	0.000146	0.00198	mg/kg	1	5/27/23 9:00
1,4-Dichlorobenzene	ND	U	0.000286	0.00198	mg/kg	1	5/27/23 9:00
2-Butanone	ND	U	0.000323	0.00496	mg/kg	1	5/27/23 9:00
2-Hexanone	ND	U	0.000185	0.00198	mg/kg	1	5/27/23 9:00
4-Methyl-2-pentanone	ND	U	0.000248	0.00198	mg/kg	1	5/27/23 9:00
Acetone	ND	U	0.000601	0.00496	mg/kg	1	5/27/23 9:00
Benzene	ND	U	0.000181	0.00198	mg/kg	1	5/27/23 9:00

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-2 0230519** Collected: **5/19/2023 12:25:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromochloromethane	ND	U	0.000366	0.00198	mg/kg	1	5/27/23 9:00
Bromodichloromethane	ND	U	0.000249	0.00198	mg/kg	1	5/27/23 9:00
Bromoform	ND	U	0.000348	0.00198	mg/kg	1	5/27/23 9:00
Bromomethane	ND	U	0.000572	0.00198	mg/kg	1	5/27/23 9:00
Carbon disulfide	ND	U	0.000285	0.00198	mg/kg	1	5/27/23 9:00
Carbon Tetrachloride	ND	U	0.000299	0.00198	mg/kg	1	5/27/23 9:00
Chlorobenzene	ND	U	0.000288	0.00198	mg/kg	1	5/27/23 9:00
Chlorodibromomethane	ND	U	0.000244	0.00198	mg/kg	1	5/27/23 9:00
Chloroethane	ND	U	0.000338	0.00198	mg/kg	1	5/27/23 9:00
Chloroform	ND	U	0.000333	0.00198	mg/kg	1	5/27/23 9:00
Chloromethane	ND	U	0.000764	0.00198	mg/kg	1	5/27/23 9:00
cis-1,2-Dichloroethene	ND	U	0.0000959	0.00198	mg/kg	1	5/27/23 9:00
cis-1,3-Dichloropropene	ND	U	0.000251	0.00198	mg/kg	1	5/27/23 9:00
Cyclohexane	ND	U	0.000439	0.00198	mg/kg	1	5/27/23 9:00
Dichlorodifluoromethane	ND	U	0.000670	0.00198	mg/kg	1	5/27/23 9:00
EthylBenzene	ND	U	0.000269	0.00198	mg/kg	1	5/27/23 9:00
Isopropylbenzene	ND	U	0.000311	0.00198	mg/kg	1	5/27/23 9:00
m+p-Xylenes	ND	U	0.000501	0.00397	mg/kg	1	5/27/23 9:00
Methyl Acetate	ND	U	0.000263	0.00198	mg/kg	1	5/27/23 9:00
Methyl tert-Butyl Ether	ND	U	0.000335	0.00198	mg/kg	1	5/27/23 9:00
Methylcyclohexane	ND	U	0.000319	0.00198	mg/kg	1	5/27/23 9:00
Methylene Chloride	ND	U	0.000596	0.00198	mg/kg	1	5/27/23 9:00
o-Xylene	ND	U	0.000255	0.00198	mg/kg	1	5/27/23 9:00
Styrene	ND	U	0.000284	0.00198	mg/kg	1	5/27/23 9:00
tert-Butyl alcohol	ND	U	0.00417	0.0198	mg/kg	1	5/27/23 9:00
Tetrachloroethene	ND	U	0.000196	0.00198	mg/kg	1	5/27/23 9:00
Toluene	ND	U	0.000160	0.00198	mg/kg	1	5/27/23 9:00
Total Xylenes	ND	U	0.000255	0.00198	mg/kg	1	5/27/23 9:00
trans-1,2-Dichloroethene	ND	U	0.000269	0.00198	mg/kg	1	5/27/23 9:00
trans-1,3-Dichloropropene	ND	U	0.000379	0.00198	mg/kg	1	5/27/23 9:00
Trichloroethene	ND	U	0.000292	0.00198	mg/kg	1	5/27/23 9:00
Trichlorofluoromethane	ND	U	0.000228	0.00198	mg/kg	1	5/27/23 9:00
Vinyl chloride	ND	U	0.000377	0.00198	mg/kg	1	5/27/23 9:00

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Monoethyl carbonotrithioate	0.00512	4.77	J	mg/kg	1	5/27/23 9:00
TIC Total	**0.005**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-05 (Soil) Sample Name: **OH-SB-28-15.0-16.0-2 0230519** Collected: **5/19/2023 12:25:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.0**				**%**	**1**	**5/22/23 11:19**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00834	0.0700	mg/kg	1	5/22/23 15:16

23E1015-06 (Ground Water) Sample Name: **FB-20230519** Collected: **5/19/2023 10:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/2/23 23:15
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/2/23 23:15
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/2/23 23:15
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/2/23 23:15
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/2/23 23:15
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/2/23 23:15
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/2/23 23:15
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/2/23 23:15
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/2/23 23:15
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/2/23 23:15

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/8/23 13:44
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/8/23 13:44
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/8/23 13:44

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/23/23 15:50

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/26/23 10:12
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/26/23 10:12
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/26/23 10:12
Barium	ND	U	0.000558	0.0200	mg/L	1	5/26/23 10:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-06 (Ground Water) Sample Name: **FB-20230519** Collected: **5/19/2023 10:35:00AM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/26/23 10:12	
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/26/23 10:12	
Calcium	ND	U	0.256	1.00	mg/L	1	5/26/23 10:12	
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/26/23 10:12	
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/26/23 10:12	
Copper	ND	U	0.00177	0.0100	mg/L	1	5/26/23 10:12	
Iron	ND	U	0.0580	0.200	mg/L	1	5/26/23 10:12	
Lead	ND	U	0.00510	0.0500	mg/L	1	5/26/23 10:12	
Magnesium	ND	U	0.681	2.00	mg/L	1	5/26/23 10:12	
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/26/23 10:12	
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/26/23 10:12	
Potassium	ND	U	2.41	4.00	mg/L	1	5/26/23 10:12	
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/26/23 10:12	
Silver	ND	U	0.00465	0.0200	mg/L	1	5/26/23 10:12	
Sodium	ND	U	0.205	2.00	mg/L	1	5/26/23 10:12	
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/26/23 10:12	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/26/23 10:12	
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/26/23 10:12	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/26/23 19:03	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/26/23 19:03	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/26/23 19:03	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/26/23 19:03	UJ, RC:6L
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/26/23 19:03	UJ, RC:6L
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/26/23 19:03	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/26/23 19:03	UJ, RC:6L
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/26/23 19:03	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/26/23 19:03	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/26/23 19:03	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/26/23 19:03	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/26/23 19:03	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/26/23 19:03	UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/26/23 19:03	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/26/23 19:03	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/26/23 19:03	UJ, RC:6L
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/26/23 19:03	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/26/23 19:03	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-06 (Ground Water) Sample Name: **FB-20230519** Collected: **5/19/2023 10:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/26/23 19:03	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/26/23 19:03	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/25/23 16:13	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/25/23 16:13	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/25/23 16:13	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/25/23 16:13	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/25/23 16:13	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/25/23 16:13	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/25/23 16:13	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/25/23 16:13	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/25/23 16:13	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/25/23 16:13	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/25/23 16:13	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/25/23 16:13	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/25/23 16:13	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/25/23 16:13	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/25/23 16:13	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/25/23 16:13	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/25/23 16:13	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/25/23 16:13	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/25/23 16:13	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/25/23 16:13	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/25/23 16:13	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/25/23 16:13	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/25/23 16:13	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/25/23 16:13	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/25/23 16:13	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/25/23 16:13	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/25/23 16:13	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/25/23 16:13	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/25/23 16:13	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/25/23 16:13	UJ, RC:SL,Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/25/23 16:13	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/25/23 16:13	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/25/23 16:13	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/25/23 16:13	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-06 (Ground Water) Sample Name: **FB-20230519** Collected: **5/19/2023 10:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/25/23 16:13	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/25/23 16:13	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/25/23 16:13	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/25/23 16:13	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/25/23 16:13	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/25/23 16:13	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/25/23 16:13	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/25/23 16:13	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/25/23 16:13	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/25/23 16:13	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/25/23 16:13	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/25/23 16:13	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/25/23 16:13	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/25/23 16:13	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/25/23 16:13	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/25/23 16:13	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/25/23 16:13	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/25/23 16:13	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/25/23 16:13	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/25/23 16:13	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/25/23 16:13	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/25/23 16:13	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/25/23 16:13	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/26/23 14:37	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/26/23 14:37	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/26/23 14:37	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/26/23 14:37	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/26/23 14:37	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/26/23 14:37	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/26/23 14:37	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/26/23 14:37	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-06 (Ground Water) Sample Name: **FB-20230519** Collected: **5/19/2023 10:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/26/23 14:37	UJ, RC:3L
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/26/23 14:37	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/26/23 14:37	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/26/23 14:37	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/26/23 14:37	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/26/23 14:37	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/26/23 14:37	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/26/23 14:37	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/26/23 14:37	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/26/23 14:37	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/26/23 14:37	
Acetone	ND	U	10.0	10.0	ug/L	1	5/26/23 14:37	
Benzene	ND	U	0.129	1.00	ug/L	1	5/26/23 14:37	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/26/23 14:37	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/26/23 14:37	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/26/23 14:37	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/26/23 14:37	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/26/23 14:37	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/26/23 14:37	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/26/23 14:37	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/26/23 14:37	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/26/23 14:37	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/26/23 14:37	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/26/23 14:37	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/26/23 14:37	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/26/23 14:37	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/26/23 14:37	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/26/23 14:37	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/26/23 14:37	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/26/23 14:37	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/26/23 14:37	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/26/23 14:37	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/26/23 14:37	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/26/23 14:37	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/26/23 14:37	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/26/23 14:37	
Styrene	ND	U	0.176	1.00	ug/L	1	5/26/23 14:37	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/26/23 14:37	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/26/23 14:37	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-06 (Ground Water) Sample Name: **FB-20230519** Collected: **5/19/2023 10:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Toluene	ND	U	0.205	1.00	ug/L	1	5/26/23 14:37	UJ, RC:3L
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/26/23 14:37	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/26/23 14:37	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/26/23 14:37	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/26/23 14:37	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/26/23 14:37	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/26/23 14:37	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/23/23 16:43

23E1015-07 (Ground Water) Sample Name: **TB-20230519** Collected: **5/19/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/26/23 15:28	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/26/23 15:28	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/26/23 15:28	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/26/23 15:28	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/26/23 15:28	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/26/23 15:28	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/26/23 15:28	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/26/23 15:28	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/26/23 15:28	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/26/23 15:28	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/26/23 15:28	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/26/23 15:28	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/26/23 15:28	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/26/23 15:28	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/26/23 15:28	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/26/23 15:28	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/26/23 15:28	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/26/23 15:28	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-07 (Ground Water) Sample Name: **TB-20230519** Collected: **5/19/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/26/23 15:28	UJ, RC:3L
Acetone	ND	U	10.0	10.0	ug/L	1	5/26/23 15:28	
Benzene	ND	U	0.129	1.00	ug/L	1	5/26/23 15:28	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/26/23 15:28	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/26/23 15:28	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/26/23 15:28	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/26/23 15:28	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/26/23 15:28	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/26/23 15:28	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/26/23 15:28	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/26/23 15:28	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/26/23 15:28	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/26/23 15:28	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/26/23 15:28	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/26/23 15:28	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/26/23 15:28	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/26/23 15:28	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/26/23 15:28	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/26/23 15:28	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/26/23 15:28	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/26/23 15:28	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/26/23 15:28	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/26/23 15:28	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/26/23 15:28	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/26/23 15:28	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/26/23 15:28	
Styrene	ND	U	0.176	1.00	ug/L	1	5/26/23 15:28	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/26/23 15:28	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/26/23 15:28	
Toluene	ND	U	0.205	1.00	ug/L	1	5/26/23 15:28	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/26/23 15:28	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/26/23 15:28	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/26/23 15:28	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/26/23 15:28	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/26/23 15:28	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/26/23 15:28	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1015
Date to Lab: 5/19/2023 4:55:00PM

23E1015-07 (Ground Water) Sample Name: **TB-20230519** Collected: **5/19/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-01	**Date Collected**	: 05/19/23 07:35
Client ID	: OH-SB-29-10.0-11.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 01:50
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172343	**Analyst**	: CNC
Sample Amount	: 25.54 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 78
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	4.42	1.50	0.433	
91-20-3C1	C1-Naphthalenes	1.70	1.50	0.433	
91-20-3C2	C2-Naphthalenes	2.44	1.50	0.433	
91-20-3C3	C3-Naphthalenes	3.13	1.50	0.433	
91-20-3C4	C4-Naphthalenes	2.89	1.50	0.433	
208-96-8	Acenaphthylene	4.57	1.50	0.287	
83-32-9	Acenaphthene	1.10	1.50	0.265	J
86-73-7	Fluorene	1.31	1.50	0.402	J
86-73-7C1	C1-Fluorenes	2.02	1.50	0.402	
86-73-7C2	C2-Fluorenes	2.34	1.50	0.402	
86-73-7C3	C3-Fluorenes	ND	1.50	0.402	U
85-01-8	Phenanthrene	7.29	1.50	0.499	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	6.89	1.50	0.499	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	4.11	1.50	0.499	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	3.08	1.50	0.499	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	2.41	1.50	0.499	
120-12-7	Anthracene	4.05	1.50	0.310	
206-44-0	Fluoranthene	12.0	1.50	0.478	
129-00-0	Pyrene	20.7	1.50	0.396	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	10.4	1.50	0.396	
56-55-3	Benz(a)anthracene	7.82	1.50	0.307	
218-01-9	Chrysene	7.37	1.50	0.304	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-01	**Date Collected**	: 05/19/23 07:35
Client ID	: OH-SB-29-10.0-11.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 01:50
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172343	**Analyst**	: CNC
Sample Amount	: 25.54 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 78
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	5.72	1.50	0.304	
218-01-9C2	C2-Chrysenes BS	4.45	1.50	0.304	
218-01-9C3	C3-Chrysenes	5.99	1.50	0.304	
218-01-9C4	C4-Chrysenes	ND	1.50	0.304	U
205-99-2	Benzo(b)fluoranthene	9.05	1.50	0.392	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	8.72	1.50	0.299	
192-97-2	Benzo(e)pyrene	8.98	1.50	0.311	
50-32-8	Benzo(a)pyrene	9.94	1.50	0.430	
198-55-0	Perylene	615	1.50	0.291	
193-39-5	Indeno(1,2,3-cd)pyrene	10.6	1.50	0.409	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	2.52	1.50	0.407	
191-24-2	Benzo(g,h,i)perylene	19.0	1.50	0.400	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-02	**Date Collected**	: 05/19/23 08:15
Client ID	: OH-SB-27-1.0-2.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 03:15
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172344	**Analyst**	: CNC
Sample Amount	: 1.11 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	88.7	59.8	17.2	
91-20-3C1	C1-Naphthalenes	65.7	59.8	17.2	
91-20-3C2	C2-Naphthalenes	93.7	59.8	17.2	
91-20-3C3	C3-Naphthalenes	116	59.8	17.2	
91-20-3C4	C4-Naphthalenes	87.0	59.8	17.2	
208-96-8	Acenaphthylene	360	59.8	11.4	
83-32-9	Acenaphthene	82.2	59.8	10.5	
86-73-7	Fluorene	80.9	59.8	15.9	
86-73-7C1	C1-Fluorenes	61.0	59.8	15.9	
86-73-7C2	C2-Fluorenes	116	59.8	15.9	
86-73-7C3	C3-Fluorenes	ND	59.8	15.9	U
85-01-8	Phenanthrene	1040	59.8	19.8	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	602	59.8	19.8	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	441	59.8	19.8	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	265	59.8	19.8	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	153	59.8	19.8	
120-12-7	Anthracene	407	59.8	12.3	
206-44-0	Fluoranthene	2290	59.8	19.0	
129-00-0	Pyrene	2140	59.8	15.7	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1040	59.8	15.7	
56-55-3	Benz(a)anthracene	1720	59.8	12.2	
218-01-9	Chrysene	1600	59.8	12.1	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-02	**Date Collected**	: 05/19/23 08:15
Client ID	: OH-SB-27-1.0-2.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 03:15
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172344	**Analyst**	: CNC
Sample Amount	: 1.11 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	824	59.8	12.1	
218-01-9C2	C2-Chrysenes BS	511	59.8	12.1	
218-01-9C3	C3-Chrysenes	833	59.8	12.1	
218-01-9C4	C4-Chrysenes	875	59.8	12.1	
205-99-2	Benzo(b)fluoranthene	1500	59.8	15.6	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1600	59.8	11.9	
192-97-2	Benzo(e)pyrene	1270	59.8	12.3	
50-32-8	Benzo(a)pyrene	1880	59.8	17.1	
198-55-0	Perylene	542	59.8	11.5	
193-39-5	Indeno(1,2,3-cd)pyrene	1500	59.8	16.2	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	372	59.8	16.2	
191-24-2	Benzo(g,h,i)perylene	1710	59.8	15.9	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328529
Project Name	: 23E1015	Project Number	: 23E1015
Lab ID	: L2328529-03	Date Collected	: 05/19/23 09:30
Client ID	: OH-SB-27-10.0-11.0-20230519	Date Received	: 05/22/23
Sample Location	:	Date Analyzed	: 06/15/23 04:40
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172345	Analyst	: CNC
Sample Amount	: 10.33 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	953	13.0	3.74	
91-20-3C1	C1-Naphthalenes	374	13.0	3.74	
91-20-3C2	C2-Naphthalenes	1630	13.0	3.74	
91-20-3C3	C3-Naphthalenes	1780	13.0	3.74	
91-20-3C4	C4-Naphthalenes	2970	13.0	3.74	
208-96-8	Acenaphthylene	~~21000~~	13.0	2.48	E
83-32-9	Acenaphthene	1980	13.0	2.29	
86-73-7	Fluorene	180	13.0	3.47	
86-73-7C1	C1-Fluorenes	2960	13.0	3.47	
86-73-7C2	C2-Fluorenes	8450	13.0	3.47	
86-73-7C3	C3-Fluorenes	9420	13.0	3.47	
85-01-8	Phenanthrene	993	13.0	4.31	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	5430	13.0	4.31	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	14300	13.0	4.31	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	12400	13.0	4.31	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	6630	13.0	4.31	
120-12-7	Anthracene	1810	13.0	2.68	
206-44-0	Fluoranthene	1560	13.0	4.13	
129-00-0	Pyrene	~~88400~~	13.0	3.42	E
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	33500	13.0	3.42	
56-55-3	Benz(a)anthracene	8830	13.0	2.65	
218-01-9	Chrysene	4470	13.0	2.63	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328529
Project Name	: 23E1015	Project Number	: 23E1015
Lab ID	: L2328529-03	Date Collected	: 05/19/23 09:30
Client ID	: OH-SB-27-10.0-11.0-20230519	Date Received	: 05/22/23
Sample Location	:	Date Analyzed	: 06/15/23 04:40
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172345	Analyst	: CNC
Sample Amount	: 10.33 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	23400	13.0	2.63	
218-01-9C2	C2-Chrysenes BS	16300	13.0	2.63	
218-01-9C3	C3-Chrysenes	8810	13.0	2.63	
218-01-9C4	C4-Chrysenes	3660	13.0	2.63	
205-99-2	Benzo(b)fluoranthene	10200	13.0	3.38	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	11100	13.0	2.58	
192-97-2	Benzo(e)pyrene	15300	13.0	2.68	
50-32-8	Benzo(a)pyrene	~~24400~~	13.0	3.71	E
198-55-0	Perylene	3660	13.0	2.51	
193-39-5	Indeno(1,2,3-cd)pyrene	11700	13.0	3.53	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	3210	13.0	3.51	
191-24-2	Benzo(g,h,i)perylene	~~17800~~	13.0	3.46	E

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-03D	**Date Collected**	: 05/19/23 09:30
Client ID	: OH-SB-27-10.0-11.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/18/23 11:29
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206162331	**Analyst**	: CNC
Sample Amount	: 10.33 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
208-96-8	Acenaphthylene	16000	130	24.8	
129-00-0	Pyrene	84700	130	34.2	
50-32-8	Benzo(a)pyrene	25400	130	37.1	
191-24-2	Benzo(g,h,i)perylene	17700	130	34.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-04	**Date Collected**	: 05/19/23 09:45
Client ID	: OH-SB-28-0.5-1.5-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 06:04
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172346	**Analyst**	: CNC
Sample Amount	: 1.05 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	90.3	90.6	26.0	J
91-20-3C1	C1-Naphthalenes	74.5	90.6	26.0	J
91-20-3C2	C2-Naphthalenes	128	90.6	26.0	
91-20-3C3	C3-Naphthalenes	147	90.6	26.0	
91-20-3C4	C4-Naphthalenes	132	90.6	26.0	
208-96-8	Acenaphthylene	396	90.6	17.3	
83-32-9	Acenaphthene	122	90.6	16.0	
86-73-7	Fluorene	119	90.6	24.2	
86-73-7C1	C1-Fluorenes	90.4	90.6	24.2	J
86-73-7C2	C2-Fluorenes	161	90.6	24.2	
86-73-7C3	C3-Fluorenes	ND	90.6	24.2	U
85-01-8	Phenanthrene	1410	90.6	30.0	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	675	90.6	30.0	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	459	90.6	30.0	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	240	90.6	30.0	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	214	90.6	30.0	
120-12-7	Anthracene	530	90.6	18.7	
206-44-0	Fluoranthene	3440	90.6	28.8	
129-00-0	Pyrene	3170	90.6	23.8	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1540	90.6	23.8	
56-55-3	Benz(a)anthracene	2400	90.6	18.5	
218-01-9	Chrysene	1970	90.6	18.3	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-04	**Date Collected**	: 05/19/23 09:45
Client ID	: OH-SB-28-0.5-1.5-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 06:04
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172346	**Analyst**	: CNC
Sample Amount	: 1.05 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 90
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	976	90.6	18.3	
218-01-9C2	C2-Chrysenes BS	731	90.6	18.3	
218-01-9C3	C3-Chrysenes	1840	90.6	18.3	
218-01-9C4	C4-Chrysenes	2060	90.6	18.3	
205-99-2	Benzo(b)fluoranthene	2160	90.6	23.6	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2050	90.6	18.0	
192-97-2	Benzo(e)pyrene	1820	90.6	18.7	
50-32-8	Benzo(a)pyrene	2720	90.6	25.9	
198-55-0	Perylene	805	90.6	17.5	
193-39-5	Indeno(1,2,3-cd)pyrene	1860	90.6	24.6	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	466	90.6	24.5	
191-24-2	Benzo(g,h,i)perylene	2000	90.6	24.1	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-05	**Date Collected**	: 05/19/23 12:25
Client ID	: OH-SB-28-15.0-16.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 07:29
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172347	**Analyst**	: CNC
Sample Amount	: 10.78 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	155	3.25	0.933	
91-20-3C1	C1-Naphthalenes	74.9	3.25	0.933	
91-20-3C2	C2-Naphthalenes	128	3.25	0.933	
91-20-3C3	C3-Naphthalenes	172	3.25	0.933	
91-20-3C4	C4-Naphthalenes	148	3.25	0.933	
208-96-8	Acenaphthylene	27.0	3.25	0.620	
83-32-9	Acenaphthene	76.2	3.25	0.572	
86-73-7	Fluorene	33.2	3.25	0.866	
86-73-7C1	C1-Fluorenes	82.7	3.25	0.866	
86-73-7C2	C2-Fluorenes	75.9	3.25	0.866	
86-73-7C3	C3-Fluorenes	48.8	3.25	0.866	
85-01-8	Phenanthrene	133	3.25	1.08	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	155	3.25	1.08	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	71.5	3.25	1.08	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	35.2	3.25	1.08	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	28.0	3.25	1.08	
120-12-7	Anthracene	132	3.25	0.669	
206-44-0	Fluoranthene	229	3.25	1.03	
129-00-0	Pyrene	395	3.25	0.854	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	141	3.25	0.854	
56-55-3	Benz(a)anthracene	160	3.25	0.662	
218-01-9	Chrysene	142	3.25	0.656	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328529
Project Name	: 23E1015	**Project Number**	: 23E1015
Lab ID	: L2328529-05	**Date Collected**	: 05/19/23 12:25
Client ID	: OH-SB-28-15.0-16.0-20230519	**Date Received**	: 05/22/23
Sample Location	:	**Date Analyzed**	: 06/15/23 07:29
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172347	**Analyst**	: CNC
Sample Amount	: 10.78 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	82.7	3.25	0.656	
218-01-9C2	C2-Chrysenes BS	48.7	3.25	0.656	
218-01-9C3	C3-Chrysenes	51.0	3.25	0.656	
218-01-9C4	C4-Chrysenes	33.0	3.25	0.656	
205-99-2	Benzo(b)fluoranthene	131	3.25	0.844	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	135	3.25	0.644	
192-97-2	Benzo(e)pyrene	111	3.25	0.670	
50-32-8	Benzo(a)pyrene	163	3.25	0.927	
198-55-0	Perylene	56.2	3.25	0.627	
193-39-5	Indeno(1,2,3-cd)pyrene	110	3.25	0.881	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	28.4	3.25	0.877	
191-24-2	Benzo(g,h,i)perylene	111	3.25	0.863	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2328774 and 23E1057
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 7, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-25-1.0-2.0-20230522	23E1057-01	5/22/2023	Soil
OH-SB-25-5.7-6.7-20230522	23E1057-02	5/22/2023	Soil
OH-SB-31-2.5-3.5-20230522	23E1057-03	5/22/2023	Soil
OH-SB-31-6.1-7.1-20230522	23E1057-04	5/22/2023	Soil
FB-20230522	23E1057-05	5/22/2023	Water
TB-20230522	23E1057-06	5/22/2023	Water
OH-SB-21-0.5-1.5-20230522	23E1057-07	5/22/2023	Soil

Data validation was performed on the analytical data for seven (7) samples collected May 22, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples, surrogates, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs and TAL Metals were listed on the COC for FB-20230522 but these analyses were not reported for this sample.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	FB-20230522 TB-20230522	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20230522	Bromomethane	10% < %R < CL	J (Detects) UJ (NDs)	6L
	0H-SB-25-1.0-2.0-20230522 0H-SB-25-5.7-6.7-20230522 0H-SB-31-2.5-3.5-20230522 0H-SB-31-6.1-7.1-20230522 0H-SB-21-0.5-1.5-20230522	Cyclohexane	> CL	J (Detects) No action (NDs)	6H

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
	TB-20230522	Methylene chloride	> CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-SB-25-1.0-2.0-20230522 OH-SB-25-5.7-6.7-20230522 OH-SB-31-2.5-3.5-20230522 OH-SB-31-6.1-7.1-20230522 OH-SB-21-0.5-1.5-20230522	Cyclohexane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	TB-20230522	1,2,4-Trichlorobenzene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	FB-20230522	4-Methyl-2-pentanone Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated VOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown (5.98). Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	OH-SB-25-1.0-2.0-20230522	2-Fluorobiphenyl p-Terphenyl-d14	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230522	4-Nitrophenol Benzaldehyde bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Dibenzo(a,h)anthracene Hexachlorobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	OH-SB-31-2.5-3.5-20230522 OH-SB-31-6.1-7.1-20230522 OH-SB-21-0.5-1.5-20230522	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-25-1.0-2.0-20230522 OH-SB-25-5.7-6.7-20230522	2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- SVOC C2-Fluorenes associated with OH-SB-25-5.7-6.7-20230522 was qualified "G" which indicates an interference. This result was qualified as estimated, reason code, I.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-21-0.5-1.5-20230522	DCB (1C)	10% < %R < CL	J (Detects) UJ (NDs)	3L
8081B	OH-SB-25-1.0-2.0-20230522 OH-SB-21-0.5-1.5-20230522	DCB (2C)	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230522	4,4'-DDT alpha-Chlordane Chlordane Endosulfan sulfate Endrin gamma-Chlordane	10% < %R < CL	J (Detects) UJ (NDs)	6L
	0H-SB-25-1.0-2.0-20230522 0H-SB-25-5.7-6.7-20230522 0H-SB-31-2.5-3.5-20230522 0H-SB-31-6.1-7.1-20230522 0H-SB-21-0.5-1.5-20230522	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	OH-SB-25-1.0-2.0-20230522 OH-SB-25-5.7-6.7-20230522 OH-SB-31-2.5-3.5-20230522 OH-SB-31-6.1-7.1-20230522	Silvex (2,4,5-TP)	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-21-0.5-1.5-20230522	2,4-D	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
8081B	OH-SB-25-1.0-2.0-20230522 OH-SB-31-2.5-3.5-20230522	Methoxychlor	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 6010D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
200.7	FB-20230522	Aluminum Calcium	> CL	J (Detects) No action (NDs)	6H
	OH-SB-25-1.0-2.0-20230522 OH-SB-25-5.7-6.7-20230522 OH-SB-31-2.5-3.5-20230522 OH-SB-31-6.1-7.1-20230522 OH-SB-21-0.5-1.5-20230522	Silver	30% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 7, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1057

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 21, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E1057

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-25-1.0-2.0-20230522	23E1057-01	Soil	05/22/2023 08:00	05/22/2023 15:10
OH-SB-25-5.7-6.7-20230522	23E1057-02	Soil	05/22/2023 09:15	05/22/2023 15:10
OH-SB-31-2.5-3.5-20230522	23E1057-03	Soil	05/22/2023 10:35	05/22/2023 15:10
OH-SB-31-6.1-7.1-20230522	23E1057-04	Soil	05/22/2023 11:15	05/22/2023 15:10
FB-20230522	23E1057-05	Ground Water	05/22/2023 11:35	05/22/2023 15:10
TB-20230522	23E1057-06	Ground Water	05/22/2023 00:00	05/22/2023 15:10
OH-SB-21-0.5-1.5-20230522	23E1057-07	Soil	05/22/2023 13:12	05/22/2023 15:10

PN: 23E1057

CHAIN OF CUSTODY

APL 23E1057
AQUA PRO-TECH LABORATORIES
www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

PAGE ___ OF ___

CLIENT: Yu & Associates	SEND REPORT TO: same
ADDRESS: 611 River Drive, 3rd Fl. Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-773-9621	PHONE: as
E-MAIL: swang@yu-associates.com.	FAX:
PROJECT NAME: Siwan Wang (Gowanus OH 0074.1)	SEND INVOICE TO:
PROJECT MGR:	ADDRESS: left.
PROJECT or PO #: 156854.	SAMPLED BY: MM.

TURN-AROUND TIME
- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ___
  - [ ] 48 hr. date & time required ___
  - [ ] 72 hr. date & time required ___
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

PWSID# ___

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ___

✓ NY State Category B.

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☐ LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E1057 -01	OH-SB-25-1.0-2.0-20230522	05/22/23	0800	X		S	5		VOC, SVOC, PCB, Pesticides, Herbicides, TCN, FCN, Alkylated PAH, TAL Metals.
-02	OH-SB-25-5.7-6.7-20230522	05/22/23	0915	X		S	5		" " "
-03	OH-SB-31-2.5-3.5-20230522	05/22/23	1035	X		S	5		" " "
-04	OH-SB-31-6.1-7.1-20230522	05/22/23	1115	X		S	5		" " "
-05	FB-20230522	05/22/23	1135	X		S	10		" " "
-06	TB-20230522	05/22/23	LAB	X		S	2		VOC.
-07	OH-SB-21-0.5-1.5-20230522	05/22/23	1312	X		S	5		VOC, SVOC, PCB, Pesticide, Herbicides TCN, FCN, Alkylated PAH, TAL Metals.

RELINQUISHED BY (Print) Max Matalon	DATE 05/22/23	RECEIVED BY (Print) Victor Verosta	
Signature	Time 13:30	Signature	
RELINQUISHED BY (Print) Victor Verosta	DATE 5/22/23	RECEIVED BY (Print) Ru & Nap	5/22/23
Signature	Time 14:10	Signature	1510
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.7C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spikes (slightly low).
The percent recoveries for some metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low and high).

Method 200.7
The percent recovery for Silver was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]

Samples 23E1057-02 and -04 have one surrogate (DCAA-2) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PCBs [8082A]

Sample 23E1057-02 has one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interference.
Sample 23E1057-07 has one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

Samples 23E1057 -02, -04 and -07 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spikes and matrix spike duplicates (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike (low).

Sample 23E1057-06 (TB) has one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 2,4-Dinitrophenol and 3,3'-Dichlorobenzidine were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Sample 23E1057-01 has two surrogates (2-Fluorobiphenyl, p-Terphenyl-d14) outside of the QC limits (low), due to matrix interference.



Reviewed By: _____ (SK) 8/22/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-20230522**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1254	3.18	D	0.0294	0.182	mg/kg dry	5	6/1/23 9:56
Total PCBs	3.18	D	0.0170	0.182	mg/kg dry	5	6/1/23 9:56

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.893		0.00551	0.0221	mg/kg dry	1	5/23/23 14:25

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9040		0.163	2.74	mg/kg dry	1	6/6/23 12:02
Arsenic	8.42		0.0979	1.37	mg/kg dry	1	6/6/23 12:02
Barium	347	D	0.415	5.49	mg/kg dry	10	6/6/23 14:03
Beryllium	0.528		0.00318	0.0274	mg/kg dry	1	6/6/23 12:02
Cadmium	2.88		0.0535	0.274	mg/kg dry	1	6/6/23 12:02
Calcium	92400	D	30.9	274	mg/kg dry	10	6/6/23 14:03
Chromium	48.3		0.0310	0.274	mg/kg dry	1	6/6/23 12:02
Cobalt	8.15		0.0280	0.219	mg/kg dry	1	6/6/23 12:02
Copper	296	D	0.767	2.74	mg/kg dry	10	6/6/23 14:03
Iron	26900	D	7.77	54.9	mg/kg dry	10	6/6/23 14:03
Lead	901		0.114	1.37	mg/kg dry	1	6/6/23 12:02
Magnesium	16200		9.69	54.9	mg/kg dry	1	6/6/23 12:02
Manganese	317		0.0341	0.274	mg/kg dry	1	6/6/23 12:02
Nickel	103		0.0241	0.137	mg/kg dry	1	6/6/23 12:02
Potassium	444		32.6	110	mg/kg dry	1	6/6/23 12:02
Silver	0.581		0.0467	0.165	mg/kg dry	1	6/6/23 12:02
Sodium	1570		5.23	54.9	mg/kg dry	1	6/6/23 12:02
Vanadium	48.6		0.0631	0.549	mg/kg dry	1	6/6/23 12:02
Zinc	370	D	0.838	8.23	mg/kg dry	10	6/6/23 14:03

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane	0.0179		0.000637	0.00143	mg/kg dry	1	6/6/23 21:37

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0505	J	0.0352	0.221	mg/kg dry	1	6/5/23 13:33
Acenaphthene	0.0279	J	0.00837	0.147	mg/kg dry	1	6/5/23 13:33
Acenaphthylene	0.0469	J	0.00511	0.147	mg/kg dry	1	6/5/23 13:33
Anthracene	0.110	J	0.0213	0.147	mg/kg dry	1	6/5/23 13:33
Benzo(a)anthracene	0.271		0.0148	0.147	mg/kg dry	1	6/5/23 13:33
Benzo(a)pyrene	0.347		0.0256	0.147	mg/kg dry	1	6/5/23 13:33

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-20230522**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(b)fluoranthene	0.434		0.0206	0.147	mg/kg dry	1	6/5/23 13:33
Benzo(g,h,i)perylene	0.334		0.0119	0.147	mg/kg dry	1	6/5/23 13:33
Benzo(k)fluoranthene	0.180		0.0169	0.147	mg/kg dry	1	6/5/23 13:33
bis(2-ethylhexyl)phthalate	0.224		0.0293	0.147	mg/kg dry	1	6/5/23 13:33
Carbazole	0.0503	J	0.0282	0.367	mg/kg dry	1	6/5/23 13:33
Chrysene	0.297		0.0101	0.147	mg/kg dry	1	6/5/23 13:33
Dibenzo(a,h)anthracene	0.0746	J	0.0146	0.147	mg/kg dry	1	6/5/23 13:33
Fluoranthene	0.536		0.0138	0.147	mg/kg dry	1	6/5/23 13:33
Fluorene	0.0337	J	0.0122	0.147	mg/kg dry	1	6/5/23 13:33
Indeno(1,2,3-cd)pyrene	0.248		0.0158	0.147	mg/kg dry	1	6/5/23 13:33
Phenanthrene	0.296		0.0193	0.147	mg/kg dry	1	6/5/23 13:33
Pyrene	0.442		0.0108	0.147	mg/kg dry	1	6/5/23 13:33
TIC_2-Pentanone, 4-hydroxy-4-methyl-	6.87	J, B			mg/kg dry	1	6/5/23 13:33
TIC_Heneicosane	0.521	J			mg/kg dry	1	6/5/23 13:33
TIC_Hexadecane	0.307	J			mg/kg dry	1	6/5/23 13:33
TIC_Hexadecane, 2,6,10,14-tetramethyl-	0.639	J			mg/kg dry	1	6/5/23 13:33
TIC_Hexadecanoic acid, butyl ester	2.51	J, B			mg/kg dry	1	6/5/23 13:33
TIC_Octadecane (01)	0.968	J			mg/kg dry	1	6/5/23 13:33
TIC_Octadecane (02)	0.300	J			mg/kg dry	1	6/5/23 13:33
TIC_Octadecanoic acid, butyl ester	1.49	J, B			mg/kg dry	1	6/5/23 13:33
TIC_Tridecane, 6-propyl-	0.437	J			mg/kg dry	1	6/5/23 13:33
TIC_unknown (01)	0.986	J			mg/kg dry	1	6/5/23 13:33
TIC_unknown (02)	0.677	J			mg/kg dry	1	6/5/23 13:33

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.0111	J			mg/kg dry	1	5/27/23 9:32

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.342		0.00739	0.0296	mg/kg dry	1	5/23/23 14:26

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	12900		0.209	3.52	mg/kg dry	1	6/6/23 12:04
Arsenic	4.83		0.126	1.76	mg/kg dry	1	6/6/23 12:04

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	43.8		0.0532	0.704	mg/kg dry	1	6/6/23 12:04
Beryllium	0.412		0.00407	0.0352	mg/kg dry	1	6/6/23 12:04
Calcium	53200	D	39.6	352	mg/kg dry	10	6/6/23 14:05
Chromium	34.7		0.0397	0.352	mg/kg dry	1	6/6/23 12:04
Cobalt	4.89		0.0360	0.282	mg/kg dry	1	6/6/23 12:04
Copper	39.1		0.0984	0.352	mg/kg dry	1	6/6/23 12:04
Iron	20600		0.997	7.04	mg/kg dry	1	6/6/23 12:04
Lead	99.1		0.147	1.76	mg/kg dry	1	6/6/23 12:04
Magnesium	3760		12.4	70.4	mg/kg dry	1	6/6/23 12:04
Manganese	141		0.0438	0.352	mg/kg dry	1	6/6/23 12:04
Nickel	15.1		0.0309	0.176	mg/kg dry	1	6/6/23 12:04
Potassium	2610		41.8	141	mg/kg dry	1	6/6/23 12:04
Silver	0.235		0.0598	0.211	mg/kg dry	1	6/6/23 12:04
Sodium	5240		6.71	70.4	mg/kg dry	1	6/6/23 12:04
Vanadium	29.5		0.0809	0.704	mg/kg dry	1	6/6/23 12:04
Zinc	222		0.107	1.06	mg/kg dry	1	6/6/23 12:04

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.0552		0.000879	0.00192	mg/kg dry	1	6/7/23 23:11
4,4'-DDE	0.0376		0.00105	0.00192	mg/kg dry	1	6/7/23 23:11
4,4'-DDT [2C]	0.0128		0.00136	0.00192	mg/kg dry	1	6/7/23 23:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1.44		0.0471	0.296	mg/kg dry	1	6/5/23 14:04
3+4-Methylphenol	0.264		0.0361	0.197	mg/kg dry	1	6/5/23 14:04
Acenaphthene	2.05		0.0112	0.197	mg/kg dry	1	6/5/23 14:04
Acenaphthylene	10.4		0.00684	0.197	mg/kg dry	1	6/5/23 14:04
Acetophenone	0.919		0.0195	0.197	mg/kg dry	1	6/5/23 14:04
Anthracene	2.91		0.0285	0.197	mg/kg dry	1	6/5/23 14:04
Benzo(a)anthracene	11.8		0.0198	0.197	mg/kg dry	1	6/5/23 14:04
Benzo(a)pyrene	24.7	D	0.343	1.97	mg/kg dry	10	6/6/23 17:23
Benzo(b)fluoranthene	16.7	D	0.276	1.97	mg/kg dry	10	6/6/23 17:23
Benzo(g,h,i)perylene	17.9	D	0.160	1.97	mg/kg dry	10	6/6/23 17:23
Benzo(k)fluoranthene	7.53		0.0226	0.197	mg/kg dry	1	6/5/23 14:04
Biphenyl	0.510		0.0173	0.197	mg/kg dry	1	6/5/23 14:04
Chrysene	11.8		0.0135	0.197	mg/kg dry	1	6/5/23 14:04
Dibenzo(a,h)anthracene	3.38		0.0195	0.197	mg/kg dry	1	6/5/23 14:04
Fluoranthene	19.4	D	0.185	1.97	mg/kg dry	10	6/6/23 17:23

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	1.53		0.0164	0.197	mg/kg dry	1	6/5/23 14:04
Indeno(1,2,3-cd)pyrene	11.5		0.0211	0.197	mg/kg dry	1	6/5/23 14:04
Naphthalene	7.04		0.0146	0.197	mg/kg dry	1	6/5/23 14:04
Phenanthrene	2.76		0.0259	0.197	mg/kg dry	1	6/5/23 14:04
Pyrene	57.5	D	0.145	1.97	mg/kg dry	10	6/6/23 17:23
TIC_1,3,5-Heptatriene, (E,E)-	3.99	J			mg/kg dry	1	6/5/23 14:04
TIC_2-Pentanone, 4-hydroxy-4-methyl-	33.5	J, B			mg/kg dry	1	6/5/23 14:04
TIC_Benzene, 1-ethenyl-3-methyl-	11.1	J			mg/kg dry	1	6/5/23 14:04
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	3.80	J			mg/kg dry	1	6/5/23 14:04
TIC_Ethylbenzene	5.07	J			mg/kg dry	1	6/5/23 14:04
TIC_Hexadecanoic acid, butyl ester	14.7	J, B			mg/kg dry	1	6/5/23 14:04
TIC_Naphthalene, 2-ethenyl-	5.39	J			mg/kg dry	1	6/5/23 14:04
TIC_Styrene	10.2	J			mg/kg dry	1	6/5/23 14:04
TIC_Toluene	5.13	J			mg/kg dry	1	6/5/23 14:04
TIC_unknown (01)	3.79	J			mg/kg dry	1	6/5/23 14:04
TIC_unknown (02)	8.07	J			mg/kg dry	1	6/5/23 14:04
TIC_unknown (03)	19.4	J			mg/kg dry	1	6/5/23 14:04
TIC_unknown (04)	4.55	J			mg/kg dry	1	6/5/23 14:04
TIC_unknown (05)	5.92	J			mg/kg dry	1	6/5/23 14:04
TIC_unknown (06)	3.95	J			mg/kg dry	1	6/5/23 14:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.144		0.000313	0.00344	mg/kg dry	1	5/27/23 10:03
EthylBenzene	0.0231		0.000466	0.00344	mg/kg dry	1	5/27/23 10:03
m+p-Xylenes	0.0118		0.000868	0.00687	mg/kg dry	1	5/27/23 10:03
Toluene	0.0381		0.000277	0.00344	mg/kg dry	1	5/27/23 10:03
Total Xylenes	0.0118		0.000442	0.00344	mg/kg dry	1	5/27/23 10:03
TIC_1,13-Tetradecadiene	0.0125	J			mg/kg dry	1	5/27/23 10:03
TIC_1,4-Hexadiene, 2,3-dimethyl-	0.00888	J			mg/kg dry	1	5/27/23 10:03
TIC_2-Butyne-1,4-diamine, N,N-diethyl-	0.0129	J			mg/kg dry	1	5/27/23 10:03
TIC_3,4-Heptadiene	0.00965	J			mg/kg dry	1	5/27/23 10:03

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0568		0.00566	0.0226	mg/kg dry	1	5/23/23 15:54

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	13600		0.167	2.81	mg/kg dry	1	6/6/23 12:06
Arsenic	11.8		0.100	1.41	mg/kg dry	1	6/6/23 12:06
Barium	108		0.0425	0.563	mg/kg dry	1	6/6/23 12:06
Beryllium	0.290		0.00326	0.0281	mg/kg dry	1	6/6/23 12:06
Calcium	69000	D	31.7	281	mg/kg dry	10	6/6/23 14:07
Chromium	35.5		0.0318	0.281	mg/kg dry	1	6/6/23 12:06
Cobalt	50.1		0.0288	0.225	mg/kg dry	1	6/6/23 12:06
Copper	51.5		0.0787	0.281	mg/kg dry	1	6/6/23 12:06
Iron	29000	D	7.97	56.3	mg/kg dry	10	6/6/23 14:07
Lead	26.3		0.117	1.41	mg/kg dry	1	6/6/23 12:06
Magnesium	12100		9.94	56.3	mg/kg dry	1	6/6/23 12:06
Manganese	232		0.0350	0.281	mg/kg dry	1	6/6/23 12:06
Nickel	45.0		0.0247	0.141	mg/kg dry	1	6/6/23 12:06
Potassium	750		33.5	113	mg/kg dry	1	6/6/23 12:06
Selenium	2.01		0.270	1.41	mg/kg dry	1	6/6/23 12:06
Silver	0.198		0.0479	0.169	mg/kg dry	1	6/6/23 12:06
Sodium	2610		5.37	56.3	mg/kg dry	1	6/6/23 12:06
Vanadium	38.6		0.0647	0.563	mg/kg dry	1	6/6/23 12:06
Zinc	32.4		0.0860	0.844	mg/kg dry	1	6/6/23 12:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	0.0270	J	0.0218	0.150	mg/kg dry	1	6/2/23 18:20
Benzo(a)anthracene	0.147	J	0.0152	0.150	mg/kg dry	1	6/2/23 18:20
Benzo(a)pyrene	0.173		0.0262	0.150	mg/kg dry	1	6/2/23 18:20
Benzo(b)fluoranthene	0.217		0.0212	0.150	mg/kg dry	1	6/2/23 18:20
Benzo(g,h,i)perylene	0.154		0.0122	0.150	mg/kg dry	1	6/2/23 18:20
Benzo(k)fluoranthene	0.0724	J	0.0173	0.150	mg/kg dry	1	6/2/23 18:20
bis(2-ethylhexyl)phthalate	0.0312	J	0.0301	0.150	mg/kg dry	1	6/2/23 18:20
Chrysene	0.176		0.0103	0.150	mg/kg dry	1	6/2/23 18:20
Dibenzo(a,h)anthracene	0.0349	J	0.0149	0.150	mg/kg dry	1	6/2/23 18:20
Fluoranthene	0.281		0.0141	0.150	mg/kg dry	1	6/2/23 18:20
Indeno(1,2,3-cd)pyrene	0.107	J	0.0162	0.150	mg/kg dry	1	6/2/23 18:20
Phenanthrene	0.120	J	0.0198	0.150	mg/kg dry	1	6/2/23 18:20
Pyrene	0.239		0.0111	0.150	mg/kg dry	1	6/2/23 18:20
TIC_2-Pentanone, 4-hydroxy-4-methyl-	26.7	J, B			mg/kg dry	1	6/2/23 18:20

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	4.33	J, B			mg/kg dry	1	6/2/23 18:20
TIC_Octadecanoic acid, butyl ester	2.89	J, B			mg/kg dry	1	6/2/23 18:20
TIC_unknown	0.536	J, B			mg/kg dry	1	6/2/23 18:20

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.433		0.00837	0.0335	mg/kg dry	1	5/23/23 16:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9330		0.240	4.04	mg/kg dry	1	6/6/23 12:08
Antimony	11.1		0.220	2.02	mg/kg dry	1	6/6/23 12:08
Arsenic	7.79		0.144	2.02	mg/kg dry	1	6/6/23 12:08
Barium	91.4		0.0611	0.809	mg/kg dry	1	6/6/23 12:08
Beryllium	0.546		0.00468	0.0404	mg/kg dry	1	6/6/23 12:08
Calcium	103000	D	45.5	404	mg/kg dry	10	6/6/23 14:09
Chromium	28.8		0.0457	0.404	mg/kg dry	1	6/6/23 12:08
Cobalt	6.92		0.0413	0.324	mg/kg dry	1	6/6/23 12:08
Copper	84.1		0.113	0.404	mg/kg dry	1	6/6/23 12:08
Iron	21300		1.15	8.09	mg/kg dry	1	6/6/23 12:08
Lead	360		0.169	2.02	mg/kg dry	1	6/6/23 12:08
Magnesium	30800		14.3	80.9	mg/kg dry	1	6/6/23 12:08
Manganese	272		0.0503	0.404	mg/kg dry	1	6/6/23 12:08
Nickel	20.5		0.0355	0.202	mg/kg dry	1	6/6/23 12:08
Potassium	1480		48.1	162	mg/kg dry	1	6/6/23 12:08
Selenium	2.69		0.388	2.02	mg/kg dry	1	6/6/23 12:08
Silver	0.484		0.0688	0.243	mg/kg dry	1	6/6/23 12:08
Sodium	1030		7.71	80.9	mg/kg dry	1	6/6/23 12:08
Vanadium	49.3		0.0930	0.809	mg/kg dry	1	6/6/23 12:08
Zinc	232		0.124	1.21	mg/kg dry	1	6/6/23 12:08

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	0.246		0.0127	0.223	mg/kg dry	1	6/2/23 18:52
Acenaphthylene	1.57		0.00775	0.223	mg/kg dry	1	6/2/23 18:52
Anthracene	1.36		0.0323	0.223	mg/kg dry	1	6/2/23 18:52
Benzo(a)anthracene	2.61		0.0224	0.223	mg/kg dry	1	6/2/23 18:52

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)pyrene	3.29		0.0388	0.223	mg/kg dry	1	6/2/23 18:52
Benzo(b)fluoranthene	2.23		0.0313	0.223	mg/kg dry	1	6/2/23 18:52
Benzo(g,h,i)perylene	2.52		0.0181	0.223	mg/kg dry	1	6/2/23 18:52
Benzo(k)fluoranthene	0.806		0.0256	0.223	mg/kg dry	1	6/2/23 18:52
Chrysene	2.33		0.0153	0.223	mg/kg dry	1	6/2/23 18:52
Dibenzo(a,h)anthracene	0.376		0.0221	0.223	mg/kg dry	1	6/2/23 18:52
Fluoranthene	5.03		0.0209	0.223	mg/kg dry	1	6/2/23 18:52
Fluorene	0.177	J	0.0186	0.223	mg/kg dry	1	6/2/23 18:52
Indeno(1,2,3-cd)pyrene	1.39		0.0239	0.223	mg/kg dry	1	6/2/23 18:52
Naphthalene	0.220	J	0.0165	0.223	mg/kg dry	1	6/2/23 18:52
Phenanthrene	0.173	J	0.0293	0.223	mg/kg dry	1	6/2/23 18:52
Pyrene	8.84		0.0164	0.223	mg/kg dry	1	6/2/23 18:52
TIC_1H-Indene, 1-(phenylmethylene)-	0.644	J			mg/kg dry	1	6/2/23 18:52
TIC_2-Pentanone, 4-hydroxy-4-methyl-	41.3	J, B			mg/kg dry	1	6/2/23 18:52
TIC_Benzene, 1-(bromomethyl)-4-(1-methylethy	0.738	J			mg/kg dry	1	6/2/23 18:52
TIC_Benzene, 1-ethenyl-3-methyl-	1.19	J			mg/kg dry	1	6/2/23 18:52
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.705	J			mg/kg dry	1	6/2/23 18:52
TIC_Hexadecanoic acid, butyl ester	18.0	J, B			mg/kg dry	1	6/2/23 18:52
TIC_Octadecanoic acid, butyl ester	7.45	J, B			mg/kg dry	1	6/2/23 18:52
TIC_unknown (01)	0.808	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (02)	0.983	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (03)	0.890	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (04)	3.93	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (05)	1.44	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (06)	0.630	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (07)	0.618	J			mg/kg dry	1	6/2/23 18:52
TIC_unknown (08)	1.79	J			mg/kg dry	1	6/2/23 18:52

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1,4-Hexadiene, 2,3-dimethyl-	0.0372	J			mg/kg dry	1	5/27/23 11:06
TIC_2-Cyclohexen-1-ol, 1-methyl-	0.0540	J			mg/kg dry	1	5/27/23 11:06
TIC_3-Octene, 2,6-dimethyl-	0.0434	J			mg/kg dry	1	5/27/23 11:06
TIC_5-Eicosyne	0.0887	J			mg/kg dry	1	5/27/23 11:06

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Bicyclo[2.2.1]heptane, 2-hexyl-	0.0627	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclohexane, [2-(pentyloxy)ethyl]-	0.0323	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclohexane, 1,4-dimethyl-, trans-	0.0974	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclohexane, 1-ethyl-2-methyl-, cis-	0.0328	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclohexane, 1-methyl-2-propyl- (01)	0.0648	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclohexane, 1-methyl-2-propyl- (02)	0.109	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.0397	J			mg/kg dry	1	5/27/23 11:06
TIC_Cyclopropane, 1-(1-methylethyl)-2-(2-met	0.115	J			mg/kg dry	1	5/27/23 11:06
TIC_Lab Contamination	0.0446	J			mg/kg dry	1	5/27/23 11:06
TIC_Naphthalene, decahydro-, cis-	0.0657	J			mg/kg dry	1	5/27/23 11:06
TIC_Pentalene, octahydro-1-methyl-	0.0318	J			mg/kg dry	1	5/27/23 11:06

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.57		0.0115	0.0964	mg/kg dry	1	5/24/23 16:07

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-20230522**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1254 [2C]	0.336		0.00341	0.0365	mg/kg dry	1	6/9/23 15:17
Total PCBs	0.336		0.00341	0.0365	mg/kg dry	1	6/9/23 15:17

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.118		0.00554	0.0221	mg/kg dry	1	5/23/23 16:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5730		0.159	2.68	mg/kg dry	1	6/6/23 12:11
Antimony	40.2		0.146	1.34	mg/kg dry	1	6/6/23 12:11
Arsenic	16.9		0.0954	1.34	mg/kg dry	1	6/6/23 12:11
Barium	133		0.0404	0.535	mg/kg dry	1	6/6/23 12:11
Beryllium	0.280		0.00310	0.0268	mg/kg dry	1	6/6/23 12:11

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-20230522**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	1.29		0.0522	0.268	mg/kg dry	1	6/6/23 12:11
Calcium	69300	D	30.1	268	mg/kg dry	10	6/6/23 14:12
Chromium	58.9		0.0302	0.268	mg/kg dry	1	6/6/23 12:11
Cobalt	5.19		0.0273	0.214	mg/kg dry	1	6/6/23 12:11
Copper	232		0.0748	0.268	mg/kg dry	1	6/6/23 12:11
Iron	20000		0.758	5.35	mg/kg dry	1	6/6/23 12:11
Lead	2350	D	1.12	13.4	mg/kg dry	10	6/6/23 14:12
Magnesium	7210		9.45	53.5	mg/kg dry	1	6/6/23 12:11
Manganese	223		0.0333	0.268	mg/kg dry	1	6/6/23 12:11
Nickel	28.4		0.0235	0.134	mg/kg dry	1	6/6/23 12:11
Potassium	893		31.8	107	mg/kg dry	1	6/6/23 12:11
Selenium	1.55		0.257	1.34	mg/kg dry	1	6/6/23 12:11
Silver	0.264		0.0455	0.161	mg/kg dry	1	6/6/23 12:11
Sodium	3460		5.10	53.5	mg/kg dry	1	6/6/23 12:11
Vanadium	19.9		0.0615	0.535	mg/kg dry	1	6/6/23 12:11
Zinc	1210	D	0.817	8.03	mg/kg dry	10	6/6/23 14:12

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.00904		0.000787	0.00144	mg/kg dry	1	6/8/23 21:53
4,4'-DDT	0.0213		0.00102	0.00144	mg/kg dry	1	6/8/23 21:53
Chlordane	0.0106		0.000640	0.00144	mg/kg dry	1	6/8/23 21:53
Dieldrin [2C]	0.00461		0.000753	0.00144	mg/kg dry	1	6/8/23 21:53

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0364	J	0.0353	0.221	mg/kg dry	1	6/2/23 19:23
Acenaphthylene	0.0332	J	0.00513	0.147	mg/kg dry	1	6/2/23 19:23
Anthracene	0.0759	J	0.0214	0.147	mg/kg dry	1	6/2/23 19:23
Benzo(a)anthracene	0.356		0.0148	0.147	mg/kg dry	1	6/2/23 19:23
Benzo(a)pyrene	0.455		0.0257	0.147	mg/kg dry	1	6/2/23 19:23
Benzo(b)fluoranthene	0.562		0.0207	0.147	mg/kg dry	1	6/2/23 19:23
Benzo(g,h,i)perylene	0.279		0.0120	0.147	mg/kg dry	1	6/2/23 19:23
Benzo(k)fluoranthene	0.175		0.0169	0.147	mg/kg dry	1	6/2/23 19:23
bis(2-ethylhexyl)phthalate	0.0348	J	0.0295	0.147	mg/kg dry	1	6/2/23 19:23
Chrysene	0.368		0.0101	0.147	mg/kg dry	1	6/2/23 19:23
Dibenzo(a,h)anthracene	0.0652	J	0.0146	0.147	mg/kg dry	1	6/2/23 19:23
Fluoranthene	0.607		0.0138	0.147	mg/kg dry	1	6/2/23 19:23
Indeno(1,2,3-cd)pyrene	0.207		0.0158	0.147	mg/kg dry	1	6/2/23 19:23
Naphthalene	0.0264	J	0.0109	0.147	mg/kg dry	1	6/2/23 19:23

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-20230522**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenanthrene	0.192		0.0194	0.147	mg/kg dry	1	6/2/23 19:23
Pyrene	0.497		0.0108	0.147	mg/kg dry	1	6/2/23 19:23
TIC_2-Pentanone, 4-hydroxy-4-methyl-	23.1	J, B			mg/kg dry	1	6/2/23 19:23
TIC_Hexadecanoic acid, butyl ester	5.10	J, B			mg/kg dry	1	6/2/23 19:23
TIC_Octadecanoic acid, butyl ester	3.45	J, B			mg/kg dry	1	6/2/23 19:23
TIC_unknown	0.467	J, B			mg/kg dry	1	6/2/23 19:23

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-202 30522** Collected: **5/22/2023 8:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0244	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1221	ND	U	0.0480	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1232	ND	U	0.0611	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1242	ND	U	0.0358	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1248	ND	U	0.0374	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1254	**3.18**	D	**0.0294**	**0.182**	**mg/kg**	**5**	**6/1/23 9:56**
Aroclor-1260	ND	U	0.0228	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1262	ND	U	0.0490	0.182	mg/kg	5	6/1/23 9:56
Aroclor-1268	ND	U	0.0220	0.182	mg/kg	5	6/1/23 9:56
Total PCBs	**3.18**	D	**0.0170**	**0.182**	**mg/kg**	**5**	**6/1/23 9:56**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	6/3/23 9:40 UJ, RC:SL
2,4-D	ND	U	0.0183	0.110	mg/kg	1	6/3/23 9:40

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.893**		**0.00551**	**0.0221**	**mg/kg**	**1**	**5/23/23 14:25**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**9040**		**0.163**	**2.74**	**mg/kg**	**1**	**6/6/23 12:02**
Antimony	ND	U	0.149	1.37	mg/kg	1	6/6/23 12:02
Arsenic	**8.42**		**0.0979**	**1.37**	**mg/kg**	**1**	**6/6/23 12:02**
Barium	**347**	D	**0.415**	**5.49**	**mg/kg**	**10**	**6/6/23 14:03**
Beryllium	**0.528**		**0.00318**	**0.0274**	**mg/kg**	**1**	**6/6/23 12:02**
Cadmium	**2.88**		**0.0535**	**0.274**	**mg/kg**	**1**	**6/6/23 12:02**
Calcium	**92400**	D	**30.9**	**274**	**mg/kg**	**10**	**6/6/23 14:03**
Chromium	**48.3**		**0.0310**	**0.274**	**mg/kg**	**1**	**6/6/23 12:02**
Cobalt	**8.15**		**0.0280**	**0.219**	**mg/kg**	**1**	**6/6/23 12:02**
Copper	**296**	D	**0.767**	**2.74**	**mg/kg**	**10**	**6/6/23 14:03**
Iron	**26900**	D	**7.77**	**54.9**	**mg/kg**	**10**	**6/6/23 14:03**
Lead	**901**		**0.114**	**1.37**	**mg/kg**	**1**	**6/6/23 12:02**
Magnesium	**16200**		**9.69**	**54.9**	**mg/kg**	**1**	**6/6/23 12:02**
Manganese	**317**		**0.0341**	**0.274**	**mg/kg**	**1**	**6/6/23 12:02**
Nickel	**103**		**0.0241**	**0.137**	**mg/kg**	**1**	**6/6/23 12:02**
Potassium	**444**		**32.6**	**110**	**mg/kg**	**1**	**6/6/23 12:02**

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-202 30522** Collected: **5/22/2023 8:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.263	1.37	mg/kg	1	6/6/23 12:02	
Silver	**0.581**		**0.0467**	**0.165**	**mg/kg**	**1**	**6/6/23 12:02**	J, RC:6L
Sodium	**1570**		**5.23**	**54.9**	**mg/kg**	**1**	**6/6/23 12:02**	
Thallium	ND	U	0.0923	1.37	mg/kg	1	6/6/23 12:02	
Vanadium	**48.6**		**0.0631**	**0.549**	**mg/kg**	**1**	**6/6/23 12:02**	
Zinc	**370**	D	**0.838**	**8.23**	**mg/kg**	**10**	**6/6/23 14:03**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000656	0.00143	mg/kg	1	6/6/23 21:37	
4,4'-DDE	ND	U	0.000784	0.00143	mg/kg	1	6/6/23 21:37	
4,4'-DDT	ND	U	0.00101	0.00143	mg/kg	1	6/6/23 21:37	
Aldrin	ND	U	0.000679	0.00143	mg/kg	1	6/6/23 21:37	
alpha-BHC [2C]	ND	U	0.000427	0.00143	mg/kg	1	6/6/23 21:37	
beta-BHC	ND	U	0.000685	0.00143	mg/kg	1	6/6/23 21:37	
Chlordane	**0.0179**		**0.000637**	**0.00143**	**mg/kg**	**1**	**6/6/23 21:37**	
delta-BHC	ND	U	0.000666	0.00143	mg/kg	1	6/6/23 21:37	
Dieldrin	ND	U	0.000750	0.00143	mg/kg	1	6/6/23 21:37	
Endosulfan I	ND	U	0.000677	0.00143	mg/kg	1	6/6/23 21:37	
Endosulfan II	ND	U	0.000652	0.00143	mg/kg	1	6/6/23 21:37	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000539	0.00143	mg/kg	1	6/6/23 21:37	
Endosulfans, Total (alpha and beta)	ND	U	0.000652	0.00143	mg/kg	1	6/6/23 21:37	
Endrin	ND	U	0.000495	0.00143	mg/kg	1	6/6/23 21:37	
Endrin aldehyde	ND	U	0.000571	0.00143	mg/kg	1	6/6/23 21:37	
Endrin ketone	ND	U	0.000505	0.00143	mg/kg	1	6/6/23 21:37	
gamma-BHC (Lindane)	ND	U	0.000454	0.00143	mg/kg	1	6/6/23 21:37	
Heptachlor	ND	U	0.000384	0.00143	mg/kg	1	6/6/23 21:37	
Heptachlor Epoxide	ND	U	0.000723	0.00143	mg/kg	1	6/6/23 21:37	
Methoxychlor	ND	U	0.000420	0.00143	mg/kg	1	6/6/23 21:37	UJ, RC:SL
Toxaphene	ND	U	0.0691	0.0728	mg/kg	1	6/6/23 21:37	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00415	0.0367	mg/kg	1	6/5/23 13:33
2,3,4,6-Tetrachlorophenol	ND	U	0.0226	0.147	mg/kg	1	6/5/23 13:33
2,4,5-Trichlorophenol	ND	U	0.0200	0.147	mg/kg	1	6/5/23 13:33
2,4,6-Trichlorophenol	ND	U	0.00919	0.147	mg/kg	1	6/5/23 13:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-20230522** Collected: **5/22/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0148	0.147	mg/kg	1	6/5/23 13:33	
2,4-Dimethylphenol	ND	U	0.0144	0.147	mg/kg	1	6/5/23 13:33	
2,4-Dinitrophenol	ND	U	0.0212	0.736	mg/kg	1	6/5/23 13:33	
2,4-Dinitrotoluene	ND	U	0.0157	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
2,6-Dinitrotoluene	ND	U	0.0351	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
2-Chloronaphthalene	ND	U	0.0169	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
2-Chlorophenol	ND	U	0.0194	0.147	mg/kg	1	6/5/23 13:33	
2-Methylnaphthalene	**0.0505**	J	**0.0352**	**0.221**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
2-Methylphenol	ND	U	0.0290	0.147	mg/kg	1	6/5/23 13:33	
2-Nitroaniline	ND	U	0.0118	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
2-Nitrophenol	ND	U	0.0163	0.147	mg/kg	1	6/5/23 13:33	
3,3'-Dichlorobenzidine	ND	U	0.0154	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
3+4-Methylphenol	ND	U	0.0269	0.147	mg/kg	1	6/5/23 13:33	
3-Nitroaniline	ND	U	0.0272	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
4,6-Dinitro-2-methylphenol	ND	U	0.0277	0.367	mg/kg	1	6/5/23 13:33	
4-Bromophenyl-phenyl ether	ND	U	0.0210	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
4-Chloro-3-methylphenol	ND	U	0.0232	0.147	mg/kg	1	6/5/23 13:33	
4-Chloroaniline	ND	U	0.00514	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
4-Chlorophenyl phenyl ether	ND	U	0.00793	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
4-Nitroaniline	ND	U	0.0734	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
4-Nitrophenol	ND	U	0.00940	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:SL
Acenaphthene	**0.0279**	J	**0.00837**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Acenaphthylene	**0.0469**	J	**0.00511**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Acetophenone	ND	U	0.0146	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Anthracene	**0.110**	J	**0.0213**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Atrazine	ND	U	0.0138	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Benzaldehyde	ND	U	0.0451	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L,SL
Benzo(a)anthracene	**0.271**		**0.0148**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Benzo(a)pyrene	**0.347**		**0.0256**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	
Benzo(b)fluoranthene	**0.434**		**0.0206**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	
Benzo(g,h,i)perylene	**0.334**		**0.0119**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	RC:SH
Benzo(k)fluoranthene	**0.180**		**0.0169**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	
Biphenyl	ND	U	0.0129	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
bis(2-chloroethoxy)methane	ND	U	0.0203	0.147	mg/kg	1	6/5/23 13:33	
bis(2-chloroethyl)ether	ND	U	0.0161	0.147	mg/kg	1	6/5/23 13:33	
bis(2-chloroisopropyl)ether	ND	U	0.0528	0.147	mg/kg	1	6/5/23 13:33	
bis(2-ethylhexyl)phthalate	**0.224**		**0.0293**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Butylbenzylphthalate	ND	U	0.0133	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-20230522** Collected: **5/22/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0190	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Carbazole	**0.0503**	J	**0.0282**	**0.367**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Chrysene	**0.297**		**0.0101**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Dibenzo(a,h)anthracene	**0.0746**	J	**0.0146**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L,SH
Dibenzofuran	ND	U	0.00874	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Diethylphthalate	ND	U	0.0285	0.147	mg/kg	1	6/5/23 13:33	
Dimethylphthalate	ND	U	0.00911	0.147	mg/kg	1	6/5/23 13:33	
Di-n-butylphthalate	ND	U	0.0600	0.147	mg/kg	1	6/5/23 13:33	
Di-n-octylphthalate	ND	U	0.0301	0.147	mg/kg	1	6/5/23 13:33	
Fluoranthene	**0.536**		**0.0138**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Fluorene	**0.0337**	J	**0.0122**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Hexachlorobenzene	ND	U	0.0192	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Hexachlorobutadiene	ND	U	0.0705	0.147	mg/kg	1	6/5/23 13:33	
Hexachlorocyclopentadiene	ND	U	0.0612	0.367	mg/kg	1	6/5/23 13:33	
Hexachloroethane	ND	U	0.0161	0.147	mg/kg	1	6/5/23 13:33	
Indeno(1,2,3-cd)pyrene	**0.248**		**0.0158**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L,SH
Isophorone	ND	U	0.00962	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Naphthalene	ND	U	0.0109	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Nitrobenzene	ND	U	0.0249	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
n-Nitroso-di-n-propylamine	ND	U	0.00786	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
n-Nitrosodiphenylamine	ND	U	0.0313	0.147	mg/kg	1	6/5/23 13:33	UJ, RC:3L
Pentachlorophenol	ND	U	0.0202	0.367	mg/kg	1	6/5/23 13:33	
Phenanthrene	**0.296**		**0.0193**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L
Phenol	ND	U	0.0119	0.147	mg/kg	1	6/5/23 13:33	
Pyrene	**0.442**		**0.0108**	**0.147**	**mg/kg**	**1**	**6/5/23 13:33**	J, RC:3L

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~6.87~~	5.21	J, B	mg/kg	1	6/5/23 13:33	R, RC:2
Heneicosane	0.521	12.49	J	mg/kg	1	6/5/23 13:33	
Hexadecane	0.307	8.74	J	mg/kg	1	6/5/23 13:33	
Hexadecane, 2,6,10,14-tetramethyl-	0.639	11.29	J	mg/kg	1	6/5/23 13:33	
Hexadecanoic acid, butyl ester	~~2.51~~	12.83	J, B	mg/kg	1	6/5/23 13:33	R, RC:2
Octadecane (01)	0.968	11.25	J	mg/kg	1	6/5/23 13:33	
Octadecane (02)	0.300	12.89	J	mg/kg	1	6/5/23 13:33	
Octadecanoic acid, butyl ester	~~1.49~~	13.65	J, B	mg/kg	1	6/5/23 13:33	R, RC:2
Tridecane, 6-propyl-	0.437	9.63	J	mg/kg	1	6/5/23 13:33	
unknown (01)	0.986	10.33	J	mg/kg	1	6/5/23 13:33	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-20230522** Collected: **5/22/2023 8:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (02)	0.677	12.09	J	mg/kg	1	6/5/23 13:33
TIC Total	~~15.7~~ 4.8					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000350	0.00240	mg/kg	1	5/27/23 9:32
1,1,2,2-Tetrachloroethane	ND	U	0.000331	0.00240	mg/kg	1	5/27/23 9:32
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00103	0.00240	mg/kg	1	5/27/23 9:32
1,1,2-Trichloroethane	ND	U	0.000404	0.00240	mg/kg	1	5/27/23 9:32
1,1-Dichloroethane	ND	U	0.000350	0.00240	mg/kg	1	5/27/23 9:32
1,1-Dichloroethene	ND	U	0.000443	0.00240	mg/kg	1	5/27/23 9:32
1,2,3-Trichlorobenzene	ND	U	0.000518	0.00240	mg/kg	1	5/27/23 9:32
1,2,4-Trichlorobenzene	ND	U	0.000639	0.00240	mg/kg	1	5/27/23 9:32
1,2,4-Trimethylbenzene	ND	U	0.000331	0.00240	mg/kg	1	5/27/23 9:32
1,2-Dibromo-3-chloropropane	ND	U	0.000585	0.00240	mg/kg	1	5/27/23 9:32
1,2-Dibromoethane	ND	U	0.000302	0.00240	mg/kg	1	5/27/23 9:32
1,2-Dichlorobenzene	ND	U	0.000423	0.00240	mg/kg	1	5/27/23 9:32
1,2-Dichloroethane	ND	U	0.000338	0.00240	mg/kg	1	5/27/23 9:32
1,2-Dichloropropane	ND	U	0.000393	0.00240	mg/kg	1	5/27/23 9:32
1,3-Dichlorobenzene	ND	U	0.000176	0.00240	mg/kg	1	5/27/23 9:32
1,4-Dichlorobenzene	ND	U	0.000345	0.00240	mg/kg	1	5/27/23 9:32
2-Butanone	ND	U	0.000391	0.00599	mg/kg	1	5/27/23 9:32
2-Hexanone	ND	U	0.000224	0.00240	mg/kg	1	5/27/23 9:32
4-Methyl-2-pentanone	ND	U	0.000300	0.00240	mg/kg	1	5/27/23 9:32
Acetone	ND	U	0.000726	0.00599	mg/kg	1	5/27/23 9:32
Benzene	ND	U	0.000218	0.00240	mg/kg	1	5/27/23 9:32
Bromochloromethane	ND	U	0.000442	0.00240	mg/kg	1	5/27/23 9:32
Bromodichloromethane	ND	U	0.000301	0.00240	mg/kg	1	5/27/23 9:32
Bromoform	ND	U	0.000421	0.00240	mg/kg	1	5/27/23 9:32
Bromomethane	ND	U	0.000692	0.00240	mg/kg	1	5/27/23 9:32
Carbon disulfide	ND	U	0.000344	0.00240	mg/kg	1	5/27/23 9:32
Carbon Tetrachloride	ND	U	0.000361	0.00240	mg/kg	1	5/27/23 9:32
Chlorobenzene	ND	U	0.000348	0.00240	mg/kg	1	5/27/23 9:32
Chlorodibromomethane	ND	U	0.000295	0.00240	mg/kg	1	5/27/23 9:32
Chloroethane	ND	U	0.000409	0.00240	mg/kg	1	5/27/23 9:32
Chloroform	ND	U	0.000403	0.00240	mg/kg	1	5/27/23 9:32
Chloromethane	ND	U	0.000923	0.00240	mg/kg	1	5/27/23 9:32

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-01 (Soil) Sample Name: **OH-SB-25-1.0-2.0-20230522** Collected: **5/22/2023 8:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
cis-1,2-Dichloroethene	ND	U	0.000116	0.00240	mg/kg	1	5/27/23 9:32	
cis-1,3-Dichloropropene	ND	U	0.000303	0.00240	mg/kg	1	5/27/23 9:32	
Cyclohexane	ND	U	0.000531	0.00240	mg/kg	1	5/27/23 9:32	
Dichlorodifluoromethane	ND	U	0.000809	0.00240	mg/kg	1	5/27/23 9:32	UJ, RC:SL
EthylBenzene	ND	U	0.000325	0.00240	mg/kg	1	5/27/23 9:32	
Isopropylbenzene	ND	U	0.000376	0.00240	mg/kg	1	5/27/23 9:32	
m+p-Xylenes	ND	U	0.000605	0.00479	mg/kg	1	5/27/23 9:32	
Methyl Acetate	ND	U	0.000318	0.00240	mg/kg	1	5/27/23 9:32	
Methyl tert-Butyl Ether	ND	U	0.000405	0.00240	mg/kg	1	5/27/23 9:32	
Methylcyclohexane	ND	U	0.000386	0.00240	mg/kg	1	5/27/23 9:32	
Methylene Chloride	ND	U	0.000720	0.00240	mg/kg	1	5/27/23 9:32	
o-Xylene	ND	U	0.000308	0.00240	mg/kg	1	5/27/23 9:32	
Styrene	ND	U	0.000343	0.00240	mg/kg	1	5/27/23 9:32	
tert-Butyl alcohol	ND	U	0.00503	0.0240	mg/kg	1	5/27/23 9:32	
Tetrachloroethene	ND	U	0.000237	0.00240	mg/kg	1	5/27/23 9:32	
Toluene	ND	U	0.000193	0.00240	mg/kg	1	5/27/23 9:32	
Total Xylenes	ND	U	0.000308	0.00240	mg/kg	1	5/27/23 9:32	
trans-1,2-Dichloroethene	ND	U	0.000325	0.00240	mg/kg	1	5/27/23 9:32	
trans-1,3-Dichloropropene	ND	U	0.000458	0.00240	mg/kg	1	5/27/23 9:32	
Trichloroethene	ND	U	0.000352	0.00240	mg/kg	1	5/27/23 9:32	
Trichlorofluoromethane	ND	U	0.000276	0.00240	mg/kg	1	5/27/23 9:32	
Vinyl chloride	ND	U	0.000455	0.00240	mg/kg	1	5/27/23 9:32	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0111	4.44	J	mg/kg	1	5/27/23 9:32
TIC Total	**0.011**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.7**				**%**	**1**	**5/23/23 11:13**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00742	0.0623	mg/kg	1	5/24/23 16:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-202 30522** Collected: **5/22/2023 9:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00654	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1221	ND	U	0.0129	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1232	ND	U	0.0164	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1242	ND	U	0.00958	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1248	ND	U	0.0100	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1254	ND	U	0.00787	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1260	ND	U	0.00611	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1262	ND	U	0.0131	0.0488	mg/kg	1	6/1/23 2:16
Aroclor-1268	ND	U	0.00590	0.0488	mg/kg	1	6/1/23 2:16
Total PCBs	ND	U	0.00455	0.0488	mg/kg	1	6/1/23 2:16

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0145	0.148	mg/kg	1	6/3/23 10:04 UJ, RC:SL
2,4-D	ND	U	0.0245	0.148	mg/kg	1	6/3/23 10:04

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.342**		**0.00739**	**0.0296**	**mg/kg**	**1**	**5/23/23 14:26**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**12900**		**0.209**	**3.52**	**mg/kg**	**1**	**6/6/23 12:04**
Antimony	ND	U	0.192	1.76	mg/kg	1	6/6/23 12:04
Arsenic	**4.83**		**0.126**	**1.76**	**mg/kg**	**1**	**6/6/23 12:04**
Barium	**43.8**		**0.0532**	**0.704**	**mg/kg**	**1**	**6/6/23 12:04**
Beryllium	**0.412**		**0.00407**	**0.0352**	**mg/kg**	**1**	**6/6/23 12:04**
Cadmium	ND	U	0.0686	0.352	mg/kg	1	6/6/23 12:04
Calcium	**53200**	D	**39.6**	**352**	**mg/kg**	**10**	**6/6/23 14:05**
Chromium	**34.7**		**0.0397**	**0.352**	**mg/kg**	**1**	**6/6/23 12:04**
Cobalt	**4.89**		**0.0360**	**0.282**	**mg/kg**	**1**	**6/6/23 12:04**
Copper	**39.1**		**0.0984**	**0.352**	**mg/kg**	**1**	**6/6/23 12:04**
Iron	**20600**		**0.997**	**7.04**	**mg/kg**	**1**	**6/6/23 12:04**
Lead	**99.1**		**0.147**	**1.76**	**mg/kg**	**1**	**6/6/23 12:04**
Magnesium	**3760**		**12.4**	**70.4**	**mg/kg**	**1**	**6/6/23 12:04**
Manganese	**141**		**0.0438**	**0.352**	**mg/kg**	**1**	**6/6/23 12:04**
Nickel	**15.1**		**0.0309**	**0.176**	**mg/kg**	**1**	**6/6/23 12:04**
Potassium	**2610**		**41.8**	**141**	**mg/kg**	**1**	**6/6/23 12:04**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522** Collected: **5/22/2023 9:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.338	1.76	mg/kg	1	6/6/23 12:04	
Silver	**0.235**		**0.0598**	**0.211**	**mg/kg**	**1**	**6/6/23 12:04**	J, RC:6L
Sodium	**5240**		**6.71**	**70.4**	**mg/kg**	**1**	**6/6/23 12:04**	
Thallium	ND	U	0.118	1.76	mg/kg	1	6/6/23 12:04	
Vanadium	**29.5**		**0.0809**	**0.704**	**mg/kg**	**1**	**6/6/23 12:04**	
Zinc	**222**		**0.107**	**1.06**	**mg/kg**	**1**	**6/6/23 12:04**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.0552**		**0.000879**	**0.00192**	**mg/kg**	**1**	**6/7/23 23:11**	
4,4'-DDE	**0.0376**		**0.00105**	**0.00192**	**mg/kg**	**1**	**6/7/23 23:11**	
4,4'-DDT [2C]	**0.0128**		**0.00136**	**0.00192**	**mg/kg**	**1**	**6/7/23 23:11**	
Aldrin	ND	U	0.000910	0.00192	mg/kg	1	6/7/23 23:11	
alpha-BHC	ND	U	0.000572	0.00192	mg/kg	1	6/7/23 23:11	
beta-BHC	ND	U	0.000918	0.00192	mg/kg	1	6/7/23 23:11	
Chlordane	ND	U	0.000854	0.00192	mg/kg	1	6/7/23 23:11	
delta-BHC	ND	U	0.000893	0.00192	mg/kg	1	6/7/23 23:11	
Dieldrin	ND	U	0.00100	0.00192	mg/kg	1	6/7/23 23:11	
Endosulfan I	ND	U	0.000907	0.00192	mg/kg	1	6/7/23 23:11	
Endosulfan II	ND	U	0.000873	0.00192	mg/kg	1	6/7/23 23:11	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000723	0.00192	mg/kg	1	6/7/23 23:11	
Endosulfans, Total (alpha and beta)	ND	U	0.000873	0.00192	mg/kg	1	6/7/23 23:11	
Endrin	ND	U	0.000664	0.00192	mg/kg	1	6/7/23 23:11	
Endrin aldehyde	ND	U	0.000766	0.00192	mg/kg	1	6/7/23 23:11	
Endrin ketone	ND	U	0.000677	0.00192	mg/kg	1	6/7/23 23:11	
gamma-BHC (Lindane)	ND	U	0.000609	0.00192	mg/kg	1	6/7/23 23:11	
Heptachlor	ND	U	0.000514	0.00192	mg/kg	1	6/7/23 23:11	
Heptachlor Epoxide	ND	U	0.000970	0.00192	mg/kg	1	6/7/23 23:11	
Methoxychlor	ND	U	0.000563	0.00192	mg/kg	1	6/7/23 23:11	
Toxaphene	ND	U	0.0926	0.0975	mg/kg	1	6/7/23 23:11	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00556	0.0492	mg/kg	1	6/5/23 14:04
2,3,4,6-Tetrachlorophenol	ND	U	0.0303	0.197	mg/kg	1	6/5/23 14:04
2,4,5-Trichlorophenol	ND	U	0.0268	0.197	mg/kg	1	6/5/23 14:04
2,4,6-Trichlorophenol	ND	U	0.0123	0.197	mg/kg	1	6/5/23 14:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-202 30522** Collected: **5/22/2023 9:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0198	0.197	mg/kg	1	6/5/23 14:04	
2,4-Dimethylphenol	ND	U	0.0194	0.197	mg/kg	1	6/5/23 14:04	
2,4-Dinitrophenol	ND	U	0.0284	0.986	mg/kg	1	6/5/23 14:04	
2,4-Dinitrotoluene	ND	U	0.0210	0.197	mg/kg	1	6/5/23 14:04	
2,6-Dinitrotoluene	ND	U	0.0470	0.197	mg/kg	1	6/5/23 14:04	
2-Chloronaphthalene	ND	U	0.0226	0.197	mg/kg	1	6/5/23 14:04	
2-Chlorophenol	ND	U	0.0260	0.197	mg/kg	1	6/5/23 14:04	
2-Methylnaphthalene	**1.44**		**0.0471**	**0.296**	**mg/kg**	**1**	**6/5/23 14:04**	
2-Methylphenol	ND	U	0.0389	0.197	mg/kg	1	6/5/23 14:04	
2-Nitroaniline	ND	U	0.0158	0.197	mg/kg	1	6/5/23 14:04	
2-Nitrophenol	ND	U	0.0219	0.197	mg/kg	1	6/5/23 14:04	
3,3'-Dichlorobenzidine	ND	U	0.0207	0.197	mg/kg	1	6/5/23 14:04	
3+4-Methylphenol	**0.264**		**0.0361**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
3-Nitroaniline	ND	U	0.0365	0.197	mg/kg	1	6/5/23 14:04	
4,6-Dinitro-2-methylphenol	ND	U	0.0371	0.492	mg/kg	1	6/5/23 14:04	
4-Bromophenyl-phenyl ether	ND	U	0.0281	0.197	mg/kg	1	6/5/23 14:04	
4-Chloro-3-methylphenol	ND	U	0.0310	0.197	mg/kg	1	6/5/23 14:04	
4-Chloroaniline	ND	U	0.00689	0.197	mg/kg	1	6/5/23 14:04	
4-Chlorophenyl phenyl ether	ND	U	0.0106	0.197	mg/kg	1	6/5/23 14:04	
4-Nitroaniline	ND	U	0.0984	0.197	mg/kg	1	6/5/23 14:04	
4-Nitrophenol	ND	U	0.0126	0.197	mg/kg	1	6/5/23 14:04	
Acenaphthene	**2.05**		**0.0112**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Acenaphthylene	**10.4**		**0.00684**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Acetophenone	**0.919**		**0.0195**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Anthracene	**2.91**		**0.0285**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Atrazine	ND	U	0.0185	0.197	mg/kg	1	6/5/23 14:04	
Benzaldehyde	ND	U	0.0604	0.197	mg/kg	1	6/5/23 14:04	UJ, RC:SL
Benzo(a)anthracene	**11.8**		**0.0198**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Benzo(a)pyrene	**24.7**	D	**0.343**	**1.97**	**mg/kg**	**10**	**6/6/23 17:23**	
Benzo(b)fluoranthene	**16.7**	D	**0.276**	**1.97**	**mg/kg**	**10**	**6/6/23 17:23**	
Benzo(g,h,i)perylene	**17.9**	D	**0.160**	**1.97**	**mg/kg**	**10**	**6/6/23 17:23**	J, RC:SH
Benzo(k)fluoranthene	**7.53**		**0.0226**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Biphenyl	**0.510**		**0.0173**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
bis(2-chloroethoxy)methane	ND	U	0.0272	0.197	mg/kg	1	6/5/23 14:04	
bis(2-chloroethyl)ether	ND	U	0.0216	0.197	mg/kg	1	6/5/23 14:04	
bis(2-chloroisopropyl)ether	ND	U	0.0708	0.197	mg/kg	1	6/5/23 14:04	
bis(2-ethylhexyl)phthalate	ND	U	0.0393	0.197	mg/kg	1	6/5/23 14:04	
Butylbenzylphthalate	ND	U	0.0179	0.197	mg/kg	1	6/5/23 14:04	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522** Collected: **5/22/2023 9:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0254	0.197	mg/kg	1	6/5/23 14:04	
Carbazole	ND	U	0.0378	0.492	mg/kg	1	6/5/23 14:04	
Chrysene	**11.8**		**0.0135**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Dibenzo(a,h)anthracene	**3.38**		**0.0195**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	J, RC:SH
Dibenzofuran	ND	U	0.0117	0.197	mg/kg	1	6/5/23 14:04	
Diethylphthalate	ND	U	0.0381	0.197	mg/kg	1	6/5/23 14:04	
Dimethylphthalate	ND	U	0.0122	0.197	mg/kg	1	6/5/23 14:04	
Di-n-butylphthalate	ND	U	0.0804	0.197	mg/kg	1	6/5/23 14:04	
Di-n-octylphthalate	ND	U	0.0403	0.197	mg/kg	1	6/5/23 14:04	
Fluoranthene	**19.4**	D	**0.185**	**1.97**	**mg/kg**	**10**	**6/6/23 17:23**	
Fluorene	**1.53**		**0.0164**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Hexachlorobenzene	ND	U	0.0257	0.197	mg/kg	1	6/5/23 14:04	
Hexachlorobutadiene	ND	U	0.0944	0.197	mg/kg	1	6/5/23 14:04	
Hexachlorocyclopentadiene	ND	U	0.0820	0.492	mg/kg	1	6/5/23 14:04	
Hexachloroethane	ND	U	0.0216	0.197	mg/kg	1	6/5/23 14:04	
Indeno(1,2,3-cd)pyrene	**11.5**		**0.0211**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	J, RC:SH
Isophorone	ND	U	0.0129	0.197	mg/kg	1	6/5/23 14:04	
Naphthalene	**7.04**		**0.0146**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Nitrobenzene	ND	U	0.0334	0.197	mg/kg	1	6/5/23 14:04	
n-Nitroso-di-n-propylamine	ND	U	0.0105	0.197	mg/kg	1	6/5/23 14:04	
n-Nitrosodiphenylamine	ND	U	0.0420	0.197	mg/kg	1	6/5/23 14:04	
Pentachlorophenol	ND	U	0.0270	0.492	mg/kg	1	6/5/23 14:04	
Phenanthrene	**2.76**		**0.0259**	**0.197**	**mg/kg**	**1**	**6/5/23 14:04**	
Phenol	ND	U	0.0160	0.197	mg/kg	1	6/5/23 14:04	
Pyrene	**57.5**	D	**0.145**	**1.97**	**mg/kg**	**10**	**6/6/23 17:23**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1,3,5-Heptatriene, (E,E)-	3.99	4.04	J	mg/kg	1	6/5/23 14:04	
2-Pentanone, 4-hydroxy-4-methyl-	~~33.5~~	5.21	J, B	mg/kg	1	6/5/23 14:04	R, RC:2
Benzene, 1-ethenyl-3-methyl-	11.1	6.74	J	mg/kg	1	6/5/23 14:04	
Benzene, 1-methyl-2-(1-methylethyl)-	3.80	8.47	J	mg/kg	1	6/5/23 14:04	
Ethylbenzene	5.07	5.49	J	mg/kg	1	6/5/23 14:04	
Hexadecanoic acid, butyl ester	~~14.7~~	12.84	J, B	mg/kg	1	6/5/23 14:04	R, RC:2
Naphthalene, 2-ethenyl-	5.39	9.70	J	mg/kg	1	6/5/23 14:04	
Styrene	10.2	5.81	J	mg/kg	1	6/5/23 14:04	
Toluene	5.13	4.38	J	mg/kg	1	6/5/23 14:04	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522** Collected: **5/22/2023 9:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	3.79	6.78	J	mg/kg	1	6/5/23 14:04
unknown (02)	8.07	7.19	J	mg/kg	1	6/5/23 14:04
unknown (03)	19.4	12.14	J	mg/kg	1	6/5/23 14:04
unknown (04)	4.55	12.45	J	mg/kg	1	6/5/23 14:04
unknown (05)	5.92	13.65	J	mg/kg	1	6/5/23 14:04
unknown (06)	3.95	13.69	J	mg/kg	1	6/5/23 14:04
TIC Total	~~139~~ 90.8					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000502	0.00344	mg/kg	1	5/27/23 10:03
1,1,2,2-Tetrachloroethane	ND	U	0.000474	0.00344	mg/kg	1	5/27/23 10:03
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00147	0.00344	mg/kg	1	5/27/23 10:03
1,1,2-Trichloroethane	ND	U	0.000579	0.00344	mg/kg	1	5/27/23 10:03
1,1-Dichloroethane	ND	U	0.000502	0.00344	mg/kg	1	5/27/23 10:03
1,1-Dichloroethene	ND	U	0.000636	0.00344	mg/kg	1	5/27/23 10:03
1,2,3-Trichlorobenzene	ND	U	0.000742	0.00344	mg/kg	1	5/27/23 10:03
1,2,4-Trichlorobenzene	ND	U	0.000916	0.00344	mg/kg	1	5/27/23 10:03
1,2,4-Trimethylbenzene	ND	U	0.000474	0.00344	mg/kg	1	5/27/23 10:03
1,2-Dibromo-3-chloropropane	ND	U	0.000839	0.00344	mg/kg	1	5/27/23 10:03
1,2-Dibromoethane	ND	U	0.000433	0.00344	mg/kg	1	5/27/23 10:03
1,2-Dichlorobenzene	ND	U	0.000607	0.00344	mg/kg	1	5/27/23 10:03
1,2-Dichloroethane	ND	U	0.000485	0.00344	mg/kg	1	5/27/23 10:03
1,2-Dichloropropane	ND	U	0.000564	0.00344	mg/kg	1	5/27/23 10:03
1,3-Dichlorobenzene	ND	U	0.000253	0.00344	mg/kg	1	5/27/23 10:03
1,4-Dichlorobenzene	ND	U	0.000495	0.00344	mg/kg	1	5/27/23 10:03
2-Butanone	ND	U	0.000560	0.00859	mg/kg	1	5/27/23 10:03
2-Hexanone	ND	U	0.000321	0.00344	mg/kg	1	5/27/23 10:03
4-Methyl-2-pentanone	ND	U	0.000430	0.00344	mg/kg	1	5/27/23 10:03
Acetone	ND	U	0.00104	0.00859	mg/kg	1	5/27/23 10:03
Benzene	**0.144**		**0.000313**	**0.00344**	**mg/kg**	**1**	**5/27/23 10:03**
Bromochloromethane	ND	U	0.000634	0.00344	mg/kg	1	5/27/23 10:03
Bromodichloromethane	ND	U	0.000431	0.00344	mg/kg	1	5/27/23 10:03
Bromoform	ND	U	0.000603	0.00344	mg/kg	1	5/27/23 10:03
Bromomethane	ND	U	0.000992	0.00344	mg/kg	1	5/27/23 10:03
Carbon disulfide	ND	U	0.000493	0.00344	mg/kg	1	5/27/23 10:03
Carbon Tetrachloride	ND	U	0.000517	0.00344	mg/kg	1	5/27/23 10:03

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522** Collected: **5/22/2023 9:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.000498	0.00344	mg/kg	1	5/27/23 10:03	
Chlorodibromomethane	ND	U	0.000423	0.00344	mg/kg	1	5/27/23 10:03	
Chloroethane	ND	U	0.000586	0.00344	mg/kg	1	5/27/23 10:03	
Chloroform	ND	U	0.000577	0.00344	mg/kg	1	5/27/23 10:03	
Chloromethane	ND	U	0.00132	0.00344	mg/kg	1	5/27/23 10:03	
cis-1,2-Dichloroethene	ND	U	0.000166	0.00344	mg/kg	1	5/27/23 10:03	
cis-1,3-Dichloropropene	ND	U	0.000435	0.00344	mg/kg	1	5/27/23 10:03	
Cyclohexane	ND	U	0.000761	0.00344	mg/kg	1	5/27/23 10:03	
Dichlorodifluoromethane	ND	U	0.00116	0.00344	mg/kg	1	5/27/23 10:03	UJ, RC:SL
EthylBenzene	**0.0231**		**0.000466**	**0.00344**	**mg/kg**	**1**	**5/27/23 10:03**	
Isopropylbenzene	ND	U	0.000540	0.00344	mg/kg	1	5/27/23 10:03	
m+p-Xylenes	**0.0118**		**0.000868**	**0.00687**	**mg/kg**	**1**	**5/27/23 10:03**	
Methyl Acetate	ND	U	0.000455	0.00344	mg/kg	1	5/27/23 10:03	
Methyl tert-Butyl Ether	ND	U	0.000581	0.00344	mg/kg	1	5/27/23 10:03	
Methylcyclohexane	ND	U	0.000553	0.00344	mg/kg	1	5/27/23 10:03	
Methylene Chloride	ND	U	0.00103	0.00344	mg/kg	1	5/27/23 10:03	
o-Xylene	ND	U	0.000442	0.00344	mg/kg	1	5/27/23 10:03	
Styrene	ND	U	0.000491	0.00344	mg/kg	1	5/27/23 10:03	
tert-Butyl alcohol	ND	U	0.00722	0.0344	mg/kg	1	5/27/23 10:03	
Tetrachloroethene	ND	U	0.000340	0.00344	mg/kg	1	5/27/23 10:03	
Toluene	**0.0381**		**0.000277**	**0.00344**	**mg/kg**	**1**	**5/27/23 10:03**	
Total Xylenes	**0.0118**		**0.000442**	**0.00344**	**mg/kg**	**1**	**5/27/23 10:03**	
trans-1,2-Dichloroethene	ND	U	0.000466	0.00344	mg/kg	1	5/27/23 10:03	
trans-1,3-Dichloropropene	ND	U	0.000656	0.00344	mg/kg	1	5/27/23 10:03	
Trichloroethene	ND	U	0.000505	0.00344	mg/kg	1	5/27/23 10:03	
Trichlorofluoromethane	ND	U	0.000395	0.00344	mg/kg	1	5/27/23 10:03	
Vinyl chloride	ND	U	0.000653	0.00344	mg/kg	1	5/27/23 10:03	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,13-Tetradecadiene	0.0125	21.25	J	mg/kg	1	5/27/23 10:03
1,4-Hexadiene, 2,3-dimethyl-	0.00888	14.26	J	mg/kg	1	5/27/23 10:03
2-Butyne-1,4-diamine, N,N-diethyl-	0.0129	23.21	J	mg/kg	1	5/27/23 10:03
3,4-Heptadiene	0.00965	19.12	J	mg/kg	1	5/27/23 10:03
TIC Total	**0.044**					

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-02 (Soil) Sample Name: **OH-SB-25-5.7-6.7-20230522** Collected: **5/22/2023 9:15:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**67.7**				**%**	**1**	**5/23/23 11:13**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0106	0.0887	mg/kg	1	5/24/23 16:07

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522** Collected: **5/22/2023 10:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00501	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1221	ND	U	0.00985	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1232	ND	U	0.0125	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1242	ND	U	0.00734	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1248	ND	U	0.00767	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1254	ND	U	0.00603	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1260	ND	U	0.00467	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1262	ND	U	0.0100	0.0373	mg/kg	1	6/1/23 2:38
Aroclor-1268	ND	U	0.00452	0.0373	mg/kg	1	6/1/23 2:38
Total PCBs	ND	U	0.00349	0.0373	mg/kg	1	6/1/23 2:38

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0111	0.113	mg/kg	1	6/3/23 10:27	UJ, RC:SL
2,4-D	ND	U	0.0188	0.113	mg/kg	1	6/3/23 10:27	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0568**		**0.00566**	**0.0226**	**mg/kg**	**1**	**5/23/23 15:54**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**13600**		**0.167**	**2.81**	**mg/kg**	**1**	**6/6/23 12:06**
Antimony	ND	U	0.153	1.41	mg/kg	1	6/6/23 12:06
Arsenic	**11.8**		**0.100**	**1.41**	**mg/kg**	**1**	**6/6/23 12:06**
Barium	**108**		**0.0425**	**0.563**	**mg/kg**	**1**	**6/6/23 12:06**
Beryllium	**0.290**		**0.00326**	**0.0281**	**mg/kg**	**1**	**6/6/23 12:06**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522** Collected: **5/22/2023 10:35:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	ND	U	0.0549	0.281	mg/kg	1	6/6/23 12:06	
Calcium	**69000**	D	**31.7**	**281**	**mg/kg**	**10**	**6/6/23 14:07**	
Chromium	**35.5**		**0.0318**	**0.281**	**mg/kg**	**1**	**6/6/23 12:06**	
Cobalt	**50.1**		**0.0288**	**0.225**	**mg/kg**	**1**	**6/6/23 12:06**	
Copper	**51.5**		**0.0787**	**0.281**	**mg/kg**	**1**	**6/6/23 12:06**	
Iron	**29000**	D	**7.97**	**56.3**	**mg/kg**	**10**	**6/6/23 14:07**	
Lead	**26.3**		**0.117**	**1.41**	**mg/kg**	**1**	**6/6/23 12:06**	
Magnesium	**12100**		**9.94**	**56.3**	**mg/kg**	**1**	**6/6/23 12:06**	
Manganese	**232**		**0.0350**	**0.281**	**mg/kg**	**1**	**6/6/23 12:06**	
Nickel	**45.0**		**0.0247**	**0.141**	**mg/kg**	**1**	**6/6/23 12:06**	
Potassium	**750**		**33.5**	**113**	**mg/kg**	**1**	**6/6/23 12:06**	
Selenium	**2.01**		**0.270**	**1.41**	**mg/kg**	**1**	**6/6/23 12:06**	
Silver	**0.198**		**0.0479**	**0.169**	**mg/kg**	**1**	**6/6/23 12:06**	J, RC:6L
Sodium	**2610**		**5.37**	**56.3**	**mg/kg**	**1**	**6/6/23 12:06**	
Thallium	ND	U	0.0947	1.41	mg/kg	1	6/6/23 12:06	
Vanadium	**38.6**		**0.0647**	**0.563**	**mg/kg**	**1**	**6/6/23 12:06**	
Zinc	**32.4**		**0.0860**	**0.844**	**mg/kg**	**1**	**6/6/23 12:06**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000673	0.00147	mg/kg	1	6/6/23 22:21	
4,4'-DDE	ND	U	0.000804	0.00147	mg/kg	1	6/6/23 22:21	
4,4'-DDT	ND	U	0.00104	0.00147	mg/kg	1	6/6/23 22:21	
Aldrin	ND	U	0.000697	0.00147	mg/kg	1	6/6/23 22:21	
alpha-BHC [2C]	ND	U	0.000438	0.00147	mg/kg	1	6/6/23 22:21	
beta-BHC	ND	U	0.000703	0.00147	mg/kg	1	6/6/23 22:21	
Chlordane	ND	U	0.000654	0.00147	mg/kg	1	6/6/23 22:21	
delta-BHC	ND	U	0.000683	0.00147	mg/kg	1	6/6/23 22:21	
Dieldrin	ND	U	0.000769	0.00147	mg/kg	1	6/6/23 22:21	
Endosulfan I	ND	U	0.000695	0.00147	mg/kg	1	6/6/23 22:21	
Endosulfan II	ND	U	0.000669	0.00147	mg/kg	1	6/6/23 22:21	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000553	0.00147	mg/kg	1	6/6/23 22:21	
Endosulfans, Total (alpha and beta)	ND	U	0.000669	0.00147	mg/kg	1	6/6/23 22:21	
Endrin	ND	U	0.000508	0.00147	mg/kg	1	6/6/23 22:21	
Endrin aldehyde	ND	U	0.000586	0.00147	mg/kg	1	6/6/23 22:21	
Endrin ketone	ND	U	0.000518	0.00147	mg/kg	1	6/6/23 22:21	
gamma-BHC (Lindane)	ND	U	0.000466	0.00147	mg/kg	1	6/6/23 22:21	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522** Collected: **5/22/2023 10:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Heptachlor	ND	U	0.000394	0.00147	mg/kg	1	6/6/23 22:21	
Heptachlor Epoxide	ND	U	0.000742	0.00147	mg/kg	1	6/6/23 22:21	
Methoxychlor	ND	U	0.000431	0.00147	mg/kg	1	6/6/23 22:21	UJ, RC:SL
Toxaphene	ND	U	0.0708	0.0747	mg/kg	1	6/6/23 22:21	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00425	0.0377	mg/kg	1	6/2/23 18:20	
2,3,4,6-Tetrachlorophenol	ND	U	0.0232	0.150	mg/kg	1	6/2/23 18:20	
2,4,5-Trichlorophenol	ND	U	0.0205	0.150	mg/kg	1	6/2/23 18:20	
2,4,6-Trichlorophenol	ND	U	0.00942	0.150	mg/kg	1	6/2/23 18:20	
2,4-Dichlorophenol	ND	U	0.0152	0.150	mg/kg	1	6/2/23 18:20	
2,4-Dimethylphenol	ND	U	0.0148	0.150	mg/kg	1	6/2/23 18:20	
2,4-Dinitrophenol	ND	U	0.0217	0.755	mg/kg	1	6/2/23 18:20	
2,4-Dinitrotoluene	ND	U	0.0161	0.150	mg/kg	1	6/2/23 18:20	
2,6-Dinitrotoluene	ND	U	0.0360	0.150	mg/kg	1	6/2/23 18:20	
2-Chloronaphthalene	ND	U	0.0173	0.150	mg/kg	1	6/2/23 18:20	
2-Chlorophenol	ND	U	0.0199	0.150	mg/kg	1	6/2/23 18:20	
2-Methylnaphthalene	ND	U	0.0361	0.226	mg/kg	1	6/2/23 18:20	
2-Methylphenol	ND	U	0.0298	0.150	mg/kg	1	6/2/23 18:20	
2-Nitroaniline	ND	U	0.0121	0.150	mg/kg	1	6/2/23 18:20	
2-Nitrophenol	ND	U	0.0167	0.150	mg/kg	1	6/2/23 18:20	
3,3'-Dichlorobenzidine	ND	U	0.0158	0.150	mg/kg	1	6/2/23 18:20	
3+4-Methylphenol	ND	U	0.0276	0.150	mg/kg	1	6/2/23 18:20	
3-Nitroaniline	ND	U	0.0279	0.150	mg/kg	1	6/2/23 18:20	
4,6-Dinitro-2-methylphenol	ND	U	0.0284	0.377	mg/kg	1	6/2/23 18:20	
4-Bromophenyl-phenyl ether	ND	U	0.0215	0.150	mg/kg	1	6/2/23 18:20	
4-Chloro-3-methylphenol	ND	U	0.0238	0.150	mg/kg	1	6/2/23 18:20	
4-Chloroaniline	ND	U	0.00527	0.150	mg/kg	1	6/2/23 18:20	
4-Chlorophenyl phenyl ether	ND	U	0.00813	0.150	mg/kg	1	6/2/23 18:20	
4-Nitroaniline	ND	U	0.0753	0.150	mg/kg	1	6/2/23 18:20	
4-Nitrophenol	ND	U	0.00964	0.150	mg/kg	1	6/2/23 18:20	
Acenaphthene	ND	U	0.00859	0.150	mg/kg	1	6/2/23 18:20	
Acenaphthylene	ND	U	0.00524	0.150	mg/kg	1	6/2/23 18:20	
Acetophenone	ND	U	0.0149	0.150	mg/kg	1	6/2/23 18:20	
Anthracene	**0.0270**	J	**0.0218**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Atrazine	ND	U	0.0141	0.150	mg/kg	1	6/2/23 18:20	
Benzaldehyde	ND	U	0.0463	0.150	mg/kg	1	6/2/23 18:20	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-202 30522** Collected: **5/22/2023 10:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	**0.147**	J	**0.0152**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Benzo(a)pyrene	**0.173**		**0.0262**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Benzo(b)fluoranthene	**0.217**		**0.0212**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Benzo(g,h,i)perylene	**0.154**		**0.0122**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	J, RC:SH
Benzo(k)fluoranthene	**0.0724**	J	**0.0173**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Biphenyl	ND	U	0.0132	0.150	mg/kg	1	6/2/23 18:20	
bis(2-chloroethoxy)methane	ND	U	0.0208	0.150	mg/kg	1	6/2/23 18:20	
bis(2-chloroethyl)ether	ND	U	0.0165	0.150	mg/kg	1	6/2/23 18:20	
bis(2-chloroisopropyl)ether	ND	U	0.0542	0.150	mg/kg	1	6/2/23 18:20	
bis(2-ethylhexyl)phthalate	**0.0312**	J	**0.0301**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Butylbenzylphthalate	ND	U	0.0137	0.150	mg/kg	1	6/2/23 18:20	
Caprolactam	ND	U	0.0195	0.150	mg/kg	1	6/2/23 18:20	
Carbazole	ND	U	0.0290	0.377	mg/kg	1	6/2/23 18:20	
Chrysene	**0.176**		**0.0103**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Dibenzo(a,h)anthracene	**0.0349**	J	**0.0149**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	J, RC:SH
Dibenzofuran	ND	U	0.00897	0.150	mg/kg	1	6/2/23 18:20	
Diethylphthalate	ND	U	0.0292	0.150	mg/kg	1	6/2/23 18:20	
Dimethylphthalate	ND	U	0.00934	0.150	mg/kg	1	6/2/23 18:20	
Di-n-butylphthalate	ND	U	0.0615	0.150	mg/kg	1	6/2/23 18:20	
Di-n-octylphthalate	ND	U	0.0309	0.150	mg/kg	1	6/2/23 18:20	
Fluoranthene	**0.281**		**0.0141**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Fluorene	ND	U	0.0126	0.150	mg/kg	1	6/2/23 18:20	
Hexachlorobenzene	ND	U	0.0197	0.150	mg/kg	1	6/2/23 18:20	
Hexachlorobutadiene	ND	U	0.0723	0.150	mg/kg	1	6/2/23 18:20	
Hexachlorocyclopentadiene	ND	U	0.0628	0.377	mg/kg	1	6/2/23 18:20	
Hexachloroethane	ND	U	0.0165	0.150	mg/kg	1	6/2/23 18:20	
Indeno(1,2,3-cd)pyrene	**0.107**	J	**0.0162**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	J, RC:SH
Isophorone	ND	U	0.00986	0.150	mg/kg	1	6/2/23 18:20	
Naphthalene	ND	U	0.0112	0.150	mg/kg	1	6/2/23 18:20	
Nitrobenzene	ND	U	0.0256	0.150	mg/kg	1	6/2/23 18:20	
n-Nitroso-di-n-propylamine	ND	U	0.00807	0.150	mg/kg	1	6/2/23 18:20	
n-Nitrosodiphenylamine	ND	U	0.0321	0.150	mg/kg	1	6/2/23 18:20	
Pentachlorophenol	ND	U	0.0207	0.377	mg/kg	1	6/2/23 18:20	
Phenanthrene	**0.120**	J	**0.0198**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	
Phenol	ND	U	0.0122	0.150	mg/kg	1	6/2/23 18:20	
Pyrene	**0.239**		**0.0111**	**0.150**	**mg/kg**	**1**	**6/2/23 18:20**	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522** Collected: **5/22/2023 10:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~26.7~~	5.22	J, B	mg/kg	1	6/2/23 18:20 R, RC:2
Hexadecanoic acid, butyl ester	~~4.33~~	12.83	J, B	mg/kg	1	6/2/23 18:20 R, RC:2
Octadecanoic acid, butyl ester	~~2.89~~	13.65	J, B	mg/kg	1	6/2/23 18:20 R, RC:2
unknown	~~0.536~~	5.98	J, B	mg/kg	1	6/2/23 18:20 R, RC:2
TIC Total	~~34.4~~					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000300	0.00206	mg/kg	1	5/27/23 10:35
1,1,2,2-Tetrachloroethane	ND	U	0.000284	0.00206	mg/kg	1	5/27/23 10:35
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000880	0.00206	mg/kg	1	5/27/23 10:35
1,1,2-Trichloroethane	ND	U	0.000347	0.00206	mg/kg	1	5/27/23 10:35
1,1-Dichloroethane	ND	U	0.000300	0.00206	mg/kg	1	5/27/23 10:35
1,1-Dichloroethene	ND	U	0.000381	0.00206	mg/kg	1	5/27/23 10:35
1,2,3-Trichlorobenzene	ND	U	0.000444	0.00206	mg/kg	1	5/27/23 10:35
1,2,4-Trichlorobenzene	ND	U	0.000548	0.00206	mg/kg	1	5/27/23 10:35
1,2,4-Trimethylbenzene	ND	U	0.000284	0.00206	mg/kg	1	5/27/23 10:35
1,2-Dibromo-3-chloropropane	ND	U	0.000502	0.00206	mg/kg	1	5/27/23 10:35
1,2-Dibromoethane	ND	U	0.000259	0.00206	mg/kg	1	5/27/23 10:35
1,2-Dichlorobenzene	ND	U	0.000363	0.00206	mg/kg	1	5/27/23 10:35
1,2-Dichloroethane	ND	U	0.000290	0.00206	mg/kg	1	5/27/23 10:35
1,2-Dichloropropane	ND	U	0.000337	0.00206	mg/kg	1	5/27/23 10:35
1,3-Dichlorobenzene	ND	U	0.000151	0.00206	mg/kg	1	5/27/23 10:35
1,4-Dichlorobenzene	ND	U	0.000296	0.00206	mg/kg	1	5/27/23 10:35
2-Butanone	ND	U	0.000335	0.00514	mg/kg	1	5/27/23 10:35
2-Hexanone	ND	U	0.000192	0.00206	mg/kg	1	5/27/23 10:35
4-Methyl-2-pentanone	ND	U	0.000257	0.00206	mg/kg	1	5/27/23 10:35
Acetone	ND	U	0.000623	0.00514	mg/kg	1	5/27/23 10:35
Benzene	ND	U	0.000187	0.00206	mg/kg	1	5/27/23 10:35
Bromochloromethane	ND	U	0.000379	0.00206	mg/kg	1	5/27/23 10:35
Bromodichloromethane	ND	U	0.000258	0.00206	mg/kg	1	5/27/23 10:35
Bromoform	ND	U	0.000361	0.00206	mg/kg	1	5/27/23 10:35
Bromomethane	ND	U	0.000593	0.00206	mg/kg	1	5/27/23 10:35
Carbon disulfide	ND	U	0.000295	0.00206	mg/kg	1	5/27/23 10:35
Carbon Tetrachloride	ND	U	0.000310	0.00206	mg/kg	1	5/27/23 10:35
Chlorobenzene	ND	U	0.000298	0.00206	mg/kg	1	5/27/23 10:35
Chlorodibromomethane	ND	U	0.000253	0.00206	mg/kg	1	5/27/23 10:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-202 30522** Collected: **5/22/2023 10:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chloroethane	ND	U	0.000351	0.00206	mg/kg	1	5/27/23 10:35	
Chloroform	ND	U	0.000346	0.00206	mg/kg	1	5/27/23 10:35	
Chloromethane	ND	U	0.000792	0.00206	mg/kg	1	5/27/23 10:35	
cis-1,2-Dichloroethene	ND	U	0.0000994	0.00206	mg/kg	1	5/27/23 10:35	
cis-1,3-Dichloropropene	ND	U	0.000260	0.00206	mg/kg	1	5/27/23 10:35	
Cyclohexane	ND	U	0.000456	0.00206	mg/kg	1	5/27/23 10:35	
Dichlorodifluoromethane	ND	U	0.000694	0.00206	mg/kg	1	5/27/23 10:35	UJ, RC:SL
EthylBenzene	ND	U	0.000279	0.00206	mg/kg	1	5/27/23 10:35	
Isopropylbenzene	ND	U	0.000323	0.00206	mg/kg	1	5/27/23 10:35	
m+p-Xylenes	ND	U	0.000519	0.00411	mg/kg	1	5/27/23 10:35	
Methyl Acetate	ND	U	0.000273	0.00206	mg/kg	1	5/27/23 10:35	
Methyl tert-Butyl Ether	ND	U	0.000348	0.00206	mg/kg	1	5/27/23 10:35	
Methylcyclohexane	ND	U	0.000331	0.00206	mg/kg	1	5/27/23 10:35	
Methylene Chloride	ND	U	0.000618	0.00206	mg/kg	1	5/27/23 10:35	
o-Xylene	ND	U	0.000264	0.00206	mg/kg	1	5/27/23 10:35	
Styrene	ND	U	0.000294	0.00206	mg/kg	1	5/27/23 10:35	
tert-Butyl alcohol	ND	U	0.00432	0.0206	mg/kg	1	5/27/23 10:35	
Tetrachloroethene	ND	U	0.000204	0.00206	mg/kg	1	5/27/23 10:35	
Toluene	ND	U	0.000166	0.00206	mg/kg	1	5/27/23 10:35	
Total Xylenes	ND	U	0.000264	0.00206	mg/kg	1	5/27/23 10:35	
trans-1,2-Dichloroethene	ND	U	0.000279	0.00206	mg/kg	1	5/27/23 10:35	
trans-1,3-Dichloropropene	ND	U	0.000393	0.00206	mg/kg	1	5/27/23 10:35	
Trichloroethene	ND	U	0.000302	0.00206	mg/kg	1	5/27/23 10:35	
Trichlorofluoromethane	ND	U	0.000237	0.00206	mg/kg	1	5/27/23 10:35	
Vinyl chloride	ND	U	0.000391	0.00206	mg/kg	1	5/27/23 10:35	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.4**				**%**	**1**	**5/23/23 11:13**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-03 (Soil) Sample Name: **OH-SB-31-2.5-3.5-20230522** Collected: **5/22/2023 10:35:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00792	0.0665	mg/kg	1	5/24/23 16:07

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522** Collected: **5/22/2023 11:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00741	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1221	ND	U	0.0146	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1232	ND	U	0.0185	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1242	ND	U	0.0109	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1248	ND	U	0.0114	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1254	ND	U	0.00892	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1260	ND	U	0.00692	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1262	ND	U	0.0149	0.0552	mg/kg	1	6/1/23 11:03
Aroclor-1268	ND	U	0.00668	0.0552	mg/kg	1	6/1/23 11:03
Total PCBs	ND	U	0.00516	0.0552	mg/kg	1	6/1/23 11:03

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0164	0.167	mg/kg	1	6/3/23 10:51 UJ, RC:SL
2,4-D	ND	U	0.0278	0.167	mg/kg	1	6/3/23 10:51

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.433**		**0.00837**	**0.0335**	**mg/kg**	**1**	**5/23/23 16:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**9330**		**0.240**	**4.04**	**mg/kg**	**1**	**6/6/23 12:08**
Antimony	**11.1**		**0.220**	**2.02**	**mg/kg**	**1**	**6/6/23 12:08**
Arsenic	**7.79**		**0.144**	**2.02**	**mg/kg**	**1**	**6/6/23 12:08**
Barium	**91.4**		**0.0611**	**0.809**	**mg/kg**	**1**	**6/6/23 12:08**
Beryllium	**0.546**		**0.00468**	**0.0404**	**mg/kg**	**1**	**6/6/23 12:08**
Cadmium	ND	U	0.0788	0.404	mg/kg	1	6/6/23 12:08
Calcium	**103000**	D	**45.5**	**404**	**mg/kg**	**10**	**6/6/23 14:09**
Chromium	**28.8**		**0.0457**	**0.404**	**mg/kg**	**1**	**6/6/23 12:08**
Cobalt	**6.92**		**0.0413**	**0.324**	**mg/kg**	**1**	**6/6/23 12:08**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522** Collected: **5/22/2023 11:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Copper	**84.1**		**0.113**	**0.404**	**mg/kg**	**1**	**6/6/23 12:08**	
Iron	**21300**		**1.15**	**8.09**	**mg/kg**	**1**	**6/6/23 12:08**	
Lead	**360**		**0.169**	**2.02**	**mg/kg**	**1**	**6/6/23 12:08**	
Magnesium	**30800**		**14.3**	**80.9**	**mg/kg**	**1**	**6/6/23 12:08**	
Manganese	**272**		**0.0503**	**0.404**	**mg/kg**	**1**	**6/6/23 12:08**	
Nickel	**20.5**		**0.0355**	**0.202**	**mg/kg**	**1**	**6/6/23 12:08**	
Potassium	**1480**		**48.1**	**162**	**mg/kg**	**1**	**6/6/23 12:08**	
Selenium	**2.69**		**0.388**	**2.02**	**mg/kg**	**1**	**6/6/23 12:08**	
Silver	**0.484**		**0.0688**	**0.243**	**mg/kg**	**1**	**6/6/23 12:08**	J, RC:6L
Sodium	**1030**		**7.71**	**80.9**	**mg/kg**	**1**	**6/6/23 12:08**	
Thallium	ND	U	0.136	2.02	mg/kg	1	6/6/23 12:08	
Vanadium	**49.3**		**0.0930**	**0.809**	**mg/kg**	**1**	**6/6/23 12:08**	
Zinc	**232**		**0.124**	**1.21**	**mg/kg**	**1**	**6/6/23 12:08**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000996	0.00218	mg/kg	1	6/7/23 23:29	
4,4'-DDE	ND	U	0.00119	0.00218	mg/kg	1	6/7/23 23:29	
4,4'-DDT	ND	U	0.00154	0.00218	mg/kg	1	6/7/23 23:29	
Aldrin	ND	U	0.00103	0.00218	mg/kg	1	6/7/23 23:29	
alpha-BHC	ND	U	0.000648	0.00218	mg/kg	1	6/7/23 23:29	
beta-BHC	ND	U	0.00104	0.00218	mg/kg	1	6/7/23 23:29	
Chlordane	ND	U	0.000968	0.00218	mg/kg	1	6/7/23 23:29	
delta-BHC	ND	U	0.00101	0.00218	mg/kg	1	6/7/23 23:29	
Dieldrin	ND	U	0.00114	0.00218	mg/kg	1	6/7/23 23:29	
Endosulfan I	ND	U	0.00103	0.00218	mg/kg	1	6/7/23 23:29	
Endosulfan II	ND	U	0.000989	0.00218	mg/kg	1	6/7/23 23:29	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000819	0.00218	mg/kg	1	6/7/23 23:29	
Endosulfans, Total (alpha and beta)	ND	U	0.000989	0.00218	mg/kg	1	6/7/23 23:29	
Endrin	ND	U	0.000752	0.00218	mg/kg	1	6/7/23 23:29	
Endrin aldehyde	ND	U	0.000867	0.00218	mg/kg	1	6/7/23 23:29	
Endrin ketone	ND	U	0.000767	0.00218	mg/kg	1	6/7/23 23:29	
gamma-BHC (Lindane)	ND	U	0.000690	0.00218	mg/kg	1	6/7/23 23:29	
Heptachlor	ND	U	0.000583	0.00218	mg/kg	1	6/7/23 23:29	
Heptachlor Epoxide	ND	U	0.00110	0.00218	mg/kg	1	6/7/23 23:29	
Methoxychlor	ND	U	0.000638	0.00218	mg/kg	1	6/7/23 23:29	
Toxaphene	ND	U	0.105	0.110	mg/kg	1	6/7/23 23:29	

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522** Collected: **5/22/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00629	0.0557	mg/kg	1	6/2/23 18:52	
2,3,4,6-Tetrachlorophenol	ND	U	0.0343	0.223	mg/kg	1	6/2/23 18:52	
2,4,5-Trichlorophenol	ND	U	0.0303	0.223	mg/kg	1	6/2/23 18:52	
2,4,6-Trichlorophenol	ND	U	0.0139	0.223	mg/kg	1	6/2/23 18:52	
2,4-Dichlorophenol	ND	U	0.0224	0.223	mg/kg	1	6/2/23 18:52	
2,4-Dimethylphenol	ND	U	0.0219	0.223	mg/kg	1	6/2/23 18:52	
2,4-Dinitrophenol	ND	U	0.0321	1.12	mg/kg	1	6/2/23 18:52	
2,4-Dinitrotoluene	ND	U	0.0238	0.223	mg/kg	1	6/2/23 18:52	
2,6-Dinitrotoluene	ND	U	0.0532	0.223	mg/kg	1	6/2/23 18:52	
2-Chloronaphthalene	ND	U	0.0256	0.223	mg/kg	1	6/2/23 18:52	
2-Chlorophenol	ND	U	0.0295	0.223	mg/kg	1	6/2/23 18:52	
2-Methylnaphthalene	ND	U	0.0534	0.335	mg/kg	1	6/2/23 18:52	
2-Methylphenol	ND	U	0.0440	0.223	mg/kg	1	6/2/23 18:52	
2-Nitroaniline	ND	U	0.0179	0.223	mg/kg	1	6/2/23 18:52	
2-Nitrophenol	ND	U	0.0248	0.223	mg/kg	1	6/2/23 18:52	
3,3'-Dichlorobenzidine	ND	U	0.0234	0.223	mg/kg	1	6/2/23 18:52	
3+4-Methylphenol	ND	U	0.0408	0.223	mg/kg	1	6/2/23 18:52	
3-Nitroaniline	ND	U	0.0414	0.223	mg/kg	1	6/2/23 18:52	
4,6-Dinitro-2-methylphenol	ND	U	0.0420	0.557	mg/kg	1	6/2/23 18:52	
4-Bromophenyl-phenyl ether	ND	U	0.0318	0.223	mg/kg	1	6/2/23 18:52	
4-Chloro-3-methylphenol	ND	U	0.0352	0.223	mg/kg	1	6/2/23 18:52	
4-Chloroaniline	ND	U	0.00780	0.223	mg/kg	1	6/2/23 18:52	
4-Chlorophenyl phenyl ether	ND	U	0.0120	0.223	mg/kg	1	6/2/23 18:52	
4-Nitroaniline	ND	U	0.111	0.223	mg/kg	1	6/2/23 18:52	
4-Nitrophenol	ND	U	0.0143	0.223	mg/kg	1	6/2/23 18:52	
Acenaphthene	**0.246**		**0.0127**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Acenaphthylene	**1.57**		**0.00775**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Acetophenone	ND	U	0.0221	0.223	mg/kg	1	6/2/23 18:52	
Anthracene	**1.36**		**0.0323**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Atrazine	ND	U	0.0209	0.223	mg/kg	1	6/2/23 18:52	
Benzaldehyde	ND	U	0.0685	0.223	mg/kg	1	6/2/23 18:52	UJ, RC:SL
Benzo(a)anthracene	**2.61**		**0.0224**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Benzo(a)pyrene	**3.29**		**0.0388**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Benzo(b)fluoranthene	**2.23**		**0.0313**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Benzo(g,h,i)perylene	**2.52**		**0.0181**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	J, RC:SH
Benzo(k)fluoranthene	**0.806**		**0.0256**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Biphenyl	ND	U	0.0196	0.223	mg/kg	1	6/2/23 18:52	
bis(2-chloroethoxy)methane	ND	U	0.0308	0.223	mg/kg	1	6/2/23 18:52	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522** Collected: **5/22/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0244	0.223	mg/kg	1	6/2/23 18:52	
bis(2-chloroisopropyl)ether	ND	U	0.0802	0.223	mg/kg	1	6/2/23 18:52	
bis(2-ethylhexyl)phthalate	ND	U	0.0445	0.223	mg/kg	1	6/2/23 18:52	
Butylbenzylphthalate	ND	U	0.0203	0.223	mg/kg	1	6/2/23 18:52	
Caprolactam	ND	U	0.0288	0.223	mg/kg	1	6/2/23 18:52	
Carbazole	ND	U	0.0429	0.557	mg/kg	1	6/2/23 18:52	
Chrysene	**2.33**		**0.0153**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Dibenzo(a,h)anthracene	**0.376**		**0.0221**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	J, RC:SH
Dibenzofuran	ND	U	0.0133	0.223	mg/kg	1	6/2/23 18:52	
Diethylphthalate	ND	U	0.0432	0.223	mg/kg	1	6/2/23 18:52	
Dimethylphthalate	ND	U	0.0138	0.223	mg/kg	1	6/2/23 18:52	
Di-n-butylphthalate	ND	U	0.0911	0.223	mg/kg	1	6/2/23 18:52	
Di-n-octylphthalate	ND	U	0.0457	0.223	mg/kg	1	6/2/23 18:52	
Fluoranthene	**5.03**		**0.0209**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Fluorene	**0.177**	J	**0.0186**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Hexachlorobenzene	ND	U	0.0291	0.223	mg/kg	1	6/2/23 18:52	
Hexachlorobutadiene	ND	U	0.107	0.223	mg/kg	1	6/2/23 18:52	
Hexachlorocyclopentadiene	ND	U	0.0929	0.557	mg/kg	1	6/2/23 18:52	
Hexachloroethane	ND	U	0.0244	0.223	mg/kg	1	6/2/23 18:52	
Indeno(1,2,3-cd)pyrene	**1.39**		**0.0239**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	J, RC:SH
Isophorone	ND	U	0.0146	0.223	mg/kg	1	6/2/23 18:52	
Naphthalene	**0.220**	J	**0.0165**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Nitrobenzene	ND	U	0.0378	0.223	mg/kg	1	6/2/23 18:52	
n-Nitroso-di-n-propylamine	ND	U	0.0119	0.223	mg/kg	1	6/2/23 18:52	
n-Nitrosodiphenylamine	ND	U	0.0475	0.223	mg/kg	1	6/2/23 18:52	
Pentachlorophenol	ND	U	0.0306	0.557	mg/kg	1	6/2/23 18:52	
Phenanthrene	**0.173**	J	**0.0293**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	
Phenol	ND	U	0.0181	0.223	mg/kg	1	6/2/23 18:52	
Pyrene	**8.84**		**0.0164**	**0.223**	**mg/kg**	**1**	**6/2/23 18:52**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1H-Indene, 1-(phenylmethylene)-	0.644	11.77	J	mg/kg	1	6/2/23 18:52	
2-Pentanone, 4-hydroxy-4-methyl-	~~41.3~~	5.22	J, B	mg/kg	1	6/2/23 18:52	R, RC:2
Benzene, 1-(bromomethyl)-4-(1-methylethy	0.738	12.23	J	mg/kg	1	6/2/23 18:52	
Benzene, 1-ethenyl-3-methyl-	1.19	6.74	J	mg/kg	1	6/2/23 18:52	
Benzene, 1-methyl-2-(1-methylethyl)-	0.705	8.47	J	mg/kg	1	6/2/23 18:52	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522** Collected: **5/22/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	~~18.0~~	12.83	J, B	mg/kg	1	6/2/23 18:52 R, RC:2
Octadecanoic acid, butyl ester	~~7.45~~	13.65	J, B	mg/kg	1	6/2/23 18:52 R, RC:2
unknown (01)	0.808	5.81	J	mg/kg	1	6/2/23 18:52
unknown (02)	0.983	5.98	J	mg/kg	1	6/2/23 18:52
unknown (03)	0.890	12.00	J	mg/kg	1	6/2/23 18:52
unknown (04)	3.93	12.13	J	mg/kg	1	6/2/23 18:52
unknown (05)	1.44	12.58	J	mg/kg	1	6/2/23 18:52
unknown (06)	0.630	13.53	J	mg/kg	1	6/2/23 18:52
unknown (07)	0.618	13.68	J	mg/kg	1	6/2/23 18:52
unknown (08)	1.79	16.72	J	mg/kg	1	6/2/23 18:52
TIC Total	~~81.1~~ 14.4					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000489	0.00335	mg/kg	1	5/27/23 11:06
1,1,2,2-Tetrachloroethane	ND	U	0.000462	0.00335	mg/kg	1	5/27/23 11:06
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00143	0.00335	mg/kg	1	5/27/23 11:06
1,1,2-Trichloroethane	ND	U	0.000564	0.00335	mg/kg	1	5/27/23 11:06
1,1-Dichloroethane	ND	U	0.000489	0.00335	mg/kg	1	5/27/23 11:06
1,1-Dichloroethene	ND	U	0.000619	0.00335	mg/kg	1	5/27/23 11:06
1,2,3-Trichlorobenzene	ND	U	0.000723	0.00335	mg/kg	1	5/27/23 11:06
1,2,4-Trichlorobenzene	ND	U	0.000892	0.00335	mg/kg	1	5/27/23 11:06
1,2,4-Trimethylbenzene	ND	U	0.000462	0.00335	mg/kg	1	5/27/23 11:06
1,2-Dibromo-3-chloropropane	ND	U	0.000817	0.00335	mg/kg	1	5/27/23 11:06
1,2-Dibromoethane	ND	U	0.000422	0.00335	mg/kg	1	5/27/23 11:06
1,2-Dichlorobenzene	ND	U	0.000591	0.00335	mg/kg	1	5/27/23 11:06
1,2-Dichloroethane	ND	U	0.000472	0.00335	mg/kg	1	5/27/23 11:06
1,2-Dichloropropane	ND	U	0.000549	0.00335	mg/kg	1	5/27/23 11:06
1,3-Dichlorobenzene	ND	U	0.000246	0.00335	mg/kg	1	5/27/23 11:06
1,4-Dichlorobenzene	ND	U	0.000482	0.00335	mg/kg	1	5/27/23 11:06
2-Butanone	ND	U	0.000546	0.00837	mg/kg	1	5/27/23 11:06
2-Hexanone	ND	U	0.000313	0.00335	mg/kg	1	5/27/23 11:06
4-Methyl-2-pentanone	ND	U	0.000419	0.00335	mg/kg	1	5/27/23 11:06
Acetone	ND	U	0.00101	0.00837	mg/kg	1	5/27/23 11:06
Benzene	ND	U	0.000305	0.00335	mg/kg	1	5/27/23 11:06
Bromochloromethane	ND	U	0.000618	0.00335	mg/kg	1	5/27/23 11:06
Bromodichloromethane	ND	U	0.000420	0.00335	mg/kg	1	5/27/23 11:06

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-20230522** Collected: **5/22/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromoform	ND	U	0.000588	0.00335	mg/kg	1	5/27/23 11:06	
Bromomethane	ND	U	0.000966	0.00335	mg/kg	1	5/27/23 11:06	
Carbon disulfide	ND	U	0.000480	0.00335	mg/kg	1	5/27/23 11:06	
Carbon Tetrachloride	ND	U	0.000504	0.00335	mg/kg	1	5/27/23 11:06	
Chlorobenzene	ND	U	0.000486	0.00335	mg/kg	1	5/27/23 11:06	
Chlorodibromomethane	ND	U	0.000412	0.00335	mg/kg	1	5/27/23 11:06	
Chloroethane	ND	U	0.000571	0.00335	mg/kg	1	5/27/23 11:06	
Chloroform	ND	U	0.000563	0.00335	mg/kg	1	5/27/23 11:06	
Chloromethane	ND	U	0.00129	0.00335	mg/kg	1	5/27/23 11:06	
cis-1,2-Dichloroethene	ND	U	0.000162	0.00335	mg/kg	1	5/27/23 11:06	
cis-1,3-Dichloropropene	ND	U	0.000424	0.00335	mg/kg	1	5/27/23 11:06	
Cyclohexane	ND	U	0.000742	0.00335	mg/kg	1	5/27/23 11:06	
Dichlorodifluoromethane	ND	U	0.00113	0.00335	mg/kg	1	5/27/23 11:06	UJ, RC:SL
EthylBenzene	ND	U	0.000454	0.00335	mg/kg	1	5/27/23 11:06	
Isopropylbenzene	ND	U	0.000526	0.00335	mg/kg	1	5/27/23 11:06	
m+p-Xylenes	ND	U	0.000845	0.00670	mg/kg	1	5/27/23 11:06	
Methyl Acetate	ND	U	0.000444	0.00335	mg/kg	1	5/27/23 11:06	
Methyl tert-Butyl Ether	ND	U	0.000566	0.00335	mg/kg	1	5/27/23 11:06	
Methylcyclohexane	ND	U	0.000539	0.00335	mg/kg	1	5/27/23 11:06	
Methylene Chloride	ND	U	0.00101	0.00335	mg/kg	1	5/27/23 11:06	
o-Xylene	ND	U	0.000430	0.00335	mg/kg	1	5/27/23 11:06	
Styrene	ND	U	0.000479	0.00335	mg/kg	1	5/27/23 11:06	
tert-Butyl alcohol	ND	U	0.00703	0.0335	mg/kg	1	5/27/23 11:06	
Tetrachloroethene	ND	U	0.000331	0.00335	mg/kg	1	5/27/23 11:06	
Toluene	ND	U	0.000270	0.00335	mg/kg	1	5/27/23 11:06	
Total Xylenes	ND	U	0.000430	0.00335	mg/kg	1	5/27/23 11:06	
trans-1,2-Dichloroethene	ND	U	0.000454	0.00335	mg/kg	1	5/27/23 11:06	
trans-1,3-Dichloropropene	ND	U	0.000640	0.00335	mg/kg	1	5/27/23 11:06	
Trichloroethene	ND	U	0.000492	0.00335	mg/kg	1	5/27/23 11:06	
Trichlorofluoromethane	ND	U	0.000385	0.00335	mg/kg	1	5/27/23 11:06	
Vinyl chloride	ND	U	0.000636	0.00335	mg/kg	1	5/27/23 11:06	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,4-Hexadiene, 2,3-dimethyl-	0.0372	14.26	J	mg/kg	1	5/27/23 11:06
2-Cyclohexen-1-ol, 1-methyl-	0.0540	22.96	J	mg/kg	1	5/27/23 11:06
3-Octene, 2,6-dimethyl-	0.0434	18.15	J	mg/kg	1	5/27/23 11:06
5-Eicosyne	0.0887	21.57	J	mg/kg	1	5/27/23 11:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-04 (Soil) Sample Name: **OH-SB-31-6.1-7.1-202 30522** Collected: **5/22/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Bicyclo[2.2.1]heptane, 2-hexyl-	0.0627	23.21	J	mg/kg	1	5/27/23 11:06
Cyclohexane, [2-(pentyloxy)ethyl]-	0.0323	18.27	J	mg/kg	1	5/27/23 11:06
Cyclohexane, 1,4-dimethyl-, trans-	0.0974	19.11	J	mg/kg	1	5/27/23 11:06
Cyclohexane, 1-ethyl-2-methyl-, cis-	0.0328	16.50	J	mg/kg	1	5/27/23 11:06
Cyclohexane, 1-methyl-2-propyl-(01)	0.0648	20.58	J	mg/kg	1	5/27/23 11:06
Cyclohexane, 1-methyl-2-propyl-(02)	0.109	22.41	J	mg/kg	1	5/27/23 11:06
Cyclohexane, 1-methyl-4-(1-methylethyl)-	0.0397	18.01	J	mg/kg	1	5/27/23 11:06
Cyclopropane, 1-(1-methylethyl)-2-(2-met	0.115	21.25	J	mg/kg	1	5/27/23 11:06
Lab Contamination	0.0446	5.23	J	mg/kg	1	5/27/23 11:06
Naphthalene, decahydro-, cis-	0.0657	20.16	J	mg/kg	1	5/27/23 11:06
Pentalene, octahydro-1-methyl-	0.0318	19.31	J	mg/kg	1	5/27/23 11:06
TIC Total	**0.919**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**59.7**				**%**	**1**	**5/23/23 11:13**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**2.57**		**0.0115**	**0.0964**	**mg/kg**	**1**	**5/24/23 16:07**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-05 (Ground Water) Sample Name: **FB-20230522** Collected: **5/22/2023 11:35:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/3/23 1:49
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/3/23 1:49
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/3/23 1:49
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/3/23 1:49
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/3/23 1:49
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/3/23 1:49
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/3/23 1:49
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/3/23 1:49
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/3/23 1:49
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/3/23 1:49

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 18:14
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 18:14
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 18:14

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/23/23 15:53

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/26/23 18:19	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/26/23 18:19	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/26/23 18:19	UJ, RC:6L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/26/23 18:19	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/26/23 18:19	UJ, RC:6L
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/26/23 18:19	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/26/23 18:19	UJ, RC:6L
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/26/23 18:19	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/26/23 18:19	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/26/23 18:19	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/26/23 18:19	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/26/23 18:19	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/26/23 18:19	UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/26/23 18:19	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/26/23 18:19	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/26/23 18:19	UJ, RC:6L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-05 (Ground Water) Sample Name: **FB-20230522** Collected: **5/22/2023 11:35:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/26/23 18:19
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/26/23 18:19
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/26/23 18:19
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/26/23 18:19

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/26/23 15:03	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/26/23 15:03	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/26/23 15:03	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/26/23 15:03	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/26/23 15:03	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/26/23 15:03	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/26/23 15:03	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/26/23 15:03	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/26/23 15:03	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/26/23 15:03	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/26/23 15:03	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/26/23 15:03	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/26/23 15:03	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/26/23 15:03	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/26/23 15:03	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/26/23 15:03	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/26/23 15:03	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/26/23 15:03	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/26/23 15:03	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/26/23 15:03	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/26/23 15:03	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/26/23 15:03	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/26/23 15:03	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/26/23 15:03	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/26/23 15:03	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/26/23 15:03	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/26/23 15:03	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/26/23 15:03	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/26/23 15:03	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/26/23 15:03	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/26/23 15:03	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/26/23 15:03	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-05 (Ground Water) Sample Name: **FB-20230522** Collected: **5/22/2023 11:35:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/26/23 15:03	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/26/23 15:03	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/26/23 15:03	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/26/23 15:03	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/26/23 15:03	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/26/23 15:03	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/26/23 15:03	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/26/23 15:03	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/26/23 15:03	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/26/23 15:03	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/26/23 15:03	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/26/23 15:03	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/26/23 15:03	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/26/23 15:03	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/26/23 15:03	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/26/23 15:03	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/26/23 15:03	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/26/23 15:03	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/26/23 15:03	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/26/23 15:03	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/26/23 15:03	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/26/23 15:03	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/26/23 15:03	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/26/23 15:03	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/26/23 15:03	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/31/23 14:30	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/31/23 14:30	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/31/23 14:30	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/31/23 14:30	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/31/23 14:30	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/31/23 14:30	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-05 (Ground Water) Sample Name: **FB-20230522** Collected: **5/22/2023 11:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/31/23 14:30	UJ, RC:3L
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/31/23 14:30	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/31/23 14:30	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/31/23 14:30	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/31/23 14:30	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/31/23 14:30	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/31/23 14:30	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/31/23 14:30	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/31/23 14:30	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/31/23 14:30	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/31/23 14:30	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/31/23 14:30	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/31/23 14:30	RC:SL
Acetone	ND	U	10.0	10.0	ug/L	1	5/31/23 14:30	
Benzene	ND	U	0.129	1.00	ug/L	1	5/31/23 14:30	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/31/23 14:30	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/31/23 14:30	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/31/23 14:30	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/31/23 14:30	RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/31/23 14:30	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/31/23 14:30	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/31/23 14:30	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/31/23 14:30	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/31/23 14:30	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/31/23 14:30	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/31/23 14:30	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/31/23 14:30	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/31/23 14:30	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/31/23 14:30	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/31/23 14:30	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/31/23 14:30	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/31/23 14:30	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/31/23 14:30	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/31/23 14:30	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/31/23 14:30	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/31/23 14:30	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/31/23 14:30	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/31/23 14:30	
Styrene	ND	U	0.176	1.00	ug/L	1	5/31/23 14:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates **Work Order:** 23E1057
Project: Owls Head Phase 2 **Date to Lab:** 5/22/2023 3:10:00PM

23E1057-05 (Ground Water) Sample Name: **FB-20230522** Collected: **5/22/2023 11:35:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/31/23 14:30	UJ, RC:3L
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/31/23 14:30	
Toluene	ND	U	0.205	1.00	ug/L	1	5/31/23 14:30	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/31/23 14:30	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/31/23 14:30	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/31/23 14:30	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/31/23 14:30	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/31/23 14:30	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/31/23 14:30	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/23/23 16:43

23E1057-06 (Ground Water) Sample Name: **TB-20230522** Collected: **5/22/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/30/23 19:27	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/30/23 19:27	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/30/23 19:27	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/30/23 19:27	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/30/23 19:27	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/30/23 19:27	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/30/23 19:27	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/30/23 19:27	RC:SL
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/30/23 19:27	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/30/23 19:27	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/30/23 19:27	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/30/23 19:27	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/30/23 19:27	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/30/23 19:27	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/30/23 19:27	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/30/23 19:27	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-06 (Ground Water) Sample Name: **TB-20230522** Collected: **5/22/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/30/23 19:27	UJ, RC:3L
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/30/23 19:27	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/30/23 19:27	
Acetone	ND	U	10.0	10.0	ug/L	1	5/30/23 19:27	
Benzene	ND	U	0.129	1.00	ug/L	1	5/30/23 19:27	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/30/23 19:27	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/30/23 19:27	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/30/23 19:27	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/30/23 19:27	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/30/23 19:27	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/30/23 19:27	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/30/23 19:27	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/30/23 19:27	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/30/23 19:27	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/30/23 19:27	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/30/23 19:27	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/30/23 19:27	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/30/23 19:27	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/30/23 19:27	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/30/23 19:27	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/30/23 19:27	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/30/23 19:27	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/30/23 19:27	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/30/23 19:27	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/30/23 19:27	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/30/23 19:27	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/30/23 19:27	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/30/23 19:27	
Styrene	ND	U	0.176	1.00	ug/L	1	5/30/23 19:27	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/30/23 19:27	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/30/23 19:27	
Toluene	ND	U	0.205	1.00	ug/L	1	5/30/23 19:27	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/30/23 19:27	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/30/23 19:27	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/30/23 19:27	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/30/23 19:27	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/30/23 19:27	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/30/23 19:27	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-06 (Ground Water) Sample Name: **TB-20230522** Collected: **5/22/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-20230522** Collected: **5/22/2023 1:12:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00490	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1221	ND	U	0.00964	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1232	ND	U	0.0123	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1242	ND	U	0.00718	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1248	ND	U	0.00751	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1254 [2C]	**0.336**		**0.00341**	**0.0365**	**mg/kg**	**1**	**6/9/23 15:17**	
Aroclor-1260	ND	U	0.00458	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1262	ND	U	0.00983	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Aroclor-1268	ND	U	0.00442	0.0365	mg/kg	1	6/9/23 15:17	UJ, RC:3L
Total PCBs	**0.336**		**0.00341**	**0.0365**	**mg/kg**	**1**	**6/9/23 15:17**	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	6/28/23 13:41
2,4-D	ND	U	0.0184	0.111	mg/kg	1	6/28/23 13:41

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.118**		**0.00554**	**0.0221**	**mg/kg**	**1**	**5/23/23 16:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5730**		**0.159**	**2.68**	**mg/kg**	**1**	**6/6/23 12:11**
Antimony	**40.2**		**0.146**	**1.34**	**mg/kg**	**1**	**6/6/23 12:11**
Arsenic	**16.9**		**0.0954**	**1.34**	**mg/kg**	**1**	**6/6/23 12:11**
Barium	**133**		**0.0404**	**0.535**	**mg/kg**	**1**	**6/6/23 12:11**
Beryllium	**0.280**		**0.00310**	**0.0268**	**mg/kg**	**1**	**6/6/23 12:11**
Cadmium	**1.29**		**0.0522**	**0.268**	**mg/kg**	**1**	**6/6/23 12:11**
Calcium	**69300**	D	**30.1**	**268**	**mg/kg**	**10**	**6/6/23 14:12**
Chromium	**58.9**		**0.0302**	**0.268**	**mg/kg**	**1**	**6/6/23 12:11**
Cobalt	**5.19**		**0.0273**	**0.214**	**mg/kg**	**1**	**6/6/23 12:11**
Copper	**232**		**0.0748**	**0.268**	**mg/kg**	**1**	**6/6/23 12:11**

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-202 30522** Collected: **5/22/2023 1:12:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Iron	**20000**		**0.758**	**5.35**	**mg/kg**	**1**	**6/6/23 12:11**	
Lead	**2350**	D	**1.12**	**13.4**	**mg/kg**	**10**	**6/6/23 14:12**	
Magnesium	**7210**		**9.45**	**53.5**	**mg/kg**	**1**	**6/6/23 12:11**	
Manganese	**223**		**0.0333**	**0.268**	**mg/kg**	**1**	**6/6/23 12:11**	
Nickel	**28.4**		**0.0235**	**0.134**	**mg/kg**	**1**	**6/6/23 12:11**	
Potassium	**893**		**31.8**	**107**	**mg/kg**	**1**	**6/6/23 12:11**	
Selenium	**1.55**		**0.257**	**1.34**	**mg/kg**	**1**	**6/6/23 12:11**	
Silver	**0.264**		**0.0455**	**0.161**	**mg/kg**	**1**	**6/6/23 12:11**	J, RC:6L
Sodium	**3460**		**5.10**	**53.5**	**mg/kg**	**1**	**6/6/23 12:11**	
Thallium	ND	U	0.0900	1.34	mg/kg	1	6/6/23 12:11	
Vanadium	**19.9**		**0.0615**	**0.535**	**mg/kg**	**1**	**6/6/23 12:11**	
Zinc	**1210**	D	**0.817**	**8.03**	**mg/kg**	**10**	**6/6/23 14:12**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000659	0.00144	mg/kg	1	6/8/23 21:53	
4,4'-DDE	**0.00904**		**0.000787**	**0.00144**	**mg/kg**	**1**	**6/8/23 21:53**	
4,4'-DDT	**0.0213**		**0.00102**	**0.00144**	**mg/kg**	**1**	**6/8/23 21:53**	
Aldrin	ND	U	0.000682	0.00144	mg/kg	1	6/8/23 21:53	
alpha-BHC	ND	U	0.000429	0.00144	mg/kg	1	6/8/23 21:53	
beta-BHC	ND	U	0.000688	0.00144	mg/kg	1	6/8/23 21:53	
Chlordane	**0.0106**		**0.000640**	**0.00144**	**mg/kg**	**1**	**6/8/23 21:53**	
delta-BHC	ND	U	0.000669	0.00144	mg/kg	1	6/8/23 21:53	
Dieldrin [2C]	**0.00461**		**0.000753**	**0.00144**	**mg/kg**	**1**	**6/8/23 21:53**	J, RC:3H
Endosulfan I	ND	U	0.000680	0.00144	mg/kg	1	6/8/23 21:53	
Endosulfan II	ND	U	0.000655	0.00144	mg/kg	1	6/8/23 21:53	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000542	0.00144	mg/kg	1	6/8/23 21:53	
Endosulfans, Total (alpha and beta)	ND	U	0.000655	0.00144	mg/kg	1	6/8/23 21:53	
Endrin	ND	U	0.000497	0.00144	mg/kg	1	6/8/23 21:53	
Endrin aldehyde	ND	U	0.000574	0.00144	mg/kg	1	6/8/23 21:53	
Endrin ketone	ND	U	0.000507	0.00144	mg/kg	1	6/8/23 21:53	
gamma-BHC (Lindane)	ND	U	0.000456	0.00144	mg/kg	1	6/8/23 21:53	
Heptachlor	ND	U	0.000385	0.00144	mg/kg	1	6/8/23 21:53	
Heptachlor Epoxide	ND	U	0.000726	0.00144	mg/kg	1	6/8/23 21:53	
Methoxychlor	ND	U	0.000422	0.00144	mg/kg	1	6/8/23 21:53	
Toxaphene	ND	U	0.0694	0.0731	mg/kg	1	6/8/23 21:53	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-202 30522** Collected: **5/22/2023 1:12:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00416	0.0369	mg/kg	1	6/2/23 19:23	
2,3,4,6-Tetrachlorophenol	ND	U	0.0227	0.147	mg/kg	1	6/2/23 19:23	
2,4,5-Trichlorophenol	ND	U	0.0200	0.147	mg/kg	1	6/2/23 19:23	
2,4,6-Trichlorophenol	ND	U	0.00923	0.147	mg/kg	1	6/2/23 19:23	
2,4-Dichlorophenol	ND	U	0.0148	0.147	mg/kg	1	6/2/23 19:23	
2,4-Dimethylphenol	ND	U	0.0145	0.147	mg/kg	1	6/2/23 19:23	
2,4-Dinitrophenol	ND	U	0.0213	0.739	mg/kg	1	6/2/23 19:23	
2,4-Dinitrotoluene	ND	U	0.0157	0.147	mg/kg	1	6/2/23 19:23	
2,6-Dinitrotoluene	ND	U	0.0352	0.147	mg/kg	1	6/2/23 19:23	
2-Chloronaphthalene	ND	U	0.0169	0.147	mg/kg	1	6/2/23 19:23	
2-Chlorophenol	ND	U	0.0195	0.147	mg/kg	1	6/2/23 19:23	
2-Methylnaphthalene	**0.0364**	J	**0.0353**	**0.221**	**mg/kg**	**1**	**6/2/23 19:23**	
2-Methylphenol	ND	U	0.0291	0.147	mg/kg	1	6/2/23 19:23	
2-Nitroaniline	ND	U	0.0118	0.147	mg/kg	1	6/2/23 19:23	
2-Nitrophenol	ND	U	0.0164	0.147	mg/kg	1	6/2/23 19:23	
3,3'-Dichlorobenzidine	ND	U	0.0155	0.147	mg/kg	1	6/2/23 19:23	
3+4-Methylphenol	ND	U	0.0270	0.147	mg/kg	1	6/2/23 19:23	
3-Nitroaniline	ND	U	0.0274	0.147	mg/kg	1	6/2/23 19:23	
4,6-Dinitro-2-methylphenol	ND	U	0.0278	0.369	mg/kg	1	6/2/23 19:23	
4-Bromophenyl-phenyl ether	ND	U	0.0210	0.147	mg/kg	1	6/2/23 19:23	
4-Chloro-3-methylphenol	ND	U	0.0233	0.147	mg/kg	1	6/2/23 19:23	
4-Chloroaniline	ND	U	0.00516	0.147	mg/kg	1	6/2/23 19:23	
4-Chlorophenyl phenyl ether	ND	U	0.00796	0.147	mg/kg	1	6/2/23 19:23	
4-Nitroaniline	ND	U	0.0738	0.147	mg/kg	1	6/2/23 19:23	
4-Nitrophenol	ND	U	0.00944	0.147	mg/kg	1	6/2/23 19:23	
Acenaphthene	ND	U	0.00841	0.147	mg/kg	1	6/2/23 19:23	
Acenaphthylene	**0.0332**	J	**0.00513**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Acetophenone	ND	U	0.0146	0.147	mg/kg	1	6/2/23 19:23	
Anthracene	**0.0759**	J	**0.0214**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Atrazine	ND	U	0.0138	0.147	mg/kg	1	6/2/23 19:23	
Benzaldehyde	ND	U	0.0453	0.147	mg/kg	1	6/2/23 19:23	UJ, RC:SL
Benzo(a)anthracene	**0.356**		**0.0148**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Benzo(a)pyrene	**0.455**		**0.0257**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Benzo(b)fluoranthene	**0.562**		**0.0207**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Benzo(g,h,i)perylene	**0.279**		**0.0120**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	J, RC:SH
Benzo(k)fluoranthene	**0.175**		**0.0169**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Biphenyl	ND	U	0.0130	0.147	mg/kg	1	6/2/23 19:23	
bis(2-chloroethoxy)methane	ND	U	0.0204	0.147	mg/kg	1	6/2/23 19:23	

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-202 30522** Collected: **5/22/2023 1:12:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0162	0.147	mg/kg	1	6/2/23 19:23	
bis(2-chloroisopropyl)ether	ND	U	0.0530	0.147	mg/kg	1	6/2/23 19:23	
bis(2-ethylhexyl)phthalate	**0.0348**	J	**0.0295**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Butylbenzylphthalate	ND	U	0.0134	0.147	mg/kg	1	6/2/23 19:23	
Caprolactam	ND	U	0.0190	0.147	mg/kg	1	6/2/23 19:23	
Carbazole	ND	U	0.0284	0.369	mg/kg	1	6/2/23 19:23	
Chrysene	**0.368**		**0.0101**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Dibenzo(a,h)anthracene	**0.0652**	J	**0.0146**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	J, RC:SH
Dibenzofuran	ND	U	0.00878	0.147	mg/kg	1	6/2/23 19:23	
Diethylphthalate	ND	U	0.0286	0.147	mg/kg	1	6/2/23 19:23	
Dimethylphthalate	ND	U	0.00915	0.147	mg/kg	1	6/2/23 19:23	
Di-n-butylphthalate	ND	U	0.0602	0.147	mg/kg	1	6/2/23 19:23	
Di-n-octylphthalate	ND	U	0.0302	0.147	mg/kg	1	6/2/23 19:23	
Fluoranthene	**0.607**		**0.0138**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Fluorene	ND	U	0.0123	0.147	mg/kg	1	6/2/23 19:23	
Hexachlorobenzene	ND	U	0.0193	0.147	mg/kg	1	6/2/23 19:23	
Hexachlorobutadiene	ND	U	0.0708	0.147	mg/kg	1	6/2/23 19:23	
Hexachlorocyclopentadiene	ND	U	0.0615	0.369	mg/kg	1	6/2/23 19:23	
Hexachloroethane	ND	U	0.0162	0.147	mg/kg	1	6/2/23 19:23	
Indeno(1,2,3-cd)pyrene	**0.207**		**0.0158**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	J, RC:SH
Isophorone	ND	U	0.00966	0.147	mg/kg	1	6/2/23 19:23	
Naphthalene	**0.0264**	J	**0.0109**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Nitrobenzene	ND	U	0.0250	0.147	mg/kg	1	6/2/23 19:23	
n-Nitroso-di-n-propylamine	ND	U	0.00790	0.147	mg/kg	1	6/2/23 19:23	
n-Nitrosodiphenylamine	ND	U	0.0315	0.147	mg/kg	1	6/2/23 19:23	
Pentachlorophenol	ND	U	0.0203	0.369	mg/kg	1	6/2/23 19:23	
Phenanthrene	**0.192**		**0.0194**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	
Phenol	ND	U	0.0120	0.147	mg/kg	1	6/2/23 19:23	
Pyrene	**0.497**		**0.0108**	**0.147**	**mg/kg**	**1**	**6/2/23 19:23**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~23.1~~	5.22	J, B	mg/kg	1	6/2/23 19:23	R, RC:2
Hexadecanoic acid, butyl ester	~~5.10~~	12.83	J, B	mg/kg	1	6/2/23 19:23	R, RC:2
Octadecanoic acid, butyl ester	~~3.45~~	13.65	J, B	mg/kg	1	6/2/23 19:23	R, RC:2
unknown	~~0.467~~	5.98	J, B	mg/kg	1	6/2/23 19:23	R, RC:2
TIC Total	**~~32.1~~**						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-20230522** Collected: **5/22/2023 1:12:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000359	0.00246	mg/kg	1	5/27/23 11:38
1,1,2,2-Tetrachloroethane	ND	U	0.000340	0.00246	mg/kg	1	5/27/23 11:38
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00105	0.00246	mg/kg	1	5/27/23 11:38
1,1,2-Trichloroethane	ND	U	0.000415	0.00246	mg/kg	1	5/27/23 11:38
1,1-Dichloroethane	ND	U	0.000359	0.00246	mg/kg	1	5/27/23 11:38
1,1-Dichloroethene	ND	U	0.000455	0.00246	mg/kg	1	5/27/23 11:38
1,2,3-Trichlorobenzene	ND	U	0.000532	0.00246	mg/kg	1	5/27/23 11:38
1,2,4-Trichlorobenzene	ND	U	0.000656	0.00246	mg/kg	1	5/27/23 11:38
1,2,4-Trimethylbenzene	ND	U	0.000340	0.00246	mg/kg	1	5/27/23 11:38
1,2-Dibromo-3-chloropropane	ND	U	0.000600	0.00246	mg/kg	1	5/27/23 11:38
1,2-Dibromoethane	ND	U	0.000310	0.00246	mg/kg	1	5/27/23 11:38
1,2-Dichlorobenzene	ND	U	0.000434	0.00246	mg/kg	1	5/27/23 11:38
1,2-Dichloroethane	ND	U	0.000347	0.00246	mg/kg	1	5/27/23 11:38
1,2-Dichloropropane	ND	U	0.000404	0.00246	mg/kg	1	5/27/23 11:38
1,3-Dichlorobenzene	ND	U	0.000181	0.00246	mg/kg	1	5/27/23 11:38
1,4-Dichlorobenzene	ND	U	0.000354	0.00246	mg/kg	1	5/27/23 11:38
2-Butanone	ND	U	0.000401	0.00615	mg/kg	1	5/27/23 11:38
2-Hexanone	ND	U	0.000230	0.00246	mg/kg	1	5/27/23 11:38
4-Methyl-2-pentanone	ND	U	0.000308	0.00246	mg/kg	1	5/27/23 11:38
Acetone	ND	U	0.000746	0.00615	mg/kg	1	5/27/23 11:38
Benzene	ND	U	0.000224	0.00246	mg/kg	1	5/27/23 11:38
Bromochloromethane	ND	U	0.000454	0.00246	mg/kg	1	5/27/23 11:38
Bromodichloromethane	ND	U	0.000309	0.00246	mg/kg	1	5/27/23 11:38
Bromoform	ND	U	0.000432	0.00246	mg/kg	1	5/27/23 11:38
Bromomethane	ND	U	0.000710	0.00246	mg/kg	1	5/27/23 11:38
Carbon disulfide	ND	U	0.000353	0.00246	mg/kg	1	5/27/23 11:38
Carbon Tetrachloride	ND	U	0.000370	0.00246	mg/kg	1	5/27/23 11:38
Chlorobenzene	ND	U	0.000357	0.00246	mg/kg	1	5/27/23 11:38
Chlorodibromomethane	ND	U	0.000303	0.00246	mg/kg	1	5/27/23 11:38
Chloroethane	ND	U	0.000420	0.00246	mg/kg	1	5/27/23 11:38
Chloroform	ND	U	0.000413	0.00246	mg/kg	1	5/27/23 11:38
Chloromethane	ND	U	0.000948	0.00246	mg/kg	1	5/27/23 11:38
cis-1,2-Dichloroethene	ND	U	0.000119	0.00246	mg/kg	1	5/27/23 11:38
cis-1,3-Dichloropropene	ND	U	0.000311	0.00246	mg/kg	1	5/27/23 11:38
Cyclohexane	ND	U	0.000545	0.00246	mg/kg	1	5/27/23 11:38
Dichlorodifluoromethane	ND	U	0.000831	0.00246	mg/kg	1	5/27/23 11:38
EthylBenzene	ND	U	0.000333	0.00246	mg/kg	1	5/27/23 11:38

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1057
Date to Lab: 5/22/2023 3:10:00PM

23E1057-07 (Soil) Sample Name: **OH-SB-21-0.5-1.5-202 30522** Collected: **5/22/2023 1:12:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000386	0.00246	mg/kg	1	5/27/23 11:38
m+p-Xylenes	ND	U	0.000621	0.00492	mg/kg	1	5/27/23 11:38
Methyl Acetate	ND	U	0.000326	0.00246	mg/kg	1	5/27/23 11:38
Methyl tert-Butyl Ether	ND	U	0.000416	0.00246	mg/kg	1	5/27/23 11:38
Methylcyclohexane	ND	U	0.000396	0.00246	mg/kg	1	5/27/23 11:38
Methylene Chloride	ND	U	0.000740	0.00246	mg/kg	1	5/27/23 11:38
o-Xylene	ND	U	0.000316	0.00246	mg/kg	1	5/27/23 11:38
Styrene	ND	U	0.000352	0.00246	mg/kg	1	5/27/23 11:38
tert-Butyl alcohol	ND	U	0.00517	0.0246	mg/kg	1	5/27/23 11:38
Tetrachloroethene	ND	U	0.000244	0.00246	mg/kg	1	5/27/23 11:38
Toluene	ND	U	0.000198	0.00246	mg/kg	1	5/27/23 11:38
Total Xylenes	ND	U	0.000316	0.00246	mg/kg	1	5/27/23 11:38
trans-1,2-Dichloroethene	ND	U	0.000333	0.00246	mg/kg	1	5/27/23 11:38
trans-1,3-Dichloropropene	ND	U	0.000470	0.00246	mg/kg	1	5/27/23 11:38
Trichloroethene	ND	U	0.000362	0.00246	mg/kg	1	5/27/23 11:38
Trichlorofluoromethane	ND	U	0.000283	0.00246	mg/kg	1	5/27/23 11:38
Vinyl chloride	ND	U	0.000468	0.00246	mg/kg	1	5/27/23 11:38

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.3**				**%**	**1**	**5/23/23 11:13**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00809	0.0679	mg/kg	1	5/24/23 16:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-01	**Date Collected**	: 05/22/23 08:00
Client ID	: OH-SB-25-1.0-2.0-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/15/23 13:09
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172351	**Analyst**	: CNC
Sample Amount	: 5.62 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	136	20.0	5.74	
91-20-3C1	C1-Naphthalenes	316	20.0	5.74	
91-20-3C2	C2-Naphthalenes	914	20.0	5.74	
91-20-3C3	C3-Naphthalenes	1050	20.0	5.74	
91-20-3C4	C4-Naphthalenes	686	20.0	5.74	
208-96-8	Acenaphthylene	198	20.0	3.81	
83-32-9	Acenaphthene	91.2	20.0	3.52	
86-73-7	Fluorene	101	20.0	5.33	
86-73-7C1	C1-Fluorenes	148	20.0	5.33	
86-73-7C2	C2-Fluorenes	378	20.0	5.33	
86-73-7C3	C3-Fluorenes	497	20.0	5.33	
85-01-8	Phenanthrene	664	20.0	6.62	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	508	20.0	6.62	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	617	20.0	6.62	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	383	20.0	6.62	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	174	20.0	6.62	
120-12-7	Anthracene	271	20.0	4.12	
206-44-0	Fluoranthene	1110	20.0	6.34	
129-00-0	Pyrene	1120	20.0	5.25	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	546	20.0	5.25	
56-55-3	Benz(a)anthracene	789	20.0	4.07	
218-01-9	Chrysene	808	20.0	4.04	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-01	**Date Collected**	: 05/22/23 08:00
Client ID	: OH-SB-25-1.0-2.0-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/15/23 13:09
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172351	**Analyst**	: CNC
Sample Amount	: 5.62 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	436	20.0	4.04	
218-01-9C2	C2-Chrysenes BS	324	20.0	4.04	
218-01-9C3	C3-Chrysenes	492	20.0	4.04	
218-01-9C4	C4-Chrysenes	439	20.0	4.04	
205-99-2	Benzo(b)fluoranthene	956	20.0	5.19	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	833	20.0	3.96	
192-97-2	Benzo(e)pyrene	790	20.0	4.12	
50-32-8	Benzo(a)pyrene	964	20.0	5.70	
198-55-0	Perylene	275	20.0	3.85	
193-39-5	Indeno(1,2,3-cd)pyrene	945	20.0	5.42	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	234	20.0	5.39	
191-24-2	Benzo(g,h,i)perylene	985	20.0	5.30	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328774
Project Name	: 23E1057	Project Number	: 23E1057
Lab ID	: L2328774-02	Date Collected	: 05/22/23 09:15
Client ID	: OH-SB-25-5.7-6.7-20230522	Date Received	: 05/23/23
Sample Location	:	Date Analyzed	: 06/15/23 14:34
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172352	Analyst	: CNC
Sample Amount	: 5.41 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 61
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	12300	45.7	13.1	
91-20-3C1	C1-Naphthalenes	3490	45.7	13.1	
91-20-3C2	C2-Naphthalenes	4140	45.7	13.1	
91-20-3C3	C3-Naphthalenes	3370	45.7	13.1	
91-20-3C4	C4-Naphthalenes	2800	45.7	13.1	
208-96-8	Acenaphthylene	19200	45.7	8.72	
83-32-9	Acenaphthene	1080	45.7	8.05	
86-73-7	Fluorene	1290	45.7	12.2	
86-73-7C1	C1-Fluorenes	1960	45.7	12.2	
86-73-7C2	C2-Fluorenes	7520	45.7	12.2	G J, RC:I
86-73-7C3	C3-Fluorenes	7420	45.7	12.2	
85-01-8	Phenanthrene	5060	45.7	15.1	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	8980	45.7	15.1	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	11100	45.7	15.1	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	10300	45.7	15.1	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	9510	45.7	15.1	
120-12-7	Anthracene	4060	45.7	9.42	
206-44-0	Fluoranthene	11200	45.7	14.5	
129-00-0	Pyrene	~~116000~~	45.7	12.0	E
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	66800	45.7	12.0	
56-55-3	Benz(a)anthracene	11400	45.7	9.31	
218-01-9	Chrysene	15600	45.7	9.23	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328774
Project Name	: 23E1057	Project Number	: 23E1057
Lab ID	: L2328774-02	Date Collected	: 05/22/23 09:15
Client ID	: OH-SB-25-5.7-6.7-20230522	Date Received	: 05/23/23
Sample Location	:	Date Analyzed	: 06/15/23 14:34
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172352	Analyst	: CNC
Sample Amount	: 5.41 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 61
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	48500	45.7	9.23	
218-01-9C2	C2-Chrysenes BS	42200	45.7	9.23	
218-01-9C3	C3-Chrysenes	26300	45.7	9.23	
218-01-9C4	C4-Chrysenes	10900	45.7	9.23	
205-99-2	Benzo(b)fluoranthene	39000	45.7	11.9	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	34100	45.7	9.06	
192-97-2	Benzo(e)pyrene	56300	45.7	9.42	
50-32-8	Benzo(a)pyrene	~~62600~~	45.7	13.0	E
198-55-0	Perylene	13800	45.7	8.82	
193-39-5	Indeno(1,2,3-cd)pyrene	49900	45.7	12.4	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	12400	45.7	12.3	
191-24-2	Benzo(g,h,i)perylene	~~71300~~	45.7	12.1	E

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-02D	**Date Collected**	: 05/22/23 09:15
Client ID	: OH-SB-25-5.7-6.7-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/18/23 12:54
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F1206162332	**Analyst**	: CNC
Sample Amount	: 5.41 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 61
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
129-00-0	Pyrene	113000	228	60.1	
50-32-8	Benzo(a)pyrene	79700	228	65.2	
191-24-2	Benzo(g,h,i)perylene	65700	228	60.7	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-03	**Date Collected**	: 05/22/23 10:35
Client ID	: OH-SB-31-2.5-3.5-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/15/23 15:59
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172353	**Analyst**	: CNC
Sample Amount	: 20.03 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	11.2	1.70	0.487	
91-20-3C1	C1-Naphthalenes	12.4	1.70	0.487	
91-20-3C2	C2-Naphthalenes	33.6	1.70	0.487	
91-20-3C3	C3-Naphthalenes	44.3	1.70	0.487	
91-20-3C4	C4-Naphthalenes	27.6	1.70	0.487	
208-96-8	Acenaphthylene	25.3	1.70	0.324	
83-32-9	Acenaphthene	8.55	1.70	0.299	
86-73-7	Fluorene	8.16	1.70	0.452	
86-73-7C1	C1-Fluorenes	10.6	1.70	0.452	
86-73-7C2	C2-Fluorenes	31.0	1.70	0.452	
86-73-7C3	C3-Fluorenes	38.2	1.70	0.452	
85-01-8	Phenanthrene	130	1.70	0.562	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	82.0	1.70	0.562	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	67.9	1.70	0.562	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	29.0	1.70	0.562	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	14.0	1.70	0.562	
120-12-7	Anthracene	28.0	1.70	0.350	
206-44-0	Fluoranthene	202	1.70	0.539	
129-00-0	Pyrene	196	1.70	0.446	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	88.8	1.70	0.446	
56-55-3	Benz(a)anthracene	137	1.70	0.346	
218-01-9	Chrysene	140	1.70	0.343	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-03	**Date Collected**	: 05/22/23 10:35
Client ID	: OH-SB-31-2.5-3.5-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/15/23 15:59
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172353	**Analyst**	: CNC
Sample Amount	: 20.03 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	82.0	1.70	0.343	
218-01-9C2	C2-Chrysenes BS	56.4	1.70	0.343	
218-01-9C3	C3-Chrysenes	54.9	1.70	0.343	
218-01-9C4	C4-Chrysenes	37.4	1.70	0.343	
205-99-2	Benzo(b)fluoranthene	129	1.70	0.441	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	117	1.70	0.337	
192-97-2	Benzo(e)pyrene	104	1.70	0.350	
50-32-8	Benzo(a)pyrene	134	1.70	0.484	
198-55-0	Perylene	38.5	1.70	0.327	
193-39-5	Indeno(1,2,3-cd)pyrene	109	1.70	0.460	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	27.9	1.70	0.458	
191-24-2	Benzo(g,h,i)perylene	123	1.70	0.451	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328774
Project Name	: 23E1057	Project Number	: 23E1057
Lab ID	: L2328774-04	Date Collected	: 05/22/23 11:15
Client ID	: OH-SB-31-6.1-7.1-20230522	Date Received	: 05/23/23
Sample Location	:	Date Analyzed	: 06/15/23 17:24
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172354	Analyst	: CNC
Sample Amount	: 10.76 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	324	9.47	2.72	
91-20-3C1	C1-Naphthalenes	129	9.47	2.72	
91-20-3C2	C2-Naphthalenes	1160	9.47	2.72	
91-20-3C3	C3-Naphthalenes	2140	9.47	2.72	
91-20-3C4	C4-Naphthalenes	3150	9.47	2.72	
208-96-8	Acenaphthylene	7340	9.47	1.81	
83-32-9	Acenaphthene	215	9.47	1.67	
86-73-7	Fluorene	60.2	9.47	2.53	
86-73-7C1	C1-Fluorenes	1300	9.47	2.53	
86-73-7C2	C2-Fluorenes	4710	9.47	2.53	
86-73-7C3	C3-Fluorenes	5060	9.47	2.53	
85-01-8	Phenanthrene	163	9.47	3.14	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	3090	9.47	3.14	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	12600	9.47	3.14	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	8150	9.47	3.14	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	3830	9.47	3.14	
120-12-7	Anthracene	638	9.47	1.95	
206-44-0	Fluoranthene	~~14300~~	9.47	3.01	E
129-00-0	Pyrene	~~36600~~	9.47	2.49	E
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	20600	9.47	2.49	
56-55-3	Benz(a)anthracene	12400	9.47	1.93	
218-01-9	Chrysene	7940	9.47	1.91	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2328774
Project Name	: 23E1057	Project Number	: 23E1057
Lab ID	: L2328774-04	Date Collected	: 05/22/23 11:15
Client ID	: OH-SB-31-6.1-7.1-20230522	Date Received	: 05/23/23
Sample Location	:	Date Analyzed	: 06/15/23 17:24
Sample Matrix	: SOIL	Date Extracted	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1206172354	Analyst	: CNC
Sample Amount	: 10.76 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 74
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	13900	9.47	1.91	
218-01-9C2	C2-Chrysenes BS	10200	9.47	1.91	
218-01-9C3	C3-Chrysenes	6340	9.47	1.91	
218-01-9C4	C4-Chrysenes	2750	9.47	1.91	
205-99-2	Benzo(b)fluoranthene	8040	9.47	2.46	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	7400	9.47	1.88	
192-97-2	Benzo(e)pyrene	12300	9.47	1.95	
50-32-8	Benzo(a)pyrene	~~20500~~	9.47	2.70	E
198-55-0	Perylene	3200	9.47	1.83	
193-39-5	Indeno(1,2,3-cd)pyrene	10300	9.47	2.57	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	2500	9.47	2.56	
191-24-2	Benzo(g,h,i)perylene	~~14800~~	9.47	2.52	E

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-04D	**Date Collected**	: 05/22/23 11:15
Client ID	: OH-SB-31-6.1-7.1-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/18/23 14:19
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 5
Lab File ID	: F1206162333	**Analyst**	: CNC
Sample Amount	: 10.76 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 74
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
206-44-0	Fluoranthene	14400	47.4	15.0	
129-00-0	Pyrene	35400	47.4	12.4	
50-32-8	Benzo(a)pyrene	20100	47.4	13.5	
191-24-2	Benzo(g,h,i)perylene	14300	47.4	12.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-05	**Date Collected**	: 05/22/23 13:12
Client ID	: OH-SB-21-0.5-1.5-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/15/23 18:50
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172355	**Analyst**	: CNC
Sample Amount	: 1.27 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	75.9	76.0	21.8	J
91-20-3C1	C1-Naphthalenes	60.0	76.0	21.8	J
91-20-3C2	C2-Naphthalenes	126	76.0	21.8	
91-20-3C3	C3-Naphthalenes	119	76.0	21.8	
91-20-3C4	C4-Naphthalenes	102	76.0	21.8	
208-96-8	Acenaphthylene	193	76.0	14.5	
83-32-9	Acenaphthene	48.0	76.0	13.4	J
86-73-7	Fluorene	62.7	76.0	20.3	J
86-73-7C1	C1-Fluorenes	54.1	76.0	20.3	J
86-73-7C2	C2-Fluorenes	109	76.0	20.3	
86-73-7C3	C3-Fluorenes	ND	76.0	20.3	U
85-01-8	Phenanthrene	514	76.0	25.2	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	317	76.0	25.2	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	206	76.0	25.2	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	145	76.0	25.2	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	117	76.0	25.2	
120-12-7	Anthracene	191	76.0	15.7	
206-44-0	Fluoranthene	919	76.0	24.1	
129-00-0	Pyrene	948	76.0	20.0	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	559	76.0	20.0	
56-55-3	Benz(a)anthracene	725	76.0	15.5	
218-01-9	Chrysene	653	76.0	15.4	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-05	**Date Collected**	: 05/22/23 13:12
Client ID	: OH-SB-21-0.5-1.5-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 06/15/23 18:50
Sample Matrix	: SOIL	**Date Extracted**	: 05/31/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206172355	**Analyst**	: CNC
Sample Amount	: 1.27 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	398	76.0	15.4	
218-01-9C2	C2-Chrysenes BS	323	76.0	15.4	
218-01-9C3	C3-Chrysenes	1000	76.0	15.4	
218-01-9C4	C4-Chrysenes	1190	76.0	15.4	
205-99-2	Benzo(b)fluoranthene	664	76.0	19.8	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	653	76.0	15.1	
192-97-2	Benzo(e)pyrene	578	76.0	15.7	
50-32-8	Benzo(a)pyrene	915	76.0	21.7	
198-55-0	Perylene	269	76.0	14.7	
193-39-5	Indeno(1,2,3-cd)pyrene	631	76.0	20.6	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	151	76.0	20.5	
191-24-2	Benzo(g,h,i)perylene	762	76.0	20.2	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-01	**Date Collected**	: 05/22/23 08:00
Client ID	: OH-SB-25-1.0-2.0-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 89
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-02	**Date Collected**	: 05/22/23 09:15
Client ID	: OH-SB-25-5.7-6.7-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 61
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-03	**Date Collected**	: 05/22/23 10:35
Client ID	: OH-SB-31-2.5-3.5-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 88
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-04	**Date Collected**	: 05/22/23 11:15
Client ID	: OH-SB-31-6.1-7.1-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 74
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2328774
Project Name	: 23E1057	**Project Number**	: 23E1057
Lab ID	: L2328774-05	**Date Collected**	: 05/22/23 13:12
Client ID	: OH-SB-21-0.5-1.5-20230522	**Date Received**	: 05/23/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 89
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2329259 and 23E1095
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 19, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-21-6.0-7.0-20230523	23E1095-01	5/23/2023	Soil
OH-SB-22-2.0-3.0-20230523	23E1095-02	5/23/2023	Soil
OH-SB-22-6.4-7.4-20230523	23E1095-03	5/23/2023	Soil
FB-20230523	23E1095-04	5/23/2023	Water
TB-20230523	23E1095-05	5/23/2023	Water

Data validation was performed on the analytical data for five (5) samples collected May 23, 2023 by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample FB-20230523 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- The method blank had a low-level detection for methylene chloride; however, all associated sample results were non-detect and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries. except for analytes presented in the following table.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When

both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	0H-SB-22-2.0-3.0-20230523 0H-SB-22-6.4-7.4-20230523	Chloromethane Dichlorodifluoromethane Vinyl chloride	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	FB-20230523 TB-20230523	1,1,1-Trichloroethane Bromoform Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2-Hexanone Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	0H-SB-21-6.0-7.0-20230523	Bromomethane Chloroethane Chloromethane Cyclohexane Dichlorodifluoromethane Vinyl chloride	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown (5.98). Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	OH-SB-22-6.4-7.4-20230523	2,4,6-Tribromophenol	> CL	J (Detects) No Action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270D-SIM	0H-SB-21-6.0-7.0-20230523 0H-SB-22-6.4-7.4-20230523	Acenaphthylene Benzo(a)anthracene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	0H-SB-22-2.0-3.0-20230523	Naphthalene Phenanthrene Benzo(a)anthracene Benzo(b)fluoranthene Indeno(1,2,3-cd)perylene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	0H-SB-21-6.0-7.0-20230523 0H-SB-22-2.0-3.0-20230523	Benzaldehyde Bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene Hexachlorobutadiene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	0H-SB-22-6.4-7.4-20230523	2,4-Dinitrophenol 2,4-Dinitrotoluene 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenz(a,h)anthracene Indeno(1,2,3-cd)perylene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-22-6.4-7.4-20230523	TCMX	%R > CL	J (Detects) No action (NDs)	3H
8081	OH-SB-21-6.0-7.0-20230523	DCB (2C)	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	OH-SB-21-6.0-7.0-20230523 OH-SB-22-2.0-3.0-20230523 OH-SB-22-6.4-7.4-20230523	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
		4,4'-DDT Methoxychlor	> CL	J (Detects) No action (NDs)	6H
	FB-20230523	4,4'-DDT alpha-Chlordane Chlordane Endosulfan sulfate Endrin gamma-Chlordane	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081A	OH-SB-22-2.0-3.0-20230523 OH-SB-22-6.4-7.4-20230523	Methoxychlor	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- The field blank FB-20230523 had low-level detections for sodium; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	0H-SB-21-6.0-7.0-20230523 0H-SB-22-2.0-3.0-20230523 0H-SB-22-6.4-7.4-20230523	Silver	20% < %R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 19, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1095

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 22, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E1095

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-21-6.0-7.0-20230523	23E1095-01	Soil	05/23/2023 09:55	05/23/2023 14:23
OH-SB-22-2.0-3.0-20230523	23E1095-02	Soil	05/23/2023 11:15	05/23/2023 14:23
OH-SB-22-6.4-7.4-20230523	23E1095-03	Soil	05/23/2023 12:38	05/23/2023 14:23
FB-20230523	23E1095-04	Ground Water	05/23/2023 11:10	05/23/2023 14:23
TB-20230523	23E1095-05	Ground Water	05/23/2023 00:00	05/23/2023 14:23

PN: 23E1095

APL 23E1095

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CHAIN OF CUSTODY

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd floor Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-773-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Cowanus OH 001	SEND INVOICE TO:
PROJECT MGR: Simon Wang	ADDRESS: Left.
PROJECT or PO #: 156854	SAMPLED BY: MM.

PAGE ____ OF ____

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#____

PWSID#____

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [✓] LOW

✓ NYS State Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E1095-01	OH-SB-21-6.0-7.0-20230523	05/23	0955	✓		S	5		VOC, SVOC, PCB, Pesticides, Herbicides, TAL Metals, Alkylated PAH, TCN, ECN
-02	OH-SB-22-2.0-3.0-20230523		1115	✓		S	5		" "
-03	OH-SB-22-6-7-20230523		1238	✓		S	5		" "
-04	FB-20230523		1110	✓		S	10		" "
-05	TB-20230523		LAB	✓		S	2		VOC

RELINQUISHED BY (Print) Max Moore	DATE 05/23/23	RECEIVED BY (Print) Mike D'Angelo	
Signature	Time 1315	Signature	
RELINQUISHED BY (Print) Mike D'Angelo	DATE 5/23/23	RECEIVED BY (Print) Russ Nap	
Signature	Time 14:23	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.1 C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or
NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Methods 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
Sample 23E1095-03 has two surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]
Samples 23E1095-01 and -02 have one surrogate (Decachlorobiphenyl [2C]) outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 2,4-Dinitrophenol and 3,3'-Dichlorobenzidine were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Samples 23E1095-03, -03RE1 (1:100) and -03RE2 (1:500) have surrogates outside of the QC limits (low and high), due to matrix interferences.



Reviewed By: _____ (SK) 8/22/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	5.98		0.00620	0.0248	mg/kg dry	1	6/1/23 15:42

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3100		0.183	3.08	mg/kg dry	1	6/7/23 10:28
Arsenic	3.20		0.110	1.54	mg/kg dry	1	6/7/23 10:28
Barium	12.1		0.0466	0.617	mg/kg dry	1	6/7/23 10:28
Beryllium	0.198		0.00357	0.0308	mg/kg dry	1	6/7/23 10:28
Calcium	220000	D	347	3080	mg/kg dry	100	6/7/23 12:58
Chromium	21.3		0.0348	0.308	mg/kg dry	1	6/7/23 10:28
Cobalt	1.38		0.0315	0.247	mg/kg dry	1	6/7/23 10:28
Copper	23.1		0.0863	0.308	mg/kg dry	1	6/7/23 10:28
Iron	5460		0.874	6.17	mg/kg dry	1	6/7/23 10:28
Lead	27.4		0.129	1.54	mg/kg dry	1	6/7/23 10:28
Magnesium	1520		10.9	61.7	mg/kg dry	1	6/7/23 10:28
Manganese	137		0.0384	0.308	mg/kg dry	1	6/7/23 10:28
Nickel	5.00		0.0271	0.154	mg/kg dry	1	6/7/23 10:28
Potassium	930		36.7	123	mg/kg dry	1	6/7/23 10:28
Sodium	2180		5.88	61.7	mg/kg dry	1	6/7/23 10:28
Vanadium	9.59		0.0710	0.617	mg/kg dry	1	6/7/23 10:28
Zinc	25.7		0.0942	0.925	mg/kg dry	1	6/7/23 10:28

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00158	J	0.000738	0.00161	mg/kg dry	1	6/9/23 23:06
4,4'-DDT [2C]	0.0108		0.00114	0.00161	mg/kg dry	1	6/9/23 23:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	0.291		0.0162	0.165	mg/kg dry	1	6/2/23 22:00
2-Methylnaphthalene	1.60		0.0396	0.248	mg/kg dry	1	6/2/23 22:00
2-Methylphenol	0.0766	J	0.0326	0.165	mg/kg dry	1	6/2/23 22:00
3+4-Methylphenol	0.288		0.0303	0.165	mg/kg dry	1	6/2/23 22:00
Acenaphthene	2.42		0.00941	0.165	mg/kg dry	1	6/2/23 22:00
Acenaphthylene	0.968		0.00574	0.165	mg/kg dry	1	6/2/23 22:00
Anthracene	3.84		0.0239	0.165	mg/kg dry	1	6/2/23 22:00
Benzo(a)anthracene	4.52		0.0166	0.165	mg/kg dry	1	6/2/23 22:00
Benzo(a)pyrene	5.45		0.0288	0.165	mg/kg dry	1	6/2/23 22:00
Benzo(b)fluoranthene	6.09		0.0232	0.165	mg/kg dry	1	6/2/23 22:00
Benzo(g,h,i)perylene	3.97		0.0134	0.165	mg/kg dry	1	6/2/23 22:00
Benzo(k)fluoranthene	1.77		0.0190	0.165	mg/kg dry	1	6/2/23 22:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Biphenyl	0.598		0.0145	0.165	mg/kg dry	1	6/2/23 22:00
bis(2-ethylhexyl)phthalate	0.378		0.0330	0.165	mg/kg dry	1	6/2/23 22:00
Carbazole	1.73		0.0317	0.413	mg/kg dry	1	6/2/23 22:00
Chrysene	4.71		0.0113	0.165	mg/kg dry	1	6/2/23 22:00
Dibenzo(a,h)anthracene	0.942		0.0164	0.165	mg/kg dry	1	6/2/23 22:00
Dibenzofuran	2.88		0.00983	0.165	mg/kg dry	1	6/2/23 22:00
Fluoranthene	15.2	D	0.155	1.65	mg/kg dry	10	6/5/23 20:08
Fluorene	3.62		0.0138	0.165	mg/kg dry	1	6/2/23 22:00
Indeno(1,2,3-cd)pyrene	3.30		0.0177	0.165	mg/kg dry	1	6/2/23 22:00
Naphthalene	3.40		0.0122	0.165	mg/kg dry	1	6/2/23 22:00
Phenanthrene	19.2	D	0.217	1.65	mg/kg dry	10	6/5/23 20:08
Pyrene	12.4	D	0.121	1.65	mg/kg dry	10	6/5/23 20:08
TIC_Dibenzothiophene	1.21	J			mg/kg dry	1	6/2/23 22:00
TIC_Hexadecanoic acid, butyl ester	8.34	J, B			mg/kg dry	1	6/2/23 22:00
TIC_Naphthalene, 1,5-dimethyl-	1.06	J			mg/kg dry	1	6/2/23 22:00
TIC_Naphthalene, 1-methyl-	1.43	J			mg/kg dry	1	6/2/23 22:00
TIC_Octadecanoic acid, butyl ester	1.93	J, B			mg/kg dry	1	6/2/23 22:00
TIC_unknown (01)	0.928	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (02)	1.83	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (03)	2.34	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (04)	0.933	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (05)	3.95	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (06)	1.41	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (07)	1.67	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (08)	1.14	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (09)	1.14	J			mg/kg dry	1	6/2/23 22:00
TIC_unknown (10)	4.64	J			mg/kg dry	1	6/2/23 22:00

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.0160	J			mg/kg dry	1	6/2/23 14:59

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.253		0.00803	0.0674	mg/kg dry	1	5/24/23 16:07

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-20230523**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-20230523**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	18.1	D	0.0920	0.735	mg/kg dry	20	6/10/23 8:43
Total PCBs	18.1	D	0.0686	0.735	mg/kg dry	20	6/10/23 8:43

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	4.88		0.00557	0.0223	mg/kg dry	1	6/2/23 10:14

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	11100		0.158	2.65	mg/kg dry	1	6/7/23 10:30
Antimony	1.67		0.144	1.33	mg/kg dry	1	6/7/23 10:30
Arsenic	12.2		0.0946	1.33	mg/kg dry	1	6/7/23 10:30
Barium	201		0.0401	0.530	mg/kg dry	1	6/7/23 10:30
Beryllium	0.645		0.00307	0.0265	mg/kg dry	1	6/7/23 10:30
Cadmium	2.23		0.0517	0.265	mg/kg dry	1	6/7/23 10:30
Calcium	44800	D	29.8	265	mg/kg dry	10	6/7/23 13:00
Chromium	79.6		0.0299	0.265	mg/kg dry	1	6/7/23 10:30
Cobalt	12.1		0.0271	0.212	mg/kg dry	1	6/7/23 10:30
Copper	467	D	0.742	2.65	mg/kg dry	10	6/7/23 13:00
Iron	84900	D	7.51	53.0	mg/kg dry	10	6/7/23 13:00
Lead	620		0.111	1.33	mg/kg dry	1	6/7/23 10:30
Magnesium	14700		9.37	53.0	mg/kg dry	1	6/7/23 10:30
Manganese	1170		0.0330	0.265	mg/kg dry	1	6/7/23 10:30
Nickel	177		0.0233	0.133	mg/kg dry	1	6/7/23 10:30
Potassium	791		31.5	106	mg/kg dry	1	6/7/23 10:30
Silver	0.353		0.0451	0.159	mg/kg dry	1	6/7/23 10:30
Sodium	1570		5.06	53.0	mg/kg dry	1	6/7/23 10:30
Vanadium	963	D	0.610	5.30	mg/kg dry	10	6/7/23 13:00
Zinc	777	D	0.810	7.96	mg/kg dry	10	6/7/23 13:00

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane	0.0133		0.000644	0.00145	mg/kg dry	1	6/10/23 0:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.175	J	0.0355	0.223	mg/kg dry	1	6/2/23 22:30
Acenaphthene	0.210		0.00845	0.148	mg/kg dry	1	6/2/23 22:30
Acenaphthylene	0.269		0.00516	0.148	mg/kg dry	1	6/2/23 22:30
Anthracene	0.832		0.0215	0.148	mg/kg dry	1	6/2/23 22:30
Benzo(a)anthracene	2.00		0.0149	0.148	mg/kg dry	1	6/2/23 22:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-20230523**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)pyrene	2.12		0.0258	0.148	mg/kg dry	1	6/2/23 22:30
Benzo(b)fluoranthene	2.86		0.0208	0.148	mg/kg dry	1	6/2/23 22:30
Benzo(g,h,i)perylene	1.29		0.0120	0.148	mg/kg dry	1	6/2/23 22:30
Benzo(k)fluoranthene	0.975		0.0170	0.148	mg/kg dry	1	6/2/23 22:30
Biphenyl	0.0740	J	0.0130	0.148	mg/kg dry	1	6/2/23 22:30
bis(2-ethylhexyl)phthalate	3.45		0.0296	0.148	mg/kg dry	1	6/2/23 22:30
Butylbenzylphthalate	49.1	D	0.135	1.48	mg/kg dry	10	6/5/23 20:39
Carbazole	0.194	J	0.0285	0.371	mg/kg dry	1	6/2/23 22:30
Chrysene	2.21		0.0102	0.148	mg/kg dry	1	6/2/23 22:30
Dibenzo(a,h)anthracene	0.401		0.0147	0.148	mg/kg dry	1	6/2/23 22:30
Dibenzofuran	0.153		0.00883	0.148	mg/kg dry	1	6/2/23 22:30
Di-n-butylphthalate	1.62		0.0606	0.148	mg/kg dry	1	6/2/23 22:30
Fluoranthene	4.51		0.0139	0.148	mg/kg dry	1	6/2/23 22:30
Fluorene	0.309		0.0124	0.148	mg/kg dry	1	6/2/23 22:30
Hexachlorobenzene	0.0547	J	0.0194	0.148	mg/kg dry	1	6/2/23 22:30
Indeno(1,2,3-cd)pyrene	1.18		0.0159	0.148	mg/kg dry	1	6/2/23 22:30
Naphthalene	0.150		0.0110	0.148	mg/kg dry	1	6/2/23 22:30
Phenanthrene	2.64		0.0195	0.148	mg/kg dry	1	6/2/23 22:30
Pyrene	3.52		0.0109	0.148	mg/kg dry	1	6/2/23 22:30
TIC_Hexadecanoic acid, butyl ester	15.6	J, B			mg/kg dry	1	6/2/23 22:30
TIC_unknown (01)	0.926	J			mg/kg dry	1	6/2/23 22:30
TIC_unknown (02)	1.04	J			mg/kg dry	1	6/2/23 22:30

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00158	J	0.000480	0.00348	mg/kg dry	1	5/31/23 19:10

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0655		0.00749	0.0629	mg/kg dry	1	5/24/23 16:07

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.602		0.00629	0.0252	mg/kg dry	1	6/1/23 15:42

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5840		0.184	3.10	mg/kg dry	1	6/7/23 10:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	8.09		0.111	1.55	mg/kg dry	1	6/7/23 10:32
Barium	20.7		0.0469	0.620	mg/kg dry	1	6/7/23 10:32
Beryllium	0.420		0.00359	0.0310	mg/kg dry	1	6/7/23 10:32
Calcium	43900	D	34.9	310	mg/kg dry	10	6/7/23 13:03
Chromium	16.0		0.0350	0.310	mg/kg dry	1	6/7/23 10:32
Cobalt	3.78		0.0317	0.248	mg/kg dry	1	6/7/23 10:32
Copper	22.8		0.0867	0.310	mg/kg dry	1	6/7/23 10:32
Iron	16400		0.878	6.20	mg/kg dry	1	6/7/23 10:32
Lead	67.4		0.129	1.55	mg/kg dry	1	6/7/23 10:32
Magnesium	2670		10.9	62.0	mg/kg dry	1	6/7/23 10:32
Manganese	61.6		0.0386	0.310	mg/kg dry	1	6/7/23 10:32
Nickel	9.02		0.0272	0.155	mg/kg dry	1	6/7/23 10:32
Potassium	2220		36.9	124	mg/kg dry	1	6/7/23 10:32
Sodium	2360		5.91	62.0	mg/kg dry	1	6/7/23 10:32
Vanadium	19.6		0.0713	0.620	mg/kg dry	1	6/7/23 10:32
Zinc	47.1		0.0947	0.930	mg/kg dry	1	6/7/23 10:32

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.320	D	0.00727	0.0164	mg/kg dry	10	6/13/23 21:17
Heptachlor [2C]	0.0414		0.000438	0.00164	mg/kg dry	1	6/12/23 18:57

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	1.75	D	0.0824	0.837	mg/kg dry	5	6/5/23 15:06
2-Methylnaphthalene	8.03	D	0.201	1.26	mg/kg dry	5	6/5/23 15:06
2-Methylphenol	0.678	J, D	0.165	0.837	mg/kg dry	5	6/5/23 15:06
Acenaphthene	988	D	0.955	16.7	mg/kg dry	100	6/6/23 17:55
Acenaphthylene	13.8	D	0.0291	0.837	mg/kg dry	5	6/5/23 15:06
Anthracene	864	D	2.43	16.7	mg/kg dry	100	6/6/23 17:55
Benzo(a)anthracene	149	D	1.69	16.7	mg/kg dry	100	6/6/23 17:55
Benzo(a)pyrene	70.8	D	2.92	16.7	mg/kg dry	100	6/6/23 17:55
Benzo(b)fluoranthene	97.2	D	2.35	16.7	mg/kg dry	100	6/6/23 17:55
Benzo(g,h,i)perylene	22.0	D	0.0679	0.837	mg/kg dry	5	6/5/23 15:06
Benzo(k)fluoranthene	30.7	D	0.0963	0.837	mg/kg dry	5	6/5/23 15:06
Biphenyl	33.0	D	0.0736	0.837	mg/kg dry	5	6/5/23 15:06
Carbazole	154	D	3.22	41.9	mg/kg dry	100	6/6/23 17:55
Chrysene	143	D	1.15	16.7	mg/kg dry	100	6/6/23 17:55
Dibenzo(a,h)anthracene	2.77	D	0.0830	0.837	mg/kg dry	5	6/5/23 15:06
Dibenzofuran	540	D	0.998	16.7	mg/kg dry	100	6/6/23 17:55

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluoranthene	1150	D	7.86	83.7	mg/kg dry	500	6/7/23 21:26
Fluorene	788	D	1.40	16.7	mg/kg dry	100	6/6/23 17:55
Indeno(1,2,3-cd)pyrene	21.5	D	0.0900	0.837	mg/kg dry	5	6/5/23 15:06
Naphthalene	13.8	D	0.0620	0.837	mg/kg dry	5	6/5/23 15:06
Phenanthrene	2400	D	11.0	83.7	mg/kg dry	500	6/7/23 21:26
Phenol	1.07	D	0.0679	0.837	mg/kg dry	5	6/5/23 15:06
Pyrene	806	D	1.23	16.7	mg/kg dry	100	6/6/23 17:55
TIC_1-Isopropenylnaphthalene	127	J, D			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1,3-dimethyl-	395	D, J			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1,4,6-trimethyl-	176	D, J			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1,5-dimethyl-	67.3	D, J			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1,6,7-trimethyl-	140	D, J			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1,6-dimethyl-	136	D, J			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1-ethyl-	84.9	D, J			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 1-methyl-	134	J, D			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 2,3,6-trimethyl-	122	J, D			mg/kg dry	5	6/5/23 15:06
TIC_Naphthalene, 2,6-dimethyl-	228	J, D			mg/kg dry	5	6/5/23 15:06
TIC_Quinoline, 2,4-dimethyl-	59.9	J, D			mg/kg dry	5	6/5/23 15:06
TIC_unknown (01)	65.6	J, D			mg/kg dry	5	6/5/23 15:06
TIC_unknown (02)	157	J, D			mg/kg dry	5	6/5/23 15:06
TIC_unknown (03)	58.0	D, J			mg/kg dry	5	6/5/23 15:06
TIC_unknown (04)	355	D, J			mg/kg dry	5	6/5/23 15:06

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00536		0.000232	0.00168	mg/kg dry	1	5/31/23 19:39
Benzene	0.00103	J	0.000153	0.00168	mg/kg dry	1	5/31/23 19:39
Carbon disulfide	0.0126		0.000241	0.00168	mg/kg dry	1	5/31/23 19:39
EthylBenzene	0.0312		0.000227	0.00168	mg/kg dry	1	5/31/23 19:39
Isopropylbenzene	0.0449		0.000263	0.00168	mg/kg dry	1	5/31/23 19:39
m+p-Xylenes	0.0107		0.000424	0.00336	mg/kg dry	1	5/31/23 19:39
Methylcyclohexane	0.00615		0.000270	0.00168	mg/kg dry	1	5/31/23 19:39
o-Xylene	0.00527		0.000216	0.00168	mg/kg dry	1	5/31/23 19:39
Toluene	0.00308		0.000135	0.00168	mg/kg dry	1	5/31/23 19:39
Total Xylenes	0.0160		0.000216	0.00168	mg/kg dry	1	5/31/23 19:39

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1H-Inden-1-one, 2,3-dihydro-3-methyl-	0.165	J			mg/kg dry	1	5/31/23 19:39
TIC_1H-Indene, 2,3-dihydro-1,3-dimethyl-	0.109	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 1,2,4,5-tetramethyl-	0.269	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 1-ethyl-4-methyl-	0.105	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 1-methyl-2-(1-methyl-2-propenyl	0.0861	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.0845	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	0.0989	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 4-ethyl-1,2-dimethyl- (01)	0.187	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzene, 4-ethyl-1,2-dimethyl- (02)	0.110	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzofuran, 2-methyl-	0.313	J			mg/kg dry	1	5/31/23 19:39
TIC_Benzofuran, 7-methyl-	0.233	J			mg/kg dry	1	5/31/23 19:39
TIC_Dodecane, 6-methyl-	0.0809	J			mg/kg dry	1	5/31/23 19:39
TIC_Indan, 1-methyl-	0.344	J			mg/kg dry	1	5/31/23 19:39
TIC_Naphthalene, 1,2,3,4-tetrahydro-1-methyl	0.0913	J			mg/kg dry	1	5/31/23 19:39
TIC_Naphthalene, decahydro-, trans-	0.102	J			mg/kg dry	1	5/31/23 19:39

23E1095-04 (Ground Water) Sample Name: **FB-20230523**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Sodium	2.82		0.205	2.00	mg/L	1	5/30/23 15:19

ND - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-202 30523** Collected: **5/23/2023 9:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00549	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1221	ND	U	0.0108	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1232	ND	U	0.0137	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1242	ND	U	0.00804	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1248	ND	U	0.00841	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1254	ND	U	0.00660	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1260	ND	U	0.00512	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1262	ND	U	0.0110	0.0409	mg/kg	1	6/9/23 19:42
Aroclor-1268	ND	U	0.00495	0.0409	mg/kg	1	6/9/23 19:42
Total PCBs	ND	U	0.00382	0.0409	mg/kg	1	6/9/23 19:42

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.124	mg/kg	1	6/3/23 11:39
2,4-D	ND	U	0.0206	0.124	mg/kg	1	6/3/23 11:39

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**5.98**		**0.00620**	**0.0248**	**mg/kg**	**1**	**6/1/23 15:42**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3100**		**0.183**	**3.08**	**mg/kg**	**1**	**6/7/23 10:28**
Antimony	ND	U	0.168	1.54	mg/kg	1	6/7/23 10:28
Arsenic	**3.20**		**0.110**	**1.54**	**mg/kg**	**1**	**6/7/23 10:28**
Barium	**12.1**		**0.0466**	**0.617**	**mg/kg**	**1**	**6/7/23 10:28**
Beryllium	**0.198**		**0.00357**	**0.0308**	**mg/kg**	**1**	**6/7/23 10:28**
Cadmium	ND	U	0.0601	0.308	mg/kg	1	6/7/23 10:28
Calcium	**220000**	D	**347**	**3080**	**mg/kg**	**100**	**6/7/23 12:58**
Chromium	**21.3**		**0.0348**	**0.308**	**mg/kg**	**1**	**6/7/23 10:28**
Cobalt	**1.38**		**0.0315**	**0.247**	**mg/kg**	**1**	**6/7/23 10:28**
Copper	**23.1**		**0.0863**	**0.308**	**mg/kg**	**1**	**6/7/23 10:28**
Iron	**5460**		**0.874**	**6.17**	**mg/kg**	**1**	**6/7/23 10:28**
Lead	**27.4**		**0.129**	**1.54**	**mg/kg**	**1**	**6/7/23 10:28**
Magnesium	**1520**		**10.9**	**61.7**	**mg/kg**	**1**	**6/7/23 10:28**
Manganese	**137**		**0.0384**	**0.308**	**mg/kg**	**1**	**6/7/23 10:28**
Nickel	**5.00**		**0.0271**	**0.154**	**mg/kg**	**1**	**6/7/23 10:28**
Potassium	**930**		**36.7**	**123**	**mg/kg**	**1**	**6/7/23 10:28**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523** Collected: **5/23/2023 9:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.296	1.54	mg/kg	1	6/7/23 10:28	
Silver	ND	U	0.0525	0.185	mg/kg	1	6/7/23 10:28	UJ, RC:6L
Sodium	**2180**		**5.88**	**61.7**	**mg/kg**	**1**	**6/7/23 10:28**	
Thallium	ND	U	0.104	1.54	mg/kg	1	6/7/23 10:28	
Vanadium	**9.59**		**0.0710**	**0.617**	**mg/kg**	**1**	**6/7/23 10:28**	
Zinc	**25.7**		**0.0942**	**0.925**	**mg/kg**	**1**	**6/7/23 10:28**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.00158**	J	**0.000738**	**0.00161**	**mg/kg**	**1**	**6/9/23 23:06**	
4,4'-DDE	ND	U	0.000882	0.00161	mg/kg	1	6/9/23 23:06	
4,4'-DDT [2C]	**0.0108**		**0.00114**	**0.00161**	**mg/kg**	**1**	**6/9/23 23:06**	J, RC:6H,3H
Aldrin	ND	U	0.000764	0.00161	mg/kg	1	6/9/23 23:06	
alpha-BHC	ND	U	0.000480	0.00161	mg/kg	1	6/9/23 23:06	
beta-BHC	ND	U	0.000770	0.00161	mg/kg	1	6/9/23 23:06	
Chlordane	ND	U	0.000717	0.00161	mg/kg	1	6/9/23 23:06	
delta-BHC	ND	U	0.000749	0.00161	mg/kg	1	6/9/23 23:06	
Dieldrin	ND	U	0.000843	0.00161	mg/kg	1	6/9/23 23:06	
Endosulfan I	ND	U	0.000761	0.00161	mg/kg	1	6/9/23 23:06	
Endosulfan II	ND	U	0.000733	0.00161	mg/kg	1	6/9/23 23:06	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000606	0.00161	mg/kg	1	6/9/23 23:06	
Endosulfans, Total (alpha and beta)	ND	U	0.000733	0.00161	mg/kg	1	6/9/23 23:06	
Endrin	ND	U	0.000557	0.00161	mg/kg	1	6/9/23 23:06	
Endrin aldehyde	ND	U	0.000642	0.00161	mg/kg	1	6/9/23 23:06	
Endrin ketone	ND	U	0.000568	0.00161	mg/kg	1	6/9/23 23:06	
gamma-BHC (Lindane)	ND	U	0.000511	0.00161	mg/kg	1	6/9/23 23:06	
Heptachlor	ND	U	0.000432	0.00161	mg/kg	1	6/9/23 23:06	
Heptachlor Epoxide	ND	U	0.000814	0.00161	mg/kg	1	6/9/23 23:06	
Methoxychlor	ND	U	0.000472	0.00161	mg/kg	1	6/9/23 23:06	
Toxaphene	ND	U	0.0777	0.0818	mg/kg	1	6/9/23 23:06	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00466	0.0413	mg/kg	1	6/2/23 22:00
2,3,4,6-Tetrachlorophenol	ND	U	0.0254	0.165	mg/kg	1	6/2/23 22:00
2,4,5-Trichlorophenol	ND	U	0.0224	0.165	mg/kg	1	6/2/23 22:00
2,4,6-Trichlorophenol	ND	U	0.0103	0.165	mg/kg	1	6/2/23 22:00

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523** Collected: **5/23/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0166	0.165	mg/kg	1	6/2/23 22:00	
2,4-Dimethylphenol	**0.291**		**0.0162**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
2,4-Dinitrophenol	ND	U	0.0238	0.827	mg/kg	1	6/2/23 22:00	
2,4-Dinitrotoluene	ND	U	0.0176	0.165	mg/kg	1	6/2/23 22:00	
2,6-Dinitrotoluene	ND	U	0.0394	0.165	mg/kg	1	6/2/23 22:00	
2-Chloronaphthalene	ND	U	0.0190	0.165	mg/kg	1	6/2/23 22:00	
2-Chlorophenol	ND	U	0.0218	0.165	mg/kg	1	6/2/23 22:00	
2-Methylnaphthalene	**1.60**		**0.0396**	**0.248**	**mg/kg**	**1**	**6/2/23 22:00**	
2-Methylphenol	**0.0766**	J	**0.0326**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
2-Nitroaniline	ND	U	0.0133	0.165	mg/kg	1	6/2/23 22:00	
2-Nitrophenol	ND	U	0.0184	0.165	mg/kg	1	6/2/23 22:00	
3,3'-Dichlorobenzidine	ND	U	0.0174	0.165	mg/kg	1	6/2/23 22:00	
3+4-Methylphenol	**0.288**		**0.0303**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
3-Nitroaniline	ND	U	0.0306	0.165	mg/kg	1	6/2/23 22:00	
4,6-Dinitro-2-methylphenol	ND	U	0.0311	0.413	mg/kg	1	6/2/23 22:00	
4-Bromophenyl-phenyl ether	ND	U	0.0236	0.165	mg/kg	1	6/2/23 22:00	
4-Chloro-3-methylphenol	ND	U	0.0260	0.165	mg/kg	1	6/2/23 22:00	
4-Chloroaniline	ND	U	0.00578	0.165	mg/kg	1	6/2/23 22:00	
4-Chlorophenyl phenyl ether	ND	U	0.00892	0.165	mg/kg	1	6/2/23 22:00	
4-Nitroaniline	ND	U	0.0826	0.165	mg/kg	1	6/2/23 22:00	
4-Nitrophenol	ND	U	0.0106	0.165	mg/kg	1	6/2/23 22:00	
Acenaphthene	**2.42**		**0.00941**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Acenaphthylene	**0.968**		**0.00574**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Acetophenone	ND	U	0.0164	0.165	mg/kg	1	6/2/23 22:00	
Anthracene	**3.84**		**0.0239**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Atrazine	ND	U	0.0155	0.165	mg/kg	1	6/2/23 22:00	
Benzaldehyde	ND	U	0.0507	0.165	mg/kg	1	6/2/23 22:00	UJ, RC:SL
Benzo(a)anthracene	**4.52**		**0.0166**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Benzo(a)pyrene	**5.45**		**0.0288**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Benzo(b)fluoranthene	**6.09**		**0.0232**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Benzo(g,h,i)perylene	**3.97**		**0.0134**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Benzo(k)fluoranthene	**1.77**		**0.0190**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Biphenyl	**0.598**		**0.0145**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
bis(2-chloroethoxy)methane	ND	U	0.0228	0.165	mg/kg	1	6/2/23 22:00	
bis(2-chloroethyl)ether	ND	U	0.0181	0.165	mg/kg	1	6/2/23 22:00	
bis(2-chloroisopropyl)ether	ND	U	0.0594	0.165	mg/kg	1	6/2/23 22:00	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**0.378**		**0.0330**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**	
Butylbenzylphthalate	ND	U	0.0150	0.165	mg/kg	1	6/2/23 22:00	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1095
Project: Owls Head Phase 2 **Date to Lab:** 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523** Collected: **5/23/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0213	0.165	mg/kg	1	6/2/23 22:00
Carbazole	**1.73**		**0.0317**	**0.413**	**mg/kg**	**1**	**6/2/23 22:00**
Chrysene	**4.71**		**0.0113**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**
Dibenzo(a,h)anthracene	**0.942**		**0.0164**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**
Dibenzofuran	**2.88**		**0.00983**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**
Diethylphthalate	ND	U	0.0320	0.165	mg/kg	1	6/2/23 22:00
Dimethylphthalate	ND	U	0.0102	0.165	mg/kg	1	6/2/23 22:00
Di-n-butylphthalate	ND	U	0.0675	0.165	mg/kg	1	6/2/23 22:00
Di-n-octylphthalate	ND	U	0.0339	0.165	mg/kg	1	6/2/23 22:00
Fluoranthene	**15.2**	D	**0.155**	**1.65**	**mg/kg**	**10**	**6/5/23 20:08**
Fluorene	**3.62**		**0.0138**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**
Hexachlorobenzene	ND	U	0.0216	0.165	mg/kg	1	6/2/23 22:00
Hexachlorobutadiene	ND	U	0.0792	0.165	mg/kg	1	6/2/23 22:00
Hexachlorocyclopentadiene	ND	U	0.0688	0.413	mg/kg	1	6/2/23 22:00
Hexachloroethane	ND	U	0.0181	0.165	mg/kg	1	6/2/23 22:00
Indeno(1,2,3-cd)pyrene	**3.30**		**0.0177**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**
Isophorone	ND	U	0.0108	0.165	mg/kg	1	6/2/23 22:00
Naphthalene	**3.40**		**0.0122**	**0.165**	**mg/kg**	**1**	**6/2/23 22:00**
Nitrobenzene	ND	U	0.0280	0.165	mg/kg	1	6/2/23 22:00
n-Nitroso-di-n-propylamine	ND	U	0.00884	0.165	mg/kg	1	6/2/23 22:00
n-Nitrosodiphenylamine	ND	U	0.0352	0.165	mg/kg	1	6/2/23 22:00
Pentachlorophenol	ND	U	0.0227	0.413	mg/kg	1	6/2/23 22:00
Phenanthrene	**19.2**	D	**0.217**	**1.65**	**mg/kg**	**10**	**6/5/23 20:08**
Phenol	ND	U	0.0134	0.165	mg/kg	1	6/2/23 22:00
Pyrene	**12.4**	D	**0.121**	**1.65**	**mg/kg**	**10**	**6/5/23 20:08**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Dibenzothiophene	1.21	10.38	J	mg/kg	1	6/2/23 22:00	
Hexadecanoic acid, butyl ester	~~8.34~~	11.81	J, B	mg/kg	1	6/2/23 22:00	R, RC:2
Naphthalene, 1,5-dimethyl-	1.06	8.63	J	mg/kg	1	6/2/23 22:00	
Naphthalene, 1-methyl-	1.43	8.03	J	mg/kg	1	6/2/23 22:00	
Octadecanoic acid, butyl ester	~~1.93~~	12.59	J, B	mg/kg	1	6/2/23 22:00	R, RC:2
unknown (01)	0.928	9.68	J	mg/kg	1	6/2/23 22:00	
unknown (02)	1.83	10.98	J	mg/kg	1	6/2/23 22:00	
unknown (03)	2.34	11.02	J	mg/kg	1	6/2/23 22:00	
unknown (04)	0.933	11.06	J	mg/kg	1	6/2/23 22:00	
unknown (05)	3.95	11.11	J	mg/kg	1	6/2/23 22:00	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523** Collected: **5/23/2023 9:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (06)	1.41	11.27	J	mg/kg	1	6/2/23 22:00
unknown (07)	1.67	11.31	J	mg/kg	1	6/2/23 22:00
unknown (08)	1.14	12.33	J	mg/kg	1	6/2/23 22:00
unknown (09)	1.14	15.04	J	mg/kg	1	6/2/23 22:00
unknown (10)	4.64	15.35	J	mg/kg	1	6/2/23 22:00
TIC Total	~~33.9~~ 23.6					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000431	0.00295	mg/kg	1	6/2/23 14:59	
1,1,2,2-Tetrachloroethane	ND	U	0.000407	0.00295	mg/kg	1	6/2/23 14:59	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00126	0.00295	mg/kg	1	6/2/23 14:59	
1,1,2-Trichloroethane	ND	U	0.000498	0.00295	mg/kg	1	6/2/23 14:59	
1,1-Dichloroethane	ND	U	0.000431	0.00295	mg/kg	1	6/2/23 14:59	
1,1-Dichloroethene	ND	U	0.000546	0.00295	mg/kg	1	6/2/23 14:59	
1,2,3-Trichlorobenzene	ND	U	0.000638	0.00295	mg/kg	1	6/2/23 14:59	
1,2,4-Trichlorobenzene	ND	U	0.000787	0.00295	mg/kg	1	6/2/23 14:59	
1,2,4-Trimethylbenzene	ND	U	0.000407	0.00295	mg/kg	1	6/2/23 14:59	
1,2-Dibromo-3-chloropropane	ND	U	0.000720	0.00738	mg/kg	1	6/2/23 14:59	
1,2-Dibromoethane	ND	U	0.000372	0.00295	mg/kg	1	6/2/23 14:59	
1,2-Dichlorobenzene	ND	U	0.000521	0.00295	mg/kg	1	6/2/23 14:59	
1,2-Dichloroethane	ND	U	0.000416	0.00295	mg/kg	1	6/2/23 14:59	
1,2-Dichloropropane	ND	U	0.000484	0.00295	mg/kg	1	6/2/23 14:59	
1,3-Dichlorobenzene	ND	U	0.000217	0.00295	mg/kg	1	6/2/23 14:59	
1,4-Dichlorobenzene	ND	U	0.000425	0.00295	mg/kg	1	6/2/23 14:59	
2-Butanone	ND	U	0.000481	0.0148	mg/kg	1	6/2/23 14:59	
2-Hexanone	ND	U	0.000276	0.00295	mg/kg	1	6/2/23 14:59	
4-Methyl-2-pentanone	ND	U	0.000369	0.00295	mg/kg	1	6/2/23 14:59	
Acetone	ND	U	0.000895	0.0738	mg/kg	1	6/2/23 14:59	
Benzene	ND	U	0.000269	0.00295	mg/kg	1	6/2/23 14:59	
Bromochloromethane	ND	U	0.000545	0.00295	mg/kg	1	6/2/23 14:59	
Bromodichloromethane	ND	U	0.000371	0.00295	mg/kg	1	6/2/23 14:59	
Bromoform	ND	U	0.000518	0.00295	mg/kg	1	6/2/23 14:59	
Bromomethane	ND	U	0.000852	0.00295	mg/kg	1	6/2/23 14:59	UJ, RC:SL
Carbon disulfide	ND	U	0.000424	0.00295	mg/kg	1	6/2/23 14:59	
Carbon Tetrachloride	ND	U	0.000444	0.00295	mg/kg	1	6/2/23 14:59	
Chlorobenzene	ND	U	0.000428	0.00295	mg/kg	1	6/2/23 14:59	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523** Collected: **5/23/2023 9:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorodibromomethane	ND	U	0.000363	0.00295	mg/kg	1	6/2/23 14:59	
Chloroethane	ND	U	0.000503	0.00295	mg/kg	1	6/2/23 14:59	UJ, RC:SL
Chloroform	ND	U	0.000496	0.00295	mg/kg	1	6/2/23 14:59	
Chloromethane	ND	U	0.00114	0.00295	mg/kg	1	6/2/23 14:59	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.000143	0.00295	mg/kg	1	6/2/23 14:59	
cis-1,3-Dichloropropene	ND	U	0.000374	0.00295	mg/kg	1	6/2/23 14:59	
Cyclohexane	ND	U	0.000654	0.00295	mg/kg	1	6/2/23 14:59	UJ, RC:SL
Dichlorodifluoromethane	ND	U	0.000997	0.00295	mg/kg	1	6/2/23 14:59	UJ, RC:SL
EthylBenzene	ND	U	0.000400	0.00295	mg/kg	1	6/2/23 14:59	
Isopropylbenzene	ND	U	0.000464	0.00295	mg/kg	1	6/2/23 14:59	
m+p-Xylenes	ND	U	0.000746	0.00591	mg/kg	1	6/2/23 14:59	
Methyl Acetate	ND	U	0.000391	0.00295	mg/kg	1	6/2/23 14:59	
Methyl tert-Butyl Ether	ND	U	0.000499	0.00295	mg/kg	1	6/2/23 14:59	
Methylcyclohexane	ND	U	0.000475	0.00295	mg/kg	1	6/2/23 14:59	
Methylene Chloride	ND	U	0.000887	0.00738	mg/kg	1	6/2/23 14:59	
o-Xylene	ND	U	0.000379	0.00295	mg/kg	1	6/2/23 14:59	
Styrene	ND	U	0.000422	0.00295	mg/kg	1	6/2/23 14:59	
tert-Butyl alcohol	ND	U	0.00620	0.0295	mg/kg	1	6/2/23 14:59	
Tetrachloroethene	ND	U	0.000292	0.00295	mg/kg	1	6/2/23 14:59	
Toluene	ND	U	0.000238	0.00295	mg/kg	1	6/2/23 14:59	
Total Xylenes	ND	U	0.000379	0.00295	mg/kg	1	6/2/23 14:59	
trans-1,2-Dichloroethene	ND	U	0.000400	0.00295	mg/kg	1	6/2/23 14:59	
trans-1,3-Dichloropropene	ND	U	0.000564	0.00295	mg/kg	1	6/2/23 14:59	
Trichloroethene	ND	U	0.000434	0.00295	mg/kg	1	6/2/23 14:59	
Trichlorofluoromethane	ND	U	0.000340	0.00295	mg/kg	1	6/2/23 14:59	
Vinyl chloride	ND	U	0.000561	0.00295	mg/kg	1	6/2/23 14:59	UJ, RC:SL

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0160	3.90	J	mg/kg	1	6/2/23 14:59
TIC Total	**0.016**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.6**				**%**	**1**	**5/24/23 10:59**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-01 (Soil) Sample Name: **OH-SB-21-6.0-7.0-20230523** Collected: **5/23/2023 9:55:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.253**		**0.00803**	**0.0674**	**mg/kg**	**1**	**5/24/23 16:07**

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-20230523** Collected: **5/23/2023 11:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0986	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1221	ND	U	0.194	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1232	ND	U	0.247	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1242	ND	U	0.144	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1248	ND	U	0.151	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1254	ND	U	0.119	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1260	**18.1**	D	**0.0920**	**0.735**	**mg/kg**	**20**	**6/10/23 8:43**
Aroclor-1262	ND	U	0.198	0.735	mg/kg	20	6/10/23 8:43
Aroclor-1268	ND	U	0.0889	0.735	mg/kg	20	6/10/23 8:43
Total PCBs	**18.1**	D	**0.0686**	**0.735**	**mg/kg**	**20**	**6/10/23 8:43**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	6/3/23 12:02
2,4-D	ND	U	0.0185	0.111	mg/kg	1	6/3/23 12:02

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**4.88**		**0.00557**	**0.0223**	**mg/kg**	**1**	**6/2/23 10:14**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**11100**		**0.158**	**2.65**	**mg/kg**	**1**	**6/7/23 10:30**
Antimony	**1.67**		**0.144**	**1.33**	**mg/kg**	**1**	**6/7/23 10:30**
Arsenic	**12.2**		**0.0946**	**1.33**	**mg/kg**	**1**	**6/7/23 10:30**
Barium	**201**		**0.0401**	**0.530**	**mg/kg**	**1**	**6/7/23 10:30**
Beryllium	**0.645**		**0.00307**	**0.0265**	**mg/kg**	**1**	**6/7/23 10:30**
Cadmium	**2.23**		**0.0517**	**0.265**	**mg/kg**	**1**	**6/7/23 10:30**
Calcium	**44800**	D	**29.8**	**265**	**mg/kg**	**10**	**6/7/23 13:00**
Chromium	**79.6**		**0.0299**	**0.265**	**mg/kg**	**1**	**6/7/23 10:30**
Cobalt	**12.1**		**0.0271**	**0.212**	**mg/kg**	**1**	**6/7/23 10:30**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-202 30523** Collected: **5/23/2023 11:15:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Copper	**467**	D	**0.742**	**2.65**	**mg/kg**	**10**	**6/7/23 13:00**	
Iron	**84900**	D	**7.51**	**53.0**	**mg/kg**	**10**	**6/7/23 13:00**	
Lead	**620**		**0.111**	**1.33**	**mg/kg**	**1**	**6/7/23 10:30**	
Magnesium	**14700**		**9.37**	**53.0**	**mg/kg**	**1**	**6/7/23 10:30**	
Manganese	**1170**		**0.0330**	**0.265**	**mg/kg**	**1**	**6/7/23 10:30**	
Nickel	**177**		**0.0233**	**0.133**	**mg/kg**	**1**	**6/7/23 10:30**	
Potassium	**791**		**31.5**	**106**	**mg/kg**	**1**	**6/7/23 10:30**	
Selenium	ND	U	0.255	1.33	mg/kg	1	6/7/23 10:30	
Silver	**0.353**		**0.0451**	**0.159**	**mg/kg**	**1**	**6/7/23 10:30**	J, RC:6L
Sodium	**1570**		**5.06**	**53.0**	**mg/kg**	**1**	**6/7/23 10:30**	
Thallium	ND	U	0.0892	1.33	mg/kg	1	6/7/23 10:30	
Vanadium	**963**	D	**0.610**	**5.30**	**mg/kg**	**10**	**6/7/23 13:00**	
Zinc	**777**	D	**0.810**	**7.96**	**mg/kg**	**10**	**6/7/23 13:00**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000663	0.00145	mg/kg	1	6/10/23 0:30	
4,4'-DDE	ND	U	0.000792	0.00145	mg/kg	1	6/10/23 0:30	
4,4'-DDT	ND	U	0.00102	0.00145	mg/kg	1	6/10/23 0:30	
Aldrin	ND	U	0.000686	0.00145	mg/kg	1	6/10/23 0:30	
alpha-BHC	ND	U	0.000431	0.00145	mg/kg	1	6/10/23 0:30	
beta-BHC	ND	U	0.000692	0.00145	mg/kg	1	6/10/23 0:30	
Chlordane	**0.0133**		**0.000644**	**0.00145**	**mg/kg**	**1**	**6/10/23 0:30**	
delta-BHC	ND	U	0.000673	0.00145	mg/kg	1	6/10/23 0:30	
Dieldrin	ND	U	0.000757	0.00145	mg/kg	1	6/10/23 0:30	
Endosulfan I	ND	U	0.000684	0.00145	mg/kg	1	6/10/23 0:30	
Endosulfan II	ND	U	0.000658	0.00145	mg/kg	1	6/10/23 0:30	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000545	0.00145	mg/kg	1	6/10/23 0:30	
Endosulfans, Total (alpha and beta)	ND	U	0.000658	0.00145	mg/kg	1	6/10/23 0:30	
Endrin	ND	U	0.000500	0.00145	mg/kg	1	6/10/23 0:30	
Endrin aldehyde	ND	U	0.000577	0.00145	mg/kg	1	6/10/23 0:30	
Endrin ketone	ND	U	0.000510	0.00145	mg/kg	1	6/10/23 0:30	
gamma-BHC (Lindane)	ND	U	0.000459	0.00145	mg/kg	1	6/10/23 0:30	
Heptachlor	ND	U	0.000388	0.00145	mg/kg	1	6/10/23 0:30	
Heptachlor Epoxide	ND	U	0.000731	0.00145	mg/kg	1	6/10/23 0:30	
Methoxychlor	ND	U	0.000424	0.00145	mg/kg	1	6/10/23 0:30	UJ, RC:SL
Toxaphene	ND	U	0.0698	0.0735	mg/kg	1	6/10/23 0:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-202 30523** Collected: **5/23/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00419	0.0371	mg/kg	1	6/2/23 22:30	
2,3,4,6-Tetrachlorophenol	ND	U	0.0228	0.148	mg/kg	1	6/2/23 22:30	
2,4,5-Trichlorophenol	ND	U	0.0202	0.148	mg/kg	1	6/2/23 22:30	
2,4,6-Trichlorophenol	ND	U	0.00928	0.148	mg/kg	1	6/2/23 22:30	
2,4-Dichlorophenol	ND	U	0.0149	0.148	mg/kg	1	6/2/23 22:30	
2,4-Dimethylphenol	ND	U	0.0146	0.148	mg/kg	1	6/2/23 22:30	
2,4-Dinitrophenol	ND	U	0.0214	0.743	mg/kg	1	6/2/23 22:30	
2,4-Dinitrotoluene	ND	U	0.0158	0.148	mg/kg	1	6/2/23 22:30	
2,6-Dinitrotoluene	ND	U	0.0354	0.148	mg/kg	1	6/2/23 22:30	
2-Chloronaphthalene	ND	U	0.0170	0.148	mg/kg	1	6/2/23 22:30	
2-Chlorophenol	ND	U	0.0196	0.148	mg/kg	1	6/2/23 22:30	
2-Methylnaphthalene	**0.175**	J	**0.0355**	**0.223**	**mg/kg**	**1**	**6/2/23 22:30**	
2-Methylphenol	ND	U	0.0293	0.148	mg/kg	1	6/2/23 22:30	
2-Nitroaniline	ND	U	0.0119	0.148	mg/kg	1	6/2/23 22:30	
2-Nitrophenol	ND	U	0.0165	0.148	mg/kg	1	6/2/23 22:30	
3,3'-Dichlorobenzidine	ND	U	0.0156	0.148	mg/kg	1	6/2/23 22:30	
3+4-Methylphenol	ND	U	0.0272	0.148	mg/kg	1	6/2/23 22:30	
3-Nitroaniline	ND	U	0.0275	0.148	mg/kg	1	6/2/23 22:30	
4,6-Dinitro-2-methylphenol	ND	U	0.0280	0.371	mg/kg	1	6/2/23 22:30	
4-Bromophenyl-phenyl ether	ND	U	0.0212	0.148	mg/kg	1	6/2/23 22:30	
4-Chloro-3-methylphenol	ND	U	0.0234	0.148	mg/kg	1	6/2/23 22:30	
4-Chloroaniline	ND	U	0.00519	0.148	mg/kg	1	6/2/23 22:30	
4-Chlorophenyl phenyl ether	ND	U	0.00801	0.148	mg/kg	1	6/2/23 22:30	
4-Nitroaniline	ND	U	0.0742	0.148	mg/kg	1	6/2/23 22:30	
4-Nitrophenol	ND	U	0.00949	0.148	mg/kg	1	6/2/23 22:30	
Acenaphthene	**0.210**		**0.00845**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Acenaphthylene	**0.269**		**0.00516**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Acetophenone	ND	U	0.0147	0.148	mg/kg	1	6/2/23 22:30	
Anthracene	**0.832**		**0.0215**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Atrazine	ND	U	0.0139	0.148	mg/kg	1	6/2/23 22:30	
Benzaldehyde	ND	U	0.0456	0.148	mg/kg	1	6/2/23 22:30	UJ, RC:SL
Benzo(a)anthracene	**2.00**		**0.0149**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Benzo(a)pyrene	**2.12**		**0.0258**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Benzo(b)fluoranthene	**2.86**		**0.0208**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Benzo(g,h,i)perylene	**1.29**		**0.0120**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Benzo(k)fluoranthene	**0.975**		**0.0170**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Biphenyl	**0.0740**	J	**0.0130**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
bis(2-chloroethoxy)methane	ND	U	0.0205	0.148	mg/kg	1	6/2/23 22:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1095
Project: Owls Head Phase 2 **Date to Lab:** 5/23/2023 2:23:00PM

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-202 30523** Collected: **5/23/2023 11:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0163	0.148	mg/kg	1	6/2/23 22:30	
bis(2-chloroisopropyl)ether	ND	U	0.0533	0.148	mg/kg	1	6/2/23 22:30	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**3.45**		**0.0296**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Butylbenzylphthalate	**49.1**	D	**0.135**	**1.48**	**mg/kg**	**10**	**6/5/23 20:39**	
Caprolactam	ND	U	0.0192	0.148	mg/kg	1	6/2/23 22:30	
Carbazole	**0.194**	J	**0.0285**	**0.371**	**mg/kg**	**1**	**6/2/23 22:30**	
Chrysene	**2.21**		**0.0102**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Dibenzo(a,h)anthracene	**0.401**		**0.0147**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Dibenzofuran	**0.153**		**0.00883**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Diethylphthalate	ND	U	0.0287	0.148	mg/kg	1	6/2/23 22:30	
Dimethylphthalate	ND	U	0.00920	0.148	mg/kg	1	6/2/23 22:30	
Di-n-butylphthalate	**1.62**		**0.0606**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Di-n-octylphthalate	ND	U	0.0304	0.148	mg/kg	1	6/2/23 22:30	
Fluoranthene	**4.51**		**0.0139**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Fluorene	**0.309**		**0.0124**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Hexachlorobenzene	**0.0547**	J	**0.0194**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	J, RC:SH
Hexachlorobutadiene	ND	U	0.0712	0.148	mg/kg	1	6/2/23 22:30	
Hexachlorocyclopentadiene	ND	U	0.0618	0.371	mg/kg	1	6/2/23 22:30	
Hexachloroethane	ND	U	0.0163	0.148	mg/kg	1	6/2/23 22:30	
Indeno(1,2,3-cd)pyrene	**1.18**		**0.0159**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Isophorone	ND	U	0.00971	0.148	mg/kg	1	6/2/23 22:30	
Naphthalene	**0.150**		**0.0110**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Nitrobenzene	ND	U	0.0252	0.148	mg/kg	1	6/2/23 22:30	
n-Nitroso-di-n-propylamine	ND	U	0.00794	0.148	mg/kg	1	6/2/23 22:30	
n-Nitrosodiphenylamine	ND	U	0.0316	0.148	mg/kg	1	6/2/23 22:30	
Pentachlorophenol	ND	U	0.0204	0.371	mg/kg	1	6/2/23 22:30	
Phenanthrene	**2.64**		**0.0195**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	
Phenol	ND	U	0.0120	0.148	mg/kg	1	6/2/23 22:30	
Pyrene	**3.52**		**0.0109**	**0.148**	**mg/kg**	**1**	**6/2/23 22:30**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
Hexadecanoic acid, butyl ester	~~15.6~~	11.82	J, B	mg/kg	1	6/2/23 22:30	R, RC:2
unknown (01)	0.926	12.30	J	mg/kg	1	6/2/23 22:30	
unknown (02)	1.04	12.51	J	mg/kg	1	6/2/23 22:30	
TIC Total	~~17.6~~ 2.0						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-202 30523** Collected: **5/23/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000508	0.00348	mg/kg	1	5/31/23 19:10	
1,1,2,2-Tetrachloroethane	ND	U	0.000480	0.00348	mg/kg	1	5/31/23 19:10	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00149	0.00348	mg/kg	1	5/31/23 19:10	
1,1,2-Trichloroethane	ND	U	0.000586	0.00348	mg/kg	1	5/31/23 19:10	
1,1-Dichloroethane	ND	U	0.000508	0.00348	mg/kg	1	5/31/23 19:10	
1,1-Dichloroethene	ND	U	0.000644	0.00348	mg/kg	1	5/31/23 19:10	
1,2,3-Trichlorobenzene	ND	U	0.000752	0.00348	mg/kg	1	5/31/23 19:10	
1,2,4-Trichlorobenzene	ND	U	0.000928	0.00348	mg/kg	1	5/31/23 19:10	
1,2,4-Trimethylbenzene	**0.00158**	J	**0.000480**	**0.00348**	**mg/kg**	**1**	**5/31/23 19:10**	
1,2-Dibromo-3-chloropropane	ND	U	0.000849	0.00870	mg/kg	1	5/31/23 19:10	
1,2-Dibromoethane	ND	U	0.000439	0.00348	mg/kg	1	5/31/23 19:10	
1,2-Dichlorobenzene	ND	U	0.000614	0.00348	mg/kg	1	5/31/23 19:10	
1,2-Dichloroethane	ND	U	0.000491	0.00348	mg/kg	1	5/31/23 19:10	
1,2-Dichloropropane	ND	U	0.000571	0.00348	mg/kg	1	5/31/23 19:10	
1,3-Dichlorobenzene	ND	U	0.000256	0.00348	mg/kg	1	5/31/23 19:10	
1,4-Dichlorobenzene	ND	U	0.000501	0.00348	mg/kg	1	5/31/23 19:10	
2-Butanone	ND	U	0.000567	0.0174	mg/kg	1	5/31/23 19:10	
2-Hexanone	ND	U	0.000325	0.00348	mg/kg	1	5/31/23 19:10	
4-Methyl-2-pentanone	ND	U	0.000435	0.00348	mg/kg	1	5/31/23 19:10	
Acetone	ND	U	0.00105	0.0870	mg/kg	1	5/31/23 19:10	
Benzene	ND	U	0.000317	0.00348	mg/kg	1	5/31/23 19:10	
Bromochloromethane	ND	U	0.000642	0.00348	mg/kg	1	5/31/23 19:10	
Bromodichloromethane	ND	U	0.000437	0.00348	mg/kg	1	5/31/23 19:10	
Bromoform	ND	U	0.000611	0.00348	mg/kg	1	5/31/23 19:10	
Bromomethane	ND	U	0.00100	0.00348	mg/kg	1	5/31/23 19:10	
Carbon disulfide	ND	U	0.000499	0.00348	mg/kg	1	5/31/23 19:10	
Carbon Tetrachloride	ND	U	0.000524	0.00348	mg/kg	1	5/31/23 19:10	
Chlorobenzene	ND	U	0.000505	0.00348	mg/kg	1	5/31/23 19:10	
Chlorodibromomethane	ND	U	0.000428	0.00348	mg/kg	1	5/31/23 19:10	
Chloroethane	ND	U	0.000593	0.00348	mg/kg	1	5/31/23 19:10	
Chloroform	ND	U	0.000585	0.00348	mg/kg	1	5/31/23 19:10	
Chloromethane	ND	U	0.00134	0.00348	mg/kg	1	5/31/23 19:10	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.000168	0.00348	mg/kg	1	5/31/23 19:10	
cis-1,3-Dichloropropene	ND	U	0.000440	0.00348	mg/kg	1	5/31/23 19:10	
Cyclohexane	ND	U	0.000771	0.00348	mg/kg	1	5/31/23 19:10	
Dichlorodifluoromethane	ND	U	0.00117	0.00348	mg/kg	1	5/31/23 19:10	UJ, RC:SL
EthylBenzene	ND	U	0.000472	0.00348	mg/kg	1	5/31/23 19:10	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-02 (Soil) Sample Name: **OH-SB-22-2.0-3.0-202 30523** Collected: **5/23/2023 11:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000546	0.00348	mg/kg	1	5/31/23 19:10
m+p-Xylenes	ND	U	0.000879	0.00696	mg/kg	1	5/31/23 19:10
Methyl Acetate	ND	U	0.000461	0.00348	mg/kg	1	5/31/23 19:10
Methyl tert-Butyl Ether	ND	U	0.000588	0.00348	mg/kg	1	5/31/23 19:10
Methylcyclohexane	ND	U	0.000560	0.00348	mg/kg	1	5/31/23 19:10
Methylene Chloride	ND	U	0.00105	0.00870	mg/kg	1	5/31/23 19:10
o-Xylene	ND	U	0.000447	0.00348	mg/kg	1	5/31/23 19:10
Styrene	ND	U	0.000498	0.00348	mg/kg	1	5/31/23 19:10
tert-Butyl alcohol	ND	U	0.00731	0.0348	mg/kg	1	5/31/23 19:10
Tetrachloroethene	ND	U	0.000345	0.00348	mg/kg	1	5/31/23 19:10
Toluene	ND	U	0.000280	0.00348	mg/kg	1	5/31/23 19:10
Total Xylenes	ND	U	0.000447	0.00348	mg/kg	1	5/31/23 19:10
trans-1,2-Dichloroethene	ND	U	0.000472	0.00348	mg/kg	1	5/31/23 19:10
trans-1,3-Dichloropropene	ND	U	0.000665	0.00348	mg/kg	1	5/31/23 19:10
Trichloroethene	ND	U	0.000512	0.00348	mg/kg	1	5/31/23 19:10
Trichlorofluoromethane	ND	U	0.000400	0.00348	mg/kg	1	5/31/23 19:10
Vinyl chloride	ND	U	0.000661	0.00348	mg/kg	1	5/31/23 19:10 UJ, RC:SL

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.8**				**%**	**1**	**5/24/23 10:59**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.0655**		**0.00749**	**0.0629**	**mg/kg**	**1**	**5/24/23 16:07**

ND, U - Indicates compound analyzed for but not detected
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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523** Collected: **5/23/2023 12:38:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00557	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1221	ND	U	0.0110	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1232	ND	U	0.0139	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1242	ND	U	0.00816	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1248	ND	U	0.00853	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1254	ND	U	0.00670	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1260	ND	U	0.00520	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1262	ND	U	0.0112	0.0415	mg/kg	1	6/9/23 20:27
Aroclor-1268	ND	U	0.00502	0.0415	mg/kg	1	6/9/23 20:27
Total PCBs	ND	U	0.00388	0.0415	mg/kg	1	6/9/23 20:27

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0123	0.126	mg/kg	1	6/13/23 21:05
2,4-D	ND	U	0.0209	0.126	mg/kg	1	6/13/23 21:05

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.602**		**0.00629**	**0.0252**	**mg/kg**	**1**	**6/1/23 15:42**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5840**		**0.184**	**3.10**	**mg/kg**	**1**	**6/7/23 10:32**
Antimony	ND	U	0.169	1.55	mg/kg	1	6/7/23 10:32
Arsenic	**8.09**		**0.111**	**1.55**	**mg/kg**	**1**	**6/7/23 10:32**
Barium	**20.7**		**0.0469**	**0.620**	**mg/kg**	**1**	**6/7/23 10:32**
Beryllium	**0.420**		**0.00359**	**0.0310**	**mg/kg**	**1**	**6/7/23 10:32**
Cadmium	ND	U	0.0604	0.310	mg/kg	1	6/7/23 10:32
Calcium	**43900**	D	**34.9**	**310**	**mg/kg**	**10**	**6/7/23 13:03**
Chromium	**16.0**		**0.0350**	**0.310**	**mg/kg**	**1**	**6/7/23 10:32**
Cobalt	**3.78**		**0.0317**	**0.248**	**mg/kg**	**1**	**6/7/23 10:32**
Copper	**22.8**		**0.0867**	**0.310**	**mg/kg**	**1**	**6/7/23 10:32**
Iron	**16400**		**0.878**	**6.20**	**mg/kg**	**1**	**6/7/23 10:32**
Lead	**67.4**		**0.129**	**1.55**	**mg/kg**	**1**	**6/7/23 10:32**
Magnesium	**2670**		**10.9**	**62.0**	**mg/kg**	**1**	**6/7/23 10:32**
Manganese	**61.6**		**0.0386**	**0.310**	**mg/kg**	**1**	**6/7/23 10:32**
Nickel	**9.02**		**0.0272**	**0.155**	**mg/kg**	**1**	**6/7/23 10:32**
Potassium	**2220**		**36.9**	**124**	**mg/kg**	**1**	**6/7/23 10:32**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-202 30523** Collected: **5/23/2023 12:38:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.298	1.55	mg/kg	1	6/7/23 10:32	
Silver	ND	U	0.0527	0.186	mg/kg	1	6/7/23 10:32	UJ, RC:6L
Sodium	**2360**		**5.91**	**62.0**	**mg/kg**	**1**	**6/7/23 10:32**	
Thallium	ND	U	0.104	1.55	mg/kg	1	6/7/23 10:32	
Vanadium	**19.6**		**0.0713**	**0.620**	**mg/kg**	**1**	**6/7/23 10:32**	
Zinc	**47.1**		**0.0947**	**0.930**	**mg/kg**	**1**	**6/7/23 10:32**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000749	0.00164	mg/kg	1	6/12/23 18:57	
4,4'-DDE	ND	U	0.000895	0.00164	mg/kg	1	6/12/23 18:57	
4,4'-DDT	ND	U	0.00116	0.00164	mg/kg	1	6/12/23 18:57	
Aldrin	ND	U	0.000775	0.00164	mg/kg	1	6/12/23 18:57	
alpha-BHC	ND	U	0.000487	0.00164	mg/kg	1	6/12/23 18:57	
beta-BHC	ND	U	0.000781	0.00164	mg/kg	1	6/12/23 18:57	
Chlordane [2C]	**0.320**	D	**0.00727**	**0.0164**	**mg/kg**	**10**	**6/13/23 21:17**	
delta-BHC	ND	U	0.000760	0.00164	mg/kg	1	6/12/23 18:57	
Dieldrin	ND	U	0.000856	0.00164	mg/kg	1	6/12/23 18:57	
Endosulfan I	ND	U	0.000773	0.00164	mg/kg	1	6/12/23 18:57	
Endosulfan II	ND	U	0.000744	0.00164	mg/kg	1	6/12/23 18:57	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000615	0.00164	mg/kg	1	6/12/23 18:57	
Endosulfans, Total (alpha and beta)	ND	U	0.000744	0.00164	mg/kg	1	6/12/23 18:57	
Endrin	ND	U	0.000565	0.00164	mg/kg	1	6/12/23 18:57	
Endrin aldehyde	ND	U	0.000652	0.00164	mg/kg	1	6/12/23 18:57	
Endrin ketone	ND	U	0.000576	0.00164	mg/kg	1	6/12/23 18:57	
gamma-BHC (Lindane)	ND	U	0.000518	0.00164	mg/kg	1	6/12/23 18:57	
Heptachlor [2C]	**0.0414**		**0.000438**	**0.00164**	**mg/kg**	**1**	**6/12/23 18:57**	
Heptachlor Epoxide	ND	U	0.000825	0.00164	mg/kg	1	6/12/23 18:57	
Methoxychlor	ND	U	0.000479	0.00164	mg/kg	1	6/12/23 18:57	UJ, RC:SL
Toxaphene	ND	U	0.0788	0.0830	mg/kg	1	6/12/23 18:57	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0237	0.209	mg/kg	5	6/5/23 15:06
2,3,4,6-Tetrachlorophenol	ND	U	0.129	0.837	mg/kg	5	6/5/23 15:06
2,4,5-Trichlorophenol	ND	U	0.114	0.837	mg/kg	5	6/5/23 15:06
2,4,6-Trichlorophenol	ND	U	0.0524	0.837	mg/kg	5	6/5/23 15:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-202 30523** Collected: **5/23/2023 12:38:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0843	0.837	mg/kg	5	6/5/23 15:06	
2,4-Dimethylphenol	**1.75**	D	**0.0824**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
2,4-Dinitrophenol	ND	U	0.121	4.20	mg/kg	5	6/5/23 15:06	
2,4-Dinitrotoluene	ND	U	0.0893	0.837	mg/kg	5	6/5/23 15:06	
2,6-Dinitrotoluene	ND	U	0.200	0.837	mg/kg	5	6/5/23 15:06	
2-Chloronaphthalene	ND	U	0.0963	0.837	mg/kg	5	6/5/23 15:06	
2-Chlorophenol	ND	U	0.111	0.837	mg/kg	5	6/5/23 15:06	
2-Methylnaphthalene	**8.03**	D	**0.201**	**1.26**	**mg/kg**	**5**	**6/5/23 15:06**	
2-Methylphenol	**0.678**	J, D	**0.165**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
2-Nitroaniline	ND	U	0.0673	0.837	mg/kg	5	6/5/23 15:06	
2-Nitrophenol	ND	U	0.0931	0.837	mg/kg	5	6/5/23 15:06	
3,3'-Dichlorobenzidine	ND	U	0.0881	0.837	mg/kg	5	6/5/23 15:06	
3+4-Methylphenol	ND	U	0.153	0.837	mg/kg	5	6/5/23 15:06	
3-Nitroaniline	ND	U	0.155	0.837	mg/kg	5	6/5/23 15:06	
4,6-Dinitro-2-methylphenol	ND	U	0.158	2.09	mg/kg	5	6/5/23 15:06	
4-Bromophenyl-phenyl ether	ND	U	0.120	0.837	mg/kg	5	6/5/23 15:06	
4-Chloro-3-methylphenol	ND	U	0.132	0.837	mg/kg	5	6/5/23 15:06	
4-Chloroaniline	ND	U	0.0293	0.837	mg/kg	5	6/5/23 15:06	
4-Chlorophenyl phenyl ether	ND	U	0.0452	0.837	mg/kg	5	6/5/23 15:06	
4-Nitroaniline	ND	U	0.419	0.837	mg/kg	5	6/5/23 15:06	
4-Nitrophenol	ND	U	0.0536	0.837	mg/kg	5	6/5/23 15:06	
Acenaphthene	**988**	D	**0.955**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Acenaphthylene	**13.8**	D	**0.0291**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
Acetophenone	ND	U	0.0830	0.837	mg/kg	5	6/5/23 15:06	
Anthracene	**864**	D	**2.43**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Atrazine	ND	U	0.0786	0.837	mg/kg	5	6/5/23 15:06	
Benzaldehyde	ND	U	0.257	0.837	mg/kg	5	6/5/23 15:06	
Benzo(a)anthracene	**149**	D	**1.69**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Benzo(a)pyrene	**70.8**	D	**2.92**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Benzo(b)fluoranthene	**97.2**	D	**2.35**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Benzo(g,h,i)perylene	**22.0**	D	**0.0679**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	J, RC:SH
Benzo(k)fluoranthene	**30.7**	D	**0.0963**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
Biphenyl	**33.0**	D	**0.0736**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
bis(2-chloroethoxy)methane	ND	U	0.116	0.837	mg/kg	5	6/5/23 15:06	
bis(2-chloroethyl)ether	ND	U	0.0918	0.837	mg/kg	5	6/5/23 15:06	
bis(2-chloroisopropyl)ether	ND	U	0.301	0.837	mg/kg	5	6/5/23 15:06	
bis(2-ethylhexyl)phthalate	ND	U	0.167	0.837	mg/kg	5	6/5/23 15:06	
Butylbenzylphthalate	ND	U	0.0761	0.837	mg/kg	5	6/5/23 15:06	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-202 30523** Collected: **5/23/2023 12:38:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.108	0.837	mg/kg	5	6/5/23 15:06	
Carbazole	**154**	D	**3.22**	**41.9**	**mg/kg**	**100**	**6/6/23 17:55**	
Chrysene	**143**	D	**1.15**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Dibenzo(a,h)anthracene	**2.77**	D	**0.0830**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	J, RC:SH
Dibenzofuran	**540**	D	**0.998**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Diethylphthalate	ND	U	0.162	0.837	mg/kg	5	6/5/23 15:06	
Dimethylphthalate	ND	U	0.0520	0.837	mg/kg	5	6/5/23 15:06	
Di-n-butylphthalate	ND	U	0.342	0.837	mg/kg	5	6/5/23 15:06	
Di-n-octylphthalate	ND	U	0.172	0.837	mg/kg	5	6/5/23 15:06	
Fluoranthene	**1150**	D	**7.86**	**83.7**	**mg/kg**	**500**	**6/7/23 21:26**	
Fluorene	**788**	D	**1.40**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	
Hexachlorobenzene	ND	U	0.109	0.837	mg/kg	5	6/5/23 15:06	
Hexachlorobutadiene	ND	U	0.402	0.837	mg/kg	5	6/5/23 15:06	
Hexachlorocyclopentadiene	ND	U	0.349	2.09	mg/kg	5	6/5/23 15:06	
Hexachloroethane	ND	U	0.0918	0.837	mg/kg	5	6/5/23 15:06	
Indeno(1,2,3-cd)pyrene	**21.5**	D	**0.0900**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	J, RC:SH
Isophorone	ND	U	0.0549	0.837	mg/kg	5	6/5/23 15:06	
Naphthalene	**13.8**	D	**0.0620**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
Nitrobenzene	ND	U	0.142	0.837	mg/kg	5	6/5/23 15:06	
n-Nitroso-di-n-propylamine	ND	U	0.0449	0.837	mg/kg	5	6/5/23 15:06	
n-Nitrosodiphenylamine	ND	U	0.179	0.837	mg/kg	5	6/5/23 15:06	
Pentachlorophenol	ND	U	0.115	2.09	mg/kg	5	6/5/23 15:06	
Phenanthrene	**2400**	D	**11.0**	**83.7**	**mg/kg**	**500**	**6/7/23 21:26**	
Phenol	**1.07**	D	**0.0679**	**0.837**	**mg/kg**	**5**	**6/5/23 15:06**	
Pyrene	**806**	D	**1.23**	**16.7**	**mg/kg**	**100**	**6/6/23 17:55**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Isopropenylnaphthalene	127	10.16	J, D	mg/kg	5	6/5/23 15:06
Naphthalene, 1,3-dimethyl-	395	9.65	D, J	mg/kg	5	6/5/23 15:06
Naphthalene, 1,4,6-trimethyl-	176	10.30	D, J	mg/kg	5	6/5/23 15:06
Naphthalene, 1,5-dimethyl-	67.3	9.67	D, J	mg/kg	5	6/5/23 15:06
Naphthalene, 1,6,7-trimethyl-	140	10.40	D, J	mg/kg	5	6/5/23 15:06
Naphthalene, 1,6-dimethyl-	136	9.76	D, J	mg/kg	5	6/5/23 15:06
Naphthalene, 1-ethyl-	84.9	9.51	D, J	mg/kg	5	6/5/23 15:06
Naphthalene, 1-methyl-	134	9.04	J, D	mg/kg	5	6/5/23 15:06
Naphthalene, 2,3,6-trimethyl-	122	10.33	J, D	mg/kg	5	6/5/23 15:06
Naphthalene, 2,6-dimethyl-	228	9.56	J, D	mg/kg	5	6/5/23 15:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523** Collected: **5/23/2023 12:38:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Quinoline, 2,4-dimethyl-	59.9	9.74	J, D	mg/kg	5	6/5/23 15:06
unknown (01)	65.6	10.42	J, D	mg/kg	5	6/5/23 15:06
unknown (02)	157	10.63	J, D	mg/kg	5	6/5/23 15:06
unknown (03)	58.0	10.67	D, J	mg/kg	5	6/5/23 15:06
unknown (04)	355	10.70	D, J	mg/kg	5	6/5/23 15:06
TIC Total	**2,300**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000245	0.00168	mg/kg	1	5/31/23 19:39
1,1,2,2-Tetrachloroethane	ND	U	0.000232	0.00168	mg/kg	1	5/31/23 19:39
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000718	0.00168	mg/kg	1	5/31/23 19:39
1,1,2-Trichloroethane	ND	U	0.000283	0.00168	mg/kg	1	5/31/23 19:39
1,1-Dichloroethane	ND	U	0.000245	0.00168	mg/kg	1	5/31/23 19:39
1,1-Dichloroethene	ND	U	0.000310	0.00168	mg/kg	1	5/31/23 19:39
1,2,3-Trichlorobenzene	ND	U	0.000362	0.00168	mg/kg	1	5/31/23 19:39
1,2,4-Trichlorobenzene	ND	U	0.000447	0.00168	mg/kg	1	5/31/23 19:39
1,2,4-Trimethylbenzene	**0.00536**		**0.000232**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**
1,2-Dibromo-3-chloropropane	ND	U	0.000409	0.00419	mg/kg	1	5/31/23 19:39
1,2-Dibromoethane	ND	U	0.000211	0.00168	mg/kg	1	5/31/23 19:39
1,2-Dichlorobenzene	ND	U	0.000296	0.00168	mg/kg	1	5/31/23 19:39
1,2-Dichloroethane	ND	U	0.000237	0.00168	mg/kg	1	5/31/23 19:39
1,2-Dichloropropane	ND	U	0.000275	0.00168	mg/kg	1	5/31/23 19:39
1,3-Dichlorobenzene	ND	U	0.000123	0.00168	mg/kg	1	5/31/23 19:39
1,4-Dichlorobenzene	ND	U	0.000242	0.00168	mg/kg	1	5/31/23 19:39
2-Butanone	ND	U	0.000273	0.00839	mg/kg	1	5/31/23 19:39
2-Hexanone	ND	U	0.000157	0.00168	mg/kg	1	5/31/23 19:39
4-Methyl-2-pentanone	ND	U	0.000210	0.00168	mg/kg	1	5/31/23 19:39
Acetone	ND	U	0.000508	0.0419	mg/kg	1	5/31/23 19:39
Benzene	**0.00103**	J	**0.000153**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**
Bromochloromethane	ND	U	0.000310	0.00168	mg/kg	1	5/31/23 19:39
Bromodichloromethane	ND	U	0.000211	0.00168	mg/kg	1	5/31/23 19:39
Bromoform	ND	U	0.000294	0.00168	mg/kg	1	5/31/23 19:39
Bromomethane	ND	U	0.000484	0.00168	mg/kg	1	5/31/23 19:39
Carbon disulfide	**0.0126**		**0.000241**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**
Carbon Tetrachloride	ND	U	0.000252	0.00168	mg/kg	1	5/31/23 19:39
Chlorobenzene	ND	U	0.000243	0.00168	mg/kg	1	5/31/23 19:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: **OH-SB-22-6.4-7.4-20230523** Collected: **5/23/2023 12:38:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorodibromomethane	ND	U	0.000206	0.00168	mg/kg	1	5/31/23 19:39	
Chloroethane	ND	U	0.000286	0.00168	mg/kg	1	5/31/23 19:39	
Chloroform	ND	U	0.000282	0.00168	mg/kg	1	5/31/23 19:39	
Chloromethane	ND	U	0.000646	0.00168	mg/kg	1	5/31/23 19:39	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.0000811	0.00168	mg/kg	1	5/31/23 19:39	
cis-1,3-Dichloropropene	ND	U	0.000212	0.00168	mg/kg	1	5/31/23 19:39	
Cyclohexane	ND	U	0.000372	0.00168	mg/kg	1	5/31/23 19:39	
Dichlorodifluoromethane	ND	U	0.000566	0.00168	mg/kg	1	5/31/23 19:39	UJ, RC:SL
EthylBenzene	**0.0312**		**0.000227**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**	
Isopropylbenzene	**0.0449**		**0.000263**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**	
m+p-Xylenes	**0.0107**		**0.000424**	**0.00336**	**mg/kg**	**1**	**5/31/23 19:39**	
Methyl Acetate	ND	U	0.000222	0.00168	mg/kg	1	5/31/23 19:39	
Methyl tert-Butyl Ether	ND	U	0.000284	0.00168	mg/kg	1	5/31/23 19:39	
Methylcyclohexane	**0.00615**		**0.000270**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**	
Methylene Chloride	ND	U	0.000504	0.00419	mg/kg	1	5/31/23 19:39	
o-Xylene	**0.00527**		**0.000216**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**	
Styrene	ND	U	0.000240	0.00168	mg/kg	1	5/31/23 19:39	
tert-Butyl alcohol	ND	U	0.00352	0.0168	mg/kg	1	5/31/23 19:39	
Tetrachloroethene	ND	U	0.000166	0.00168	mg/kg	1	5/31/23 19:39	
Toluene	**0.00308**		**0.000135**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**	
Total Xylenes	**0.0160**		**0.000216**	**0.00168**	**mg/kg**	**1**	**5/31/23 19:39**	
trans-1,2-Dichloroethene	ND	U	0.000227	0.00168	mg/kg	1	5/31/23 19:39	
trans-1,3-Dichloropropene	ND	U	0.000320	0.00168	mg/kg	1	5/31/23 19:39	
Trichloroethene	ND	U	0.000247	0.00168	mg/kg	1	5/31/23 19:39	
Trichlorofluoromethane	ND	U	0.000193	0.00168	mg/kg	1	5/31/23 19:39	
Vinyl chloride	ND	U	0.000319	0.00168	mg/kg	1	5/31/23 19:39	UJ, RC:SL

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Inden-1-one, 2,3-dihydro-3-methyl-	0.165	21.48	J	mg/kg	1	5/31/23 19:39
1H-Indene, 2,3-dihydro-1,3-dimethyl-	0.109	21.03	J	mg/kg	1	5/31/23 19:39
Benzene, 1,2,4,5-tetramethyl-	0.269	19.70	J	mg/kg	1	5/31/23 19:39
Benzene, 1-ethyl-4-methyl-	0.105	16.90	J	mg/kg	1	5/31/23 19:39
Benzene, 1-methyl-2-(1-methyl-2-propenyl	0.0861	19.91	J	mg/kg	1	5/31/23 19:39
Benzene, 1-methyl-2-(1-methylethyl)-	0.0845	17.65	J	mg/kg	1	5/31/23 19:39

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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-03 (Soil) Sample Name: OH-SB-22-6.4-7.4-20230523 Collected: 5/23/2023 12:38:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-methyl-4-(1-methylethyl)-	0.0989	19.51	J	mg/kg	1	5/31/23 19:39
Benzene, 4-ethyl-1,2-dimethyl- (01)	0.187	19.02	J	mg/kg	1	5/31/23 19:39
Benzene, 4-ethyl-1,2-dimethyl- (02)	0.110	20.46	J	mg/kg	1	5/31/23 19:39
Benzofuran, 2-methyl-	0.313	19.79	J	mg/kg	1	5/31/23 19:39
Benzofuran, 7-methyl-	0.233	19.60	J	mg/kg	1	5/31/23 19:39
Dodecane, 6-methyl-	0.0809	20.73	J	mg/kg	1	5/31/23 19:39
Indan, 1-methyl-	0.344	19.20	J	mg/kg	1	5/31/23 19:39
Naphthalene, 1,2,3,4-tetrahydro-1-methyl	0.0913	20.24	J	mg/kg	1	5/31/23 19:39
Naphthalene, decahydro-, trans-	0.102	18.44	J	mg/kg	1	5/31/23 19:39
TIC Total	**2.38**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**79.5**				**%**	**1**	**5/24/23 10:59**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00939	0.0788	mg/kg	1	5/24/23 16:07

23E1095-04 (Ground Water) Sample Name: FB-20230523 Collected: 5/23/2023 11:10:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/2/23 22:53
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/2/23 22:53
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/2/23 22:53
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/2/23 22:53
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/2/23 22:53
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/2/23 22:53
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/2/23 22:53
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/2/23 22:53
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/2/23 22:53
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/2/23 22:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-04 (Ground Water) Sample Name: **FB-20230523** Collected: **5/23/2023 11:10:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 18:38
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 18:38
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 18:38

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/26/23 12:53

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/30/23 15:19
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/30/23 15:19
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/30/23 15:19
Barium	ND	U	0.000558	0.0200	mg/L	1	5/30/23 15:19
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/30/23 15:19
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/30/23 15:19
Calcium	ND	U	0.256	1.00	mg/L	1	5/30/23 15:19
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/30/23 15:19
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/30/23 15:19
Copper	ND	U	0.00177	0.0100	mg/L	1	5/30/23 15:19
Iron	ND	U	0.0580	0.200	mg/L	1	5/30/23 15:19
Lead	ND	U	0.00510	0.0500	mg/L	1	5/30/23 15:19
Magnesium	ND	U	0.681	2.00	mg/L	1	5/30/23 15:19
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/30/23 15:19
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/30/23 15:19
Potassium	ND	U	2.41	4.00	mg/L	1	5/30/23 15:19
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/30/23 15:19
Silver	ND	U	0.00465	0.0200	mg/L	1	5/30/23 15:19
Sodium	**2.82**		**0.205**	**2.00**	**mg/L**	**1**	**5/30/23 15:19**
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/30/23 15:19
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/30/23 15:19
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/30/23 15:19

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/26/23 17:34
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/26/23 17:34
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/26/23 17:34 UJ, RC:6L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/26/23 17:34

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-04 (Ground Water) Sample Name: **FB-20230523** Collected: **5/23/2023 11:10:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/26/23 17:34 UJ, RC:6L
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/26/23 17:34
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/26/23 17:34 UJ, RC:6L
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/26/23 17:34
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/26/23 17:34
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/26/23 17:34
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/26/23 17:34
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/26/23 17:34 UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/26/23 17:34 UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/26/23 17:34
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/26/23 17:34
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/26/23 17:34 UJ, RC:6L
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/26/23 17:34
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/26/23 17:34
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/26/23 17:34
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/26/23 17:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/30/23 19:45
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/30/23 19:45
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/30/23 19:45
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/30/23 19:45
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/30/23 19:45
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/30/23 19:45
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/30/23 19:45
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/30/23 19:45
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/30/23 19:45
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/30/23 19:45
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/30/23 19:45
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/30/23 19:45
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/30/23 19:45
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/30/23 19:45
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/30/23 19:45
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/30/23 19:45
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/30/23 19:45
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/30/23 19:45
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/30/23 19:45
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/30/23 19:45

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-04 (Ground Water) Sample Name: **FB-20230523** Collected: **5/23/2023 11:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/30/23 19:45	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/30/23 19:45	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/30/23 19:45	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/30/23 19:45	
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/30/23 19:45	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/30/23 19:45	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/30/23 19:45	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/30/23 19:45	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/30/23 19:45	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/30/23 19:45	UJ, RC:Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/30/23 19:45	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/30/23 19:45	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/30/23 19:45	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/30/23 19:45	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/30/23 19:45	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/30/23 19:45	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/30/23 19:45	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/30/23 19:45	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/30/23 19:45	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/30/23 19:45	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/30/23 19:45	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/30/23 19:45	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/30/23 19:45	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/30/23 19:45	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/30/23 19:45	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/30/23 19:45	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/30/23 19:45	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/30/23 19:45	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/30/23 19:45	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/30/23 19:45	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/30/23 19:45	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/30/23 19:45	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/30/23 19:45	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/30/23 19:45	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/30/23 19:45	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/30/23 19:45	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/30/23 19:45	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-04 (Ground Water) Sample Name: **FB-20230523** Collected: **5/23/2023 11:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/1/23 17:46	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/1/23 17:46	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/1/23 17:46	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/1/23 17:46	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/1/23 17:46	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/1/23 17:46	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/1/23 17:46	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/1/23 17:46	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/1/23 17:46	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/1/23 17:46	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/1/23 17:46	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/1/23 17:46	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/1/23 17:46	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/1/23 17:46	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/1/23 17:46	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/1/23 17:46	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/1/23 17:46	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/1/23 17:46	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/1/23 17:46	
Acetone	ND	U	10.0	10.0	ug/L	1	6/1/23 17:46	
Benzene	ND	U	0.129	1.00	ug/L	1	6/1/23 17:46	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/1/23 17:46	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/1/23 17:46	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/1/23 17:46	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/1/23 17:46	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/1/23 17:46	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/1/23 17:46	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/1/23 17:46	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/1/23 17:46	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/1/23 17:46	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/1/23 17:46	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/1/23 17:46	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/1/23 17:46	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/1/23 17:46	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-04 (Ground Water) Sample Name: **FB-20230523** Collected: **5/23/2023 11:10:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/1/23 17:46
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/1/23 17:46
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/1/23 17:46
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/1/23 17:46
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/1/23 17:46
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/1/23 17:46
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/1/23 17:46
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/1/23 17:46
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/1/23 17:46
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/1/23 17:46
Styrene	ND	U	0.176	1.00	ug/L	1	6/1/23 17:46
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/1/23 17:46
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/1/23 17:46
Toluene	ND	U	0.205	1.00	ug/L	1	6/1/23 17:46
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/1/23 17:46
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/1/23 17:46
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/1/23 17:46
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/1/23 17:46
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/1/23 17:46
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/1/23 17:46

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	5/24/23 16:33

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-05 (Ground Water) Sample Name: **TB-20230523** Collected: **5/23/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/1/23 16:54	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/1/23 16:54	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/1/23 16:54	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/1/23 16:54	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/1/23 16:54	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/1/23 16:54	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/1/23 16:54	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/1/23 16:54	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/1/23 16:54	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/1/23 16:54	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/1/23 16:54	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/1/23 16:54	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/1/23 16:54	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/1/23 16:54	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/1/23 16:54	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/1/23 16:54	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/1/23 16:54	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/1/23 16:54	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/1/23 16:54	
Acetone	ND	U	10.0	10.0	ug/L	1	6/1/23 16:54	
Benzene	ND	U	0.129	1.00	ug/L	1	6/1/23 16:54	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/1/23 16:54	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/1/23 16:54	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/1/23 16:54	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/1/23 16:54	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/1/23 16:54	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/1/23 16:54	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/1/23 16:54	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/1/23 16:54	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/1/23 16:54	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/1/23 16:54	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/1/23 16:54	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/1/23 16:54	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/1/23 16:54	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/1/23 16:54	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/1/23 16:54	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/1/23 16:54	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/1/23 16:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1095
Date to Lab: 5/23/2023 2:23:00PM

23E1095-05 (Ground Water) Sample Name: **TB-20230523** Collected: **5/23/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/1/23 16:54
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/1/23 16:54
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/1/23 16:54
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/1/23 16:54
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/1/23 16:54
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/1/23 16:54
Styrene	ND	U	0.176	1.00	ug/L	1	6/1/23 16:54
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/1/23 16:54
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/1/23 16:54
Toluene	ND	U	0.205	1.00	ug/L	1	6/1/23 16:54
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/1/23 16:54
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/1/23 16:54
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/1/23 16:54
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/1/23 16:54
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/1/23 16:54
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/1/23 16:54

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2329259
Project Name	: 23E1095	Project Number	: 23E1095
Lab ID	: L2329259-01	Date Collected	: 05/23/23 09:55
Client ID	: OH-SB-21-6.0-7.0-20230523	Date Received	: 05/24/23
Sample Location	:	Date Analyzed	: 06/16/23 04:59
Sample Matrix	: SOIL	Date Extracted	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206152310	Analyst	: MJS
Sample Amount	: 15.33 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 81
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	2860	8.81	2.53	
91-20-3C1	C1-Naphthalenes	1120	8.81	2.53	
91-20-3C2	C2-Naphthalenes	1040	8.81	2.53	
91-20-3C3	C3-Naphthalenes	772	8.81	2.53	
91-20-3C4	C4-Naphthalenes	450	8.81	2.53	
208-96-8	Acenaphthylene	473	8.81	1.68	J, RC:SL
83-32-9	Acenaphthene	1320	8.81	1.55	
86-73-7	Fluorene	1910	8.81	2.35	
86-73-7C1	C1-Fluorenes	486	8.81	2.35	
86-73-7C2	C2-Fluorenes	513	8.81	2.35	
86-73-7C3	C3-Fluorenes	986	8.81	2.35	
85-01-8	Phenanthrene	9410	8.81	2.92	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	2940	8.81	2.92	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1870	8.81	2.92	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1040	8.81	2.92	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	444	8.81	2.92	
120-12-7	Anthracene	2340	8.81	1.82	
206-44-0	Fluoranthene	8200	8.81	2.80	
129-00-0	Pyrene	7900	8.81	2.32	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	3910	8.81	2.32	
56-55-3	Benz(a)anthracene	2920	8.81	1.80	J, RC:SL
218-01-9	Chrysene	3050	8.81	1.78	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329259
Project Name	: 23E1095	**Project Number**	: 23E1095
Lab ID	: L2329259-01	**Date Collected**	: 05/23/23 09:55
Client ID	: OH-SB-21-6.0-7.0-20230523	**Date Received**	: 05/24/23
Sample Location	:	**Date Analyzed**	: 06/16/23 04:59
Sample Matrix	: SOIL	**Date Extracted**	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206152310	**Analyst**	: MJS
Sample Amount	: 15.33 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1570	8.81	1.78	
218-01-9C2	C2-Chrysenes BS	886	8.81	1.78	
218-01-9C3	C3-Chrysenes	693	8.81	1.78	
218-01-9C4	C4-Chrysenes	372	8.81	1.78	
205-99-2	Benzo(b)fluoranthene	2920	8.81	2.29	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2730	8.81	1.75	
192-97-2	Benzo(e)pyrene	2460	8.81	1.82	
50-32-8	Benzo(a)pyrene	3440	8.81	2.51	
198-55-0	Perylene	946	8.81	1.70	
193-39-5	Indeno(1,2,3-cd)pyrene	2140	8.81	2.39	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	575	8.81	2.38	
191-24-2	Benzo(g,h,i)perylene	2310	8.81	2.34	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2329259
Project Name	: 23E1095	Project Number	: 23E1095
Lab ID	: L2329259-02	Date Collected	: 05/23/23 11:15
Client ID	: OH-SB-22-2.0-3.0-20230523	Date Received	: 05/24/23
Sample Location	:	Date Analyzed	: 06/21/23 07:43
Sample Matrix	: SOIL	Date Extracted	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206202313	Analyst	: CNC
Sample Amount	: 5.27 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 69
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	239	41.4	11.9	J, RC:SL
91-20-3C1	C1-Naphthalenes	400	41.4	11.9	
91-20-3C2	C2-Naphthalenes	1060	41.4	11.9	
91-20-3C3	C3-Naphthalenes	1490	41.4	11.9	
91-20-3C4	C4-Naphthalenes	1300	41.4	11.9	
208-96-8	Acenaphthylene	260	41.4	7.90	
83-32-9	Acenaphthene	229	41.4	7.30	
86-73-7	Fluorene	347	41.4	11.0	
86-73-7C1	C1-Fluorenes	326	41.4	11.0	
86-73-7C2	C2-Fluorenes	754	41.4	11.0	
86-73-7C3	C3-Fluorenes	962	41.4	11.0	
85-01-8	Phenanthrene	2880	41.4	13.7	J, RC:SL
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1900	41.4	13.7	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1900	41.4	13.7	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1310	41.4	13.7	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	597	41.4	13.7	
120-12-7	Anthracene	718	41.4	8.54	
206-44-0	Fluoranthene	3820	41.4	13.2	
129-00-0	Pyrene	4130	41.4	10.9	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2230	41.4	10.9	
56-55-3	Benz(a)anthracene	1820	41.4	8.45	J, RC:SL
218-01-9	Chrysene	2160	41.4	8.37	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2329259
Project Name	: 23E1095	Project Number	: 23E1095
Lab ID	: L2329259-02	Date Collected	: 05/23/23 11:15
Client ID	: OH-SB-22-2.0-3.0-20230523	Date Received	: 05/24/23
Sample Location	:	Date Analyzed	: 06/21/23 07:43
Sample Matrix	: SOIL	Date Extracted	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206202313	Analyst	: CNC
Sample Amount	: 5.27 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 69
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	1290	41.4	8.37	
218-01-9C2	C2-Chrysenes BS	1040	41.4	8.37	
218-01-9C3	C3-Chrysenes	1140	41.4	8.37	
218-01-9C4	C4-Chrysenes	832	41.4	8.37	
205-99-2	Benzo(b)fluoranthene	2190	41.4	10.8	J, RC:SL
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1860	41.4	8.22	
192-97-2	Benzo(e)pyrene	1860	41.4	8.55	
50-32-8	Benzo(a)pyrene	2140	41.4	11.8	
198-55-0	Perylene	614	41.4	8.00	
193-39-5	Indeno(1,2,3-cd)pyrene	1650	41.4	11.2	J, RC:SL
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	458	41.4	11.2	
191-24-2	Benzo(g,h,i)perylene	1860	41.4	11.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2329259
Project Name	: 23E1095	Project Number	: 23E1095
Lab ID	: L2329259-03	Date Collected	: 05/23/23 12:38
Client ID	: OH-SB-22-6.4-7.4-20230523	Date Received	: 05/24/23
Sample Location	:	Date Analyzed	: 06/16/23 07:55
Sample Matrix	: SOIL	Date Extracted	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F206152312	Analyst	: CNC
Sample Amount	: 5.64 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	6260	25.3	7.27	
91-20-3C1	C1-Naphthalenes	13200	25.3	7.27	
91-20-3C2	C2-Naphthalenes	110000	25.3	7.27	
91-20-3C3	C3-Naphthalenes	100000	25.3	7.27	
91-20-3C4	C4-Naphthalenes	33500	25.3	7.27	
208-96-8	Acenaphthylene	2200	25.3	4.83	J, RC:SL
83-32-9	Acenaphthene	~~233000~~	25.3	4.46	E
86-73-7	Fluorene	28000	25.3	6.75	
86-73-7C1	C1-Fluorenes	44400	25.3	6.75	
86-73-7C2	C2-Fluorenes	24300	25.3	6.75	
86-73-7C3	C3-Fluorenes	15100	25.3	6.75	
85-01-8	Phenanthrene	~~152000~~	25.3	8.38	E
PHENANTHC1	C1-Phenanthrenes/Anthracenes	126000	25.3	8.38	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	52100	25.3	8.38	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	16200	25.3	8.38	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	4360	25.3	8.38	
120-12-7	Anthracene	~~110000~~	25.3	5.22	E
206-44-0	Fluoranthene	~~156000~~	25.3	8.04	E
129-00-0	Pyrene	~~145000~~	25.3	6.65	E
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	72300	25.3	6.65	
56-55-3	Benz(a)anthracene	~~43800~~	25.3	5.16	E
218-01-9	Chrysene	~~38100~~	25.3	5.11	E

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329259
Project Name	: 23E1095	**Project Number**	: 23E1095
Lab ID	: L2329259-03	**Date Collected**	: 05/23/23 12:38
Client ID	: OH-SB-22-6.4-7.4-20230523	**Date Received**	: 05/24/23
Sample Location	:	**Date Analyzed**	: 06/16/23 07:55
Sample Matrix	: SOIL	**Date Extracted**	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F206152312	**Analyst**	: CNC
Sample Amount	: 5.64 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	15200	25.3	5.11	
218-01-9C2	C2-Chrysenes BS	5750	25.3	5.11	
218-01-9C3	C3-Chrysenes	3520	25.3	5.11	
218-01-9C4	C4-Chrysenes	1330	25.3	5.11	
205-99-2	Benzo(b)fluoranthene	22800	25.3	6.58	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	17100	25.3	5.02	
192-97-2	Benzo(e)pyrene	14700	25.3	5.22	
50-32-8	Benzo(a)pyrene	22100	25.3	7.22	
198-55-0	Perylene	5760	25.3	4.88	
193-39-5	Indeno(1,2,3-cd)pyrene	9920	25.3	6.87	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	3060	25.3	6.83	
191-24-2	Benzo(g,h,i)perylene	9420	25.3	6.72	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2329259
Project Name	: 23E1095	Project Number	: 23E1095
Lab ID	: L2329259-03D	Date Collected	: 05/23/23 12:38
Client ID	: OH-SB-22-6.4-7.4-20230523	Date Received	: 05/24/23
Sample Location	:	Date Analyzed	: 06/20/23 18:13
Sample Matrix	: SOIL	Date Extracted	: 06/05/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 20
Lab File ID	: F206202304	Analyst	: CNC
Sample Amount	: 5.64 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
83-32-9	Acenaphthene	254000	506	89.2	
85-01-8	Phenanthrene	210000	506	168.	
120-12-7	Anthracene	154000	506	104.	
206-44-0	Fluoranthene	259000	506	161.	
129-00-0	Pyrene	206000	506	133.	
56-55-3	Benz(a)anthracene	51300	506	103.	J, RC:SL
218-01-9	Chrysene	44700	506	102.	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329259
Project Name	: 23E1095	**Project Number**	: 23E1095
Lab ID	: L2329259-01	**Date Collected**	: 05/23/23 09:55
Client ID	: OH-SB-21-6.0-7.0-20230523	**Date Received**	: 05/24/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329259
Project Name	: 23E1095	**Project Number**	: 23E1095
Lab ID	: L2329259-02	**Date Collected**	: 05/23/23 11:15
Client ID	: OH-SB-22-2.0-3.0-20230523	**Date Received**	: 05/24/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 69
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329259
Project Name	: 23E1095	**Project Number**	: 23E1095
Lab ID	: L2329259-03	**Date Collected**	: 05/23/23 12:38
Client ID	: OH-SB-22-6.4-7.4-20230523	**Date Received**	: 05/24/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2329464 and 23E1202
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 20, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-22-46.0-47.0-20230524	23E1202-01	5/24/2023	Soil
FB-20230524	23E1202-02	5/24/2023	Water
OH-SB-16-3.0-4.0-20230524	23E1202-03	5/24/2023	Soil
TB-20230524	23E1202-04	5/24/2023	Water

Data validation was performed on the analytical data for four (4) samples collected May 24, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOC 3,3'-dichlorobenzidine associated with sample OH-SB-22-46.0-47.0-20230524 was qualified as rejected due to low matrix spike recoveries. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples, surrogates, matrix spike samples and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs was listed on the COC for FB-20230524 but this analysis was not reported by Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- The method blank had a low-level detection for methylene chloride; however, all associated sample results were non-detect and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	OH-SB-22-46.0-47.0-20230524	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20230524 TB-20230524	Bromomethane	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230524 TB-20230524	1,1,1-Trichloroethane Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		1,2,3-Trichlorobenzene	CCV %D > 20%	UJ (NDs)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		2-Butanone 2-Hexanone 4-Methyl-2-pentanone Bromomethane	(decrease in response)	J (Detects)	
	OH-SB-22-46.0-47.0-20230524 OH-SB-16-3.0-4.0-20230524	1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene Chlorobenzene Cyclohexane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Dichlorodifluoromethane Methylene Chloride	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown (5.98). Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Due to the presence of high concentration target analytes, the laboratory indicated surrogates were diluted outside the calibration range for sample OH-SB-16-3.0-4.0-20230524. Associated sample detections are qualified as estimated, J, and non-detections are qualified as estimated with limited detection, UJ, reason code 3.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	0H-SB-22-46.0-47.0-20230524	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol	> CL	J (Detects) UJ (NDs)	4H
		3,3'-Dichlorobenzidine	10% > %R < CL	J (Detects) R (NDs)	4L

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230524	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol 4-Nitrophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene Hexachlorobutadiene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	0H-SB-16-3.0-4.0-20230524	2-Methylphenol 4-Chloro-3-methylphenol 4-Nitrophenol bis(2-chloroisopropyl)ether Hexachloroethane Nitrobenzene n-Nitroso-di-n-propylamine	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	0H-SB-22-46.0-47.0-20230524	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-16-3.0-4.0-20230524	TCMX	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-22-46.0-47.0-20230524	TCMX	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-16-3.0-4.0-20230524	TCMX and DCB	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	OH-SB-22-46.0-47.0-20230524 OH-SB-16-3.0-4.0-20230524 OH-SB-22-46.0-47.0-20230524 OH-SB-16-3.0-4.0-20230524	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
		4,4'-DDT Methoxychlor	> CL	J (Detects) No action (NDs)	6H
	FB-20230524	4,4'-DDT alpha-Chlordane Chlordane Endosulfan sulfate Endrin gamma-Chlordane	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis performed on sample OH-SB-22-46.0-47.0-20230524 for herbicides exhibited acceptable recoveries and RPDs.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230524	Selenium	> CL	J (Detects) UJ (NDs)	6H
	0H-SB-22-46.0-47.0-20230524 0H-SB-16-3.0-4.0-20230524	Silver	20% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
7473	OH-SB-22-46.0-47.0-20230524	Mercury	20% < %R < CL	J (Detects) UJ (NDs)	4L

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis performed for mercury on a sample OH-SB-22-46.0-47.0-20230524 exhibited acceptable RPD.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 20, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1202

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 24, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E1202

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-22-46.0-47.0-20230524	23E1202-01	Soil	05/24/2023 10:10	05/24/2023 18:26
FB-20230524	23E1202-02	Ground Water	05/24/2023 11:30	05/24/2023 18:26
OH-SB-16-3.0-4.0-20230524	23E1202-03	Soil	05/24/2023 12:10	05/24/2023 18:26
TB-20230524	23E1202-04	Ground Water	05/24/2023 00:00	05/24/2023 18:26

PN: 23E1202

APL 23E1202
AQUA PRO-TECH LABORATORIES
www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: Yu & Associates	SEND REPORT TO: 〃
ADDRESS: 611 River Drive 3rd Floor, Elmwood Park NJ 07407	ADDRESS: 〃
PHONE: 201-773-9621	PHONE: 〃
E-MAIL: Swang@Yu-associates.com	FAX:
PROJECT NAME: Gowanus 04-007	SEND INVOICE TO: 〃
PROJECT MGR: Sikuan Wang	ADDRESS: 〃
PROJECT or PO #: 156854	SAMPLED BY: 〃

TURN-AROUND TIME
- ☐ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required
  - ☐ 48 hr. date & time required
  - ☐ 72 hr. date & time required
  - ☐ 1 week

REPORT FORMAT
- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

PWSID# NY ST

ELECTRONIC FORMAT
- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP#

CONTAMINATION LEVEL
☐ HIGH ☐ MEDIUM ☒ LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
Discarded MH	~~04-SB-22-37.0-38.0-20230523~~	05/23	0920	✓			5		VOCs, SVOCs, PCBs, Pest, Herb, TAL metals, TCN ~~FCN, Alkylated PAHs by 8270~~
23E1202 -01	04-SB-22-46.0-47.0-20230524	05/24	1010	✓			5		VOCs, SVOCs, PCBs, Pest, Herb, TAL metals TCN, FCN, Alkylated PAHs by 8270
-02	FB-20230524	↓	1130	✓			10		〃 〃
-03	04-SB-16-3.0-4.0-20230524		1210	✓			5		〃 〃
-04	TB-20230524	↓	LAB	✓			2		VOCs

RELINQUISHED BY (Print) Max Massey	DATE 05/24/23	RECEIVED BY (Print) MPJN AIPHA	05/24/23
Signature	Time 12:50	Signature	12:50
RELINQUISHED BY (Print) MPJN AIPHA	DATE 05/24/23	RECEIVED BY (Print) Drew McMahon	
Signature	Time 16:26	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.1

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY
By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 7473:
The percent recovery for Mercury was outside of the QC limits for the matrix spike duplicate (slightly low). The blank spike met all QC criteria.

Methods 200.7 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
Sample 23E1202-03 has surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E1202-01 and -03 have surrogates outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

Samples 23E1202-01, -01RE1 and -01RE2 have surrogates outside of the QC limits (low), due to matrix interferences.
Sample 23E1202-01 has one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for 3,3'-Dichlorobenzidine was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Samples 23E1202-03, -03RE1 and -03RE2 have surrogate outside of the QC limits (low and high), due to matrix interferences.

Reviewed By: _____ (SK) 8/24/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-20230524**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	14.3	D	0.0480	0.383	mg/kg dry	10	6/10/23 9:05
Total PCBs	14.3	D	0.0358	0.383	mg/kg dry	10	6/10/23 9:05

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0380		0.00581	0.0232	mg/kg dry	1	6/6/23 13:25

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9810		0.170	2.86	mg/kg dry	1	6/7/23 10:37
Arsenic	14.4		0.102	1.43	mg/kg dry	1	6/7/23 10:37
Barium	101		0.0432	0.572	mg/kg dry	1	6/7/23 10:37
Beryllium	0.523		0.00331	0.0286	mg/kg dry	1	6/7/23 10:37
Cadmium	0.601		0.0558	0.286	mg/kg dry	1	6/7/23 10:37
Calcium	7960		3.22	28.6	mg/kg dry	1	6/7/23 10:37
Chromium	18.9		0.0323	0.286	mg/kg dry	1	6/7/23 10:37
Cobalt	4.46		0.0292	0.229	mg/kg dry	1	6/7/23 10:37
Copper	69.5		0.0800	0.286	mg/kg dry	1	6/7/23 10:37
Iron	34300	D	8.10	57.2	mg/kg dry	10	6/7/23 13:05
Lead	131		0.119	1.43	mg/kg dry	1	6/7/23 10:37
Magnesium	2740		10.1	57.2	mg/kg dry	1	6/7/23 10:37
Manganese	246		0.0356	0.286	mg/kg dry	1	6/7/23 10:37
Nickel	16.3		0.0251	0.143	mg/kg dry	1	6/7/23 10:37
Potassium	1370		34.0	114	mg/kg dry	1	6/7/23 10:37
Sodium	1690		5.45	57.2	mg/kg dry	1	6/7/23 10:37
Vanadium	30.0		0.0658	0.572	mg/kg dry	1	6/7/23 10:37
Zinc	171		0.0874	0.858	mg/kg dry	1	6/7/23 10:37

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0725	J	0.0370	0.232	mg/kg dry	1	6/6/23 19:53
Acenaphthene	0.0845	J	0.00881	0.154	mg/kg dry	1	6/6/23 19:53
Acenaphthylene	0.135	J	0.00538	0.154	mg/kg dry	1	6/6/23 19:53
Anthracene	0.399		0.0224	0.154	mg/kg dry	1	6/6/23 19:53
Benzo(a)anthracene	1.42		0.0156	0.154	mg/kg dry	1	6/6/23 19:53
Benzo(a)pyrene	1.61		0.0269	0.154	mg/kg dry	1	6/6/23 19:53
Benzo(b)fluoranthene	1.98		0.0217	0.154	mg/kg dry	1	6/6/23 19:53
Benzo(g,h,i)perylene	1.42		0.0125	0.154	mg/kg dry	1	6/6/23 19:53
Benzo(k)fluoranthene	0.803		0.0178	0.154	mg/kg dry	1	6/6/23 19:53
Carbazole	0.176	J	0.0297	0.387	mg/kg dry	1	6/6/23 19:53
Chrysene	1.48		0.0106	0.154	mg/kg dry	1	6/6/23 19:53

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-20230524**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzo(a,h)anthracene	0.0933	J	0.0153	0.154	mg/kg dry	1	6/6/23 19:53
Dibenzofuran	0.0604	J	0.00921	0.154	mg/kg dry	1	6/6/23 19:53
Fluoranthene	2.96		0.0145	0.154	mg/kg dry	1	6/6/23 19:53
Fluorene	0.0989	J	0.0129	0.154	mg/kg dry	1	6/6/23 19:53
Indeno(1,2,3-cd)pyrene	1.04		0.0166	0.154	mg/kg dry	1	6/6/23 19:53
Naphthalene	0.0907	J	0.0114	0.154	mg/kg dry	1	6/6/23 19:53
Phenanthrene	1.63		0.0203	0.154	mg/kg dry	1	6/6/23 19:53
Pyrene	2.10		0.0114	0.154	mg/kg dry	1	6/6/23 19:53
TIC_1,1-Biphenyl, 2,2,3,4,5,6-hexachloro	0.580	J			mg/kg dry	1	6/6/23 19:53
TIC_1,1-Biphenyl, pentachloro-	0.338	J			mg/kg dry	1	6/6/23 19:53
TIC_2-Pentanone, 4-hydroxy-4-methyl-	20.8	J, B			mg/kg dry	1	6/6/23 19:53
TIC_Ethanol, 2-butoxy-	0.809	J			mg/kg dry	1	6/6/23 19:53
TIC_Hexadecanoic acid, butyl ester	1.67	J, B			mg/kg dry	1	6/6/23 19:53
TIC_Octadecanoic acid, butyl ester	0.567	J, B			mg/kg dry	1	6/6/23 19:53
TIC_unknown (01)	0.367	J			mg/kg dry	1	6/6/23 19:53
TIC_unknown (02)	0.317	J			mg/kg dry	1	6/6/23 19:53
TIC_unknown (03)	0.729	J			mg/kg dry	1	6/6/23 19:53
TIC_unknown (04)	0.639	J			mg/kg dry	1	6/6/23 19:53

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	301	D	0.493	3.57	mg/kg dry	1754	6/7/23 18:07
Benzene	32.0	D	0.325	3.57	mg/kg dry	1754	6/7/23 18:07
EthylBenzene	436	D	2.42	17.9	mg/kg dry	8772	6/7/23 18:36
Isopropylbenzene	19.7	D	0.561	3.57	mg/kg dry	1754	6/7/23 18:07
m+p-Xylenes	334	D	0.902	7.15	mg/kg dry	1754	6/7/23 18:07
Methylcyclohexane	0.0833		0.000292	0.00181	mg/kg dry	1	6/6/23 21:26
o-Xylene	162	D	0.459	3.57	mg/kg dry	1754	6/7/23 18:07
Toluene	173	D	0.288	3.57	mg/kg dry	1754	6/7/23 18:07
Total Xylenes	495	D	0.459	3.57	mg/kg dry	1754	6/7/23 18:07
TIC_1,4-Heptadiene, 3-methyl-	0.0462	J			mg/kg dry	1	6/6/23 21:26
TIC_1H-Indene	0.188	J			mg/kg dry	1	6/6/23 21:26
TIC_1H-Indene, 2,3-dihydro-	0.146	J			mg/kg dry	1	6/6/23 21:26
TIC_Azulene	0.0380	J			mg/kg dry	1	6/6/23 21:26
TIC_Benzene, (1-methylethenyl)-	0.0743	J			mg/kg dry	1	6/6/23 21:26
TIC_Benzene, (2-bromocyclopropyl)-	0.0494	J			mg/kg dry	1	6/6/23 21:26

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-20230524**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1-ethyl-2-methyl-	0.808	J			mg/kg dry	1	6/6/23 21:26
TIC_Benzene, 1-ethyl-3-methyl-	0.260	J			mg/kg dry	1	6/6/23 21:26
TIC_Benzene, methyl(1-methylethyl)-	0.0293	J			mg/kg dry	1	6/6/23 21:26
TIC_Benzene, propyl-	0.0306	J			mg/kg dry	1	6/6/23 21:26
TIC_Octane	0.0666	J			mg/kg dry	1	6/6/23 21:26
TIC_Octane, 3-methyl-	0.0454	J			mg/kg dry	1	6/6/23 21:26

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-20230524**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5420		0.172	2.90	mg/kg dry	1	6/7/23 10:39
Arsenic	3.00		0.103	1.45	mg/kg dry	1	6/7/23 10:39
Barium	77.9		0.0439	0.580	mg/kg dry	1	6/7/23 10:39
Beryllium	0.381		0.00336	0.0290	mg/kg dry	1	6/7/23 10:39
Calcium	8340		3.26	29.0	mg/kg dry	1	6/7/23 10:39
Chromium	9.05		0.0328	0.290	mg/kg dry	1	6/7/23 10:39
Cobalt	4.12		0.0296	0.232	mg/kg dry	1	6/7/23 10:39
Copper	8.47		0.0811	0.290	mg/kg dry	1	6/7/23 10:39
Iron	8530		0.822	5.80	mg/kg dry	1	6/7/23 10:39
Lead	3.14		0.121	1.45	mg/kg dry	1	6/7/23 10:39
Magnesium	4440		10.2	58.0	mg/kg dry	1	6/7/23 10:39
Manganese	226		0.0361	0.290	mg/kg dry	1	6/7/23 10:39
Nickel	10.8		0.0255	0.145	mg/kg dry	1	6/7/23 10:39
Potassium	1900		34.5	116	mg/kg dry	1	6/7/23 10:39
Sodium	996		5.53	58.0	mg/kg dry	1	6/7/23 10:39
Vanadium	13.6		0.0667	0.580	mg/kg dry	1	6/7/23 10:39
Zinc	16.1		0.0886	0.870	mg/kg dry	1	6/7/23 10:39

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.506	D	0.0142	0.0309	mg/kg dry	20	6/12/23 17:51
4,4'-DDT	0.140		0.00109	0.00155	mg/kg dry	1	6/10/23 17:48
Chlordane	0.626	D	0.0137	0.0309	mg/kg dry	20	6/12/23 17:51

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	6090	D	19.0	119	mg/kg dry	500	6/7/23 21:58

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-20230524**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	2960	D	4.51	79.1	mg/kg dry	500	6/7/23 21:58
Acenaphthylene	836	D	2.75	79.1	mg/kg dry	500	6/7/23 21:58
Anthracene	1570	D	11.5	79.1	mg/kg dry	500	6/7/23 21:58
Benzo(a)anthracene	822	D	7.97	79.1	mg/kg dry	500	6/7/23 21:58
Benzo(a)pyrene	657	D	13.8	79.1	mg/kg dry	500	6/7/23 21:58
Benzo(b)fluoranthene	469	D	11.1	79.1	mg/kg dry	500	6/7/23 21:58
Benzo(g,h,i)perylene	59.6	D	0.128	1.58	mg/kg dry	10	6/6/23 23:48
Benzo(k)fluoranthene	51.0	D	0.182	1.58	mg/kg dry	10	6/6/23 23:48
Biphenyl	741	D	6.96	79.1	mg/kg dry	500	6/7/23 21:58
Carbazole	21.6	D	0.304	3.96	mg/kg dry	10	6/6/23 23:48
Chrysene	809	D	5.42	79.1	mg/kg dry	500	6/7/23 21:58
Dibenzo(a,h)anthracene	10.1	D	0.157	1.58	mg/kg dry	10	6/6/23 23:48
Dibenzofuran	28.5	D	0.0943	1.58	mg/kg dry	10	6/6/23 23:48
Fluoranthene	1390	D	7.43	79.1	mg/kg dry	500	6/7/23 21:58
Fluorene	1970	D	6.60	79.1	mg/kg dry	500	6/7/23 21:58
Indeno(1,2,3-cd)pyrene	46.4	D	0.170	1.58	mg/kg dry	10	6/6/23 23:48
Naphthalene	6630	D	11.7	158	mg/kg dry	1000	6/10/23 5:36
Phenanthrene	4400	D	10.4	79.1	mg/kg dry	500	6/7/23 21:58
Pyrene	2210	D	5.82	79.1	mg/kg dry	500	6/7/23 21:58
TIC_Benzene, 1,2,3-trimethyl-	75.0	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Benzene, 1-ethyl-3-methyl-	60.4	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Benzene, 1-propynyl-	169	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Indane	60.3	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 1,3-dimethyl-	84.3	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 1,4,6-trimethyl-	30.8	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 1,5-dimethyl-	121	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 1,6-dimethyl-	72.6	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 1,7-dimethyl-	149	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 1-ethyl-	131	J, D			mg/kg dry	10	6/6/23 23:48
TIC_Naphthalene, 2,3,6-trimethyl-	44.8	J, D			mg/kg dry	10	6/6/23 23:48
TIC_unknown (01)	31.7	J, D			mg/kg dry	10	6/6/23 23:48
TIC_unknown (02)	36.9	J, D			mg/kg dry	10	6/6/23 23:48
TIC_unknown (03)	53.8	J, D			mg/kg dry	10	6/6/23 23:48
TIC_unknown (04)	26.3	J, D			mg/kg dry	10	6/6/23 23:48

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-2 0230524** Collected: **5/24/2023 10:10:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0514	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1221	ND	U	0.101	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1232	ND	U	0.129	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1242	ND	U	0.0753	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1248	ND	U	0.0788	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1254	ND	U	0.0618	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1260	**14.3**	D	**0.0480**	**0.383**	**mg/kg**	**10**	**6/10/23 9:05**
Aroclor-1262	ND	U	0.103	0.383	mg/kg	10	6/10/23 9:05
Aroclor-1268	ND	U	0.0464	0.383	mg/kg	10	6/10/23 9:05
Total PCBs	**14.3**	D	**0.0358**	**0.383**	**mg/kg**	**10**	**6/10/23 9:05**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0114	0.116	mg/kg	1	6/13/23 21:29
2,4-D	ND	U	0.0193	0.116	mg/kg	1	6/13/23 21:29

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.0380**		**0.00581**	**0.0232**	**mg/kg**	**1**	**6/6/23 13:25**	J, RC:4L

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**9810**		**0.170**	**2.86**	**mg/kg**	**1**	**6/7/23 10:37**
Antimony	ND	U	0.156	1.43	mg/kg	1	6/7/23 10:37
Arsenic	**14.4**		**0.102**	**1.43**	**mg/kg**	**1**	**6/7/23 10:37**
Barium	**101**		**0.0432**	**0.572**	**mg/kg**	**1**	**6/7/23 10:37**
Beryllium	**0.523**		**0.00331**	**0.0286**	**mg/kg**	**1**	**6/7/23 10:37**
Cadmium	**0.601**		**0.0558**	**0.286**	**mg/kg**	**1**	**6/7/23 10:37**
Calcium	**7960**		**3.22**	**28.6**	**mg/kg**	**1**	**6/7/23 10:37**
Chromium	**18.9**		**0.0323**	**0.286**	**mg/kg**	**1**	**6/7/23 10:37**
Cobalt	**4.46**		**0.0292**	**0.229**	**mg/kg**	**1**	**6/7/23 10:37**
Copper	**69.5**		**0.0800**	**0.286**	**mg/kg**	**1**	**6/7/23 10:37**
Iron	**34300**	D	**8.10**	**57.2**	**mg/kg**	**10**	**6/7/23 13:05**
Lead	**131**		**0.119**	**1.43**	**mg/kg**	**1**	**6/7/23 10:37**
Magnesium	**2740**		**10.1**	**57.2**	**mg/kg**	**1**	**6/7/23 10:37**
Manganese	**246**		**0.0356**	**0.286**	**mg/kg**	**1**	**6/7/23 10:37**
Nickel	**16.3**		**0.0251**	**0.143**	**mg/kg**	**1**	**6/7/23 10:37**
Potassium	**1370**		**34.0**	**114**	**mg/kg**	**1**	**6/7/23 10:37**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-2 0230524** Collected: **5/24/2023 10:10:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.275	1.43	mg/kg	1	6/7/23 10:37	
Silver	ND	U	0.0486	0.172	mg/kg	1	6/7/23 10:37	UJ, RC:6L
Sodium	**1690**		**5.45**	**57.2**	**mg/kg**	**1**	**6/7/23 10:37**	
Thallium	ND	U	0.0962	1.43	mg/kg	1	6/7/23 10:37	
Vanadium	**30.0**		**0.0658**	**0.572**	**mg/kg**	**1**	**6/7/23 10:37**	
Zinc	**171**		**0.0874**	**0.858**	**mg/kg**	**1**	**6/7/23 10:37**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000691	0.00151	mg/kg	1	6/10/23 17:29	
4,4'-DDE	ND	U	0.000826	0.00151	mg/kg	1	6/10/23 17:29	
4,4'-DDT	ND	U	0.00107	0.00151	mg/kg	1	6/10/23 17:29	
Aldrin	ND	U	0.000715	0.00151	mg/kg	1	6/10/23 17:29	
alpha-BHC	ND	U	0.000449	0.00151	mg/kg	1	6/10/23 17:29	
beta-BHC	ND	U	0.000721	0.00151	mg/kg	1	6/10/23 17:29	
Chlordane	ND	U	0.000671	0.00151	mg/kg	1	6/10/23 17:29	
delta-BHC	ND	U	0.000701	0.00151	mg/kg	1	6/10/23 17:29	
Dieldrin	ND	U	0.000790	0.00151	mg/kg	1	6/10/23 17:29	
Endosulfan I	ND	U	0.000713	0.00151	mg/kg	1	6/10/23 17:29	
Endosulfan II	ND	U	0.000686	0.00151	mg/kg	1	6/10/23 17:29	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000568	0.00151	mg/kg	1	6/10/23 17:29	
Endosulfans, Total (alpha and beta)	ND	U	0.000686	0.00151	mg/kg	1	6/10/23 17:29	
Endrin	ND	U	0.000521	0.00151	mg/kg	1	6/10/23 17:29	
Endrin aldehyde	ND	U	0.000601	0.00151	mg/kg	1	6/10/23 17:29	
Endrin ketone	ND	U	0.000532	0.00151	mg/kg	1	6/10/23 17:29	
gamma-BHC (Lindane)	ND	U	0.000478	0.00151	mg/kg	1	6/10/23 17:29	
Heptachlor	ND	U	0.000404	0.00151	mg/kg	1	6/10/23 17:29	
Heptachlor Epoxide	ND	U	0.000762	0.00151	mg/kg	1	6/10/23 17:29	
Methoxychlor	ND	U	0.000442	0.00151	mg/kg	1	6/10/23 17:29	
Toxaphene	ND	U	0.0727	0.0766	mg/kg	1	6/10/23 17:29	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00437	0.0387	mg/kg	1	6/6/23 19:53
2,3,4,6-Tetrachlorophenol	ND	U	0.0238	0.154	mg/kg	1	6/6/23 19:53
2,4,5-Trichlorophenol	ND	U	0.0210	0.154	mg/kg	1	6/6/23 19:53
2,4,6-Trichlorophenol	ND	U	0.00967	0.154	mg/kg	1	6/6/23 19:53

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-2 0230524** Collected: **5/24/2023 10:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0156	0.154	mg/kg	1	6/6/23 19:53	
2,4-Dimethylphenol	ND	U	0.0152	0.154	mg/kg	1	6/6/23 19:53	
2,4-Dinitrophenol	ND	U	0.0223	0.774	mg/kg	1	6/6/23 19:53	
2,4-Dinitrotoluene	ND	U	0.0165	0.154	mg/kg	1	6/6/23 19:53	
2,6-Dinitrotoluene	ND	U	0.0369	0.154	mg/kg	1	6/6/23 19:53	
2-Chloronaphthalene	ND	U	0.0178	0.154	mg/kg	1	6/6/23 19:53	
2-Chlorophenol	ND	U	0.0204	0.154	mg/kg	1	6/6/23 19:53	
2-Methylnaphthalene	**0.0725**	J	**0.0370**	**0.232**	**mg/kg**	**1**	**6/6/23 19:53**	
2-Methylphenol	ND	U	0.0305	0.154	mg/kg	1	6/6/23 19:53	
2-Nitroaniline	ND	U	0.0124	0.154	mg/kg	1	6/6/23 19:53	
2-Nitrophenol	ND	U	0.0172	0.154	mg/kg	1	6/6/23 19:53	
3,3'-Dichlorobenzidine	ND	U	0.0163	0.154	mg/kg	1	6/6/23 19:53	UJ, RC:SL
3+4-Methylphenol	ND	U	0.0283	0.154	mg/kg	1	6/6/23 19:53	
3-Nitroaniline	ND	U	0.0287	0.154	mg/kg	1	6/6/23 19:53	
4,6-Dinitro-2-methylphenol	ND	U	0.0291	0.387	mg/kg	1	6/6/23 19:53	
4-Bromophenyl-phenyl ether	ND	U	0.0221	0.154	mg/kg	1	6/6/23 19:53	
4-Chloro-3-methylphenol	ND	U	0.0244	0.154	mg/kg	1	6/6/23 19:53	
4-Chloroaniline	ND	U	0.00541	0.154	mg/kg	1	6/6/23 19:53	
4-Chlorophenyl phenyl ether	ND	U	0.00835	0.154	mg/kg	1	6/6/23 19:53	
4-Nitroaniline	ND	U	0.0773	0.154	mg/kg	1	6/6/23 19:53	
4-Nitrophenol	ND	U	0.00989	0.154	mg/kg	1	6/6/23 19:53	
Acenaphthene	**0.0845**	J	**0.00881**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Acenaphthylene	**0.135**	J	**0.00538**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Acetophenone	ND	U	0.0153	0.154	mg/kg	1	6/6/23 19:53	
Anthracene	**0.399**		**0.0224**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Atrazine	ND	U	0.0145	0.154	mg/kg	1	6/6/23 19:53	UJ, RC:SL
Benzaldehyde	ND	U	0.0475	0.154	mg/kg	1	6/6/23 19:53	UJ, RC:SL
Benzo(a)anthracene	**1.42**		**0.0156**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Benzo(a)pyrene	**1.61**		**0.0269**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Benzo(b)fluoranthene	**1.98**		**0.0217**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Benzo(g,h,i)perylene	**1.42**		**0.0125**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	J, RC:SH
Benzo(k)fluoranthene	**0.803**		**0.0178**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Biphenyl	ND	U	0.0136	0.154	mg/kg	1	6/6/23 19:53	
bis(2-chloroethoxy)methane	ND	U	0.0214	0.154	mg/kg	1	6/6/23 19:53	
bis(2-chloroethyl)ether	ND	U	0.0170	0.154	mg/kg	1	6/6/23 19:53	
bis(2-chloroisopropyl)ether	ND	U	0.0556	0.154	mg/kg	1	6/6/23 19:53	
bis(2-ethylhexyl)phthalate	ND	U	0.0309	0.154	mg/kg	1	6/6/23 19:53	
Butylbenzylphthalate	ND	U	0.0140	0.154	mg/kg	1	6/6/23 19:53	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1202
Project: Owls Head Phase 2 **Date to Lab:** 5/24/2023 6:26:00PM

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-2 0230524** Collected: **5/24/2023 10:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0200	0.154	mg/kg	1	6/6/23 19:53	
Carbazole	**0.176**	J	**0.0297**	**0.387**	**mg/kg**	**1**	**6/6/23 19:53**	
Chrysene	**1.48**		**0.0106**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Dibenzo(a,h)anthracene	**0.0933**	J	**0.0153**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	J, RC:SH
Dibenzofuran	**0.0604**	J	**0.00921**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Diethylphthalate	ND	U	0.0300	0.154	mg/kg	1	6/6/23 19:53	
Dimethylphthalate	ND	U	0.00959	0.154	mg/kg	1	6/6/23 19:53	
Di-n-butylphthalate	ND	U	0.0632	0.154	mg/kg	1	6/6/23 19:53	
Di-n-octylphthalate	ND	U	0.0317	0.154	mg/kg	1	6/6/23 19:53	
Fluoranthene	**2.96**		**0.0145**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Fluorene	**0.0989**	J	**0.0129**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Hexachlorobenzene	ND	U	0.0202	0.154	mg/kg	1	6/6/23 19:53	
Hexachlorobutadiene	ND	U	0.0742	0.154	mg/kg	1	6/6/23 19:53	
Hexachlorocyclopentadiene	ND	U	0.0644	0.387	mg/kg	1	6/6/23 19:53	
Hexachloroethane	ND	U	0.0170	0.154	mg/kg	1	6/6/23 19:53	
Indeno(1,2,3-cd)pyrene	**1.04**		**0.0166**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	J, RC:SH
Isophorone	ND	U	0.0101	0.154	mg/kg	1	6/6/23 19:53	
Naphthalene	**0.0907**	J	**0.0114**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Nitrobenzene	ND	U	0.0262	0.154	mg/kg	1	6/6/23 19:53	
n-Nitroso-di-n-propylamine	ND	U	0.00828	0.154	mg/kg	1	6/6/23 19:53	
n-Nitrosodiphenylamine	ND	U	0.0330	0.154	mg/kg	1	6/6/23 19:53	
Pentachlorophenol	ND	U	0.0212	0.387	mg/kg	1	6/6/23 19:53	
Phenanthrene	**1.63**		**0.0203**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	
Phenol	ND	U	0.0125	0.154	mg/kg	1	6/6/23 19:53	
Pyrene	**2.10**		**0.0114**	**0.154**	**mg/kg**	**1**	**6/6/23 19:53**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1,1-Biphenyl, 2,2,3,4,5,6-hexachloro	0.580	13.36	J	mg/kg	1	6/6/23 19:53	
1,1-Biphenyl, pentachloro-	0.338	12.63	J	mg/kg	1	6/6/23 19:53	
2-Pentanone, 4-hydroxy-4-methyl-	~~20.8~~	5.21	J, B	mg/kg	1	6/6/23 19:53	R, RC:2
Ethanol, 2-butoxy-	0.809	5.86	J	mg/kg	1	6/6/23 19:53	
Hexadecanoic acid, butyl ester	~~1.67~~	12.83	J, B	mg/kg	1	6/6/23 19:53	R, RC:2
Octadecanoic acid, butyl ester	~~0.567~~	13.65	J, B	mg/kg	1	6/6/23 19:53	R, RC:2
unknown (01)	0.367	5.98	J	mg/kg	1	6/6/23 19:53	
unknown (02)	0.317	12.13	J	mg/kg	1	6/6/23 19:53	
unknown (03)	0.729	13.58	J	mg/kg	1	6/6/23 19:53	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-2 0230524** Collected: **5/24/2023 10:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (04)	0.639	13.85	J	mg/kg	1	6/6/23 19:53
TIC Total	~~26.8~~ 3.8					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000265	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000250	0.00181	mg/kg	1	6/6/23 21:26	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000777	0.00181	mg/kg	1	6/6/23 21:26	
1,1,2-Trichloroethane	ND	U	0.000306	0.00181	mg/kg	1	6/6/23 21:26	
1,1-Dichloroethane	ND	U	0.000265	0.00181	mg/kg	1	6/6/23 21:26	
1,1-Dichloroethene	ND	U	0.000336	0.00181	mg/kg	1	6/6/23 21:26	
1,2,3-Trichlorobenzene	ND	U	0.000392	0.00181	mg/kg	1	6/6/23 21:26	
1,2,4-Trichlorobenzene	ND	U	0.000484	0.00181	mg/kg	1	6/6/23 21:26	
1,2,4-Trimethylbenzene	**301**	D	**0.493**	**3.57**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
1,2-Dibromo-3-chloropropane	ND	U	0.000443	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
1,2-Dibromoethane	ND	U	0.000229	0.00181	mg/kg	1	6/6/23 21:26	
1,2-Dichlorobenzene	ND	U	0.000320	0.00181	mg/kg	1	6/6/23 21:26	
1,2-Dichloroethane	ND	U	0.000256	0.00181	mg/kg	1	6/6/23 21:26	
1,2-Dichloropropane	ND	U	0.000298	0.00181	mg/kg	1	6/6/23 21:26	
1,3-Dichlorobenzene	ND	U	0.000133	0.00181	mg/kg	1	6/6/23 21:26	
1,4-Dichlorobenzene	ND	U	0.000261	0.00181	mg/kg	1	6/6/23 21:26	
2-Butanone	ND	U	0.000296	0.00454	mg/kg	1	6/6/23 21:26	
2-Hexanone	ND	U	0.000170	0.00181	mg/kg	1	6/6/23 21:26	
4-Methyl-2-pentanone	ND	U	0.000227	0.00181	mg/kg	1	6/6/23 21:26	
Acetone	ND	U	0.000550	0.00454	mg/kg	1	6/6/23 21:26	
Benzene	**32.0**	D	**0.325**	**3.57**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
Bromochloromethane	ND	U	0.000335	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
Bromodichloromethane	ND	U	0.000228	0.00181	mg/kg	1	6/6/23 21:26	
Bromoform	ND	U	0.000318	0.00181	mg/kg	1	6/6/23 21:26	
Bromomethane	ND	U	0.000523	0.00181	mg/kg	1	6/6/23 21:26	
Carbon disulfide	ND	U	0.000260	0.00181	mg/kg	1	6/6/23 21:26	
Carbon Tetrachloride	ND	U	0.000273	0.00181	mg/kg	1	6/6/23 21:26	
Chlorobenzene	ND	U	0.000263	0.00181	mg/kg	1	6/6/23 21:26	
Chlorodibromomethane	ND	U	0.000223	0.00181	mg/kg	1	6/6/23 21:26	
Chloroethane	ND	U	0.000309	0.00181	mg/kg	1	6/6/23 21:26	
Chloroform	ND	U	0.000305	0.00181	mg/kg	1	6/6/23 21:26	
Chloromethane	ND	U	0.000699	0.00181	mg/kg	1	6/6/23 21:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-01 (Soil) Sample Name: **OH-SB-22-46.0-47.0-2 0230524** Collected: **5/24/2023 10:10:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
cis-1,2-Dichloroethene	ND	U	0.0000877	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
cis-1,3-Dichloropropene	ND	U	0.000230	0.00181	mg/kg	1	6/6/23 21:26	
Cyclohexane	ND	U	0.000402	0.00181	mg/kg	1	6/6/23 21:26	
Dichlorodifluoromethane	ND	U	0.000612	0.00181	mg/kg	1	6/6/23 21:26	
EthylBenzene	**436**	D	**2.42**	**17.9**	**mg/kg**	**8772**	**6/7/23 18:36**	J, RC:3L
Isopropylbenzene	**19.7**	D	**0.561**	**3.57**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
m+p-Xylenes	**334**	D	**0.902**	**7.15**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
Methyl Acetate	ND	U	0.000240	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000307	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
Methylcyclohexane	**0.0833**		**0.000292**	**0.00181**	**mg/kg**	**1**	**6/6/23 21:26**	J, RC:3L
Methylene Chloride	ND	U	0.000545	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
o-Xylene	**162**	D	**0.459**	**3.57**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
Styrene	ND	U	0.000259	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
tert-Butyl alcohol	ND	U	0.00381	0.0181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
Tetrachloroethene	ND	U	0.000180	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
Toluene	**173**	D	**0.288**	**3.57**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
Total Xylenes	**495**	D	**0.459**	**3.57**	**mg/kg**	**1754**	**6/7/23 18:07**	J, RC:3L
trans-1,2-Dichloroethene	ND	U	0.000246	0.00181	mg/kg	1	6/6/23 21:26	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000347	0.00181	mg/kg	1	6/6/23 21:26	
Trichloroethene	ND	U	0.000267	0.00181	mg/kg	1	6/6/23 21:26	
Trichlorofluoromethane	ND	U	0.000209	0.00181	mg/kg	1	6/6/23 21:26	
Vinyl chloride	ND	U	0.000345	0.00181	mg/kg	1	6/6/23 21:26	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,4-Heptadiene, 3-methyl-	0.0462	13.90	J	mg/kg	1	6/6/23 21:26
1H-Indene	0.188	20.40	J	mg/kg	1	6/6/23 21:26
1H-Indene, 2,3-dihydro-	0.146	20.01	J	mg/kg	1	6/6/23 21:26
Azulene	0.0380	23.27	J	mg/kg	1	6/6/23 21:26
Benzene, (1-methylethenyl)-	0.0743	18.67	J	mg/kg	1	6/6/23 21:26
Benzene, (2-bromocyclopropyl)-	0.0494	19.07	J	mg/kg	1	6/6/23 21:26
Benzene, 1-ethyl-2-methyl-	0.808	18.18	J	mg/kg	1	6/6/23 21:26
Benzene, 1-ethyl-3-methyl-	0.260	18.97	J	mg/kg	1	6/6/23 21:26
Benzene, methyl(1-methylethyl)-	0.0293	19.39	J	mg/kg	1	6/6/23 21:26
Benzene, propyl-	0.0306	18.02	J	mg/kg	1	6/6/23 21:26
Octane	0.0666	13.41	J	mg/kg	1	6/6/23 21:26
Octane, 3-methyl-	0.0454	15.43	J	mg/kg	1	6/6/23 21:26

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-01 (Soil)

Sample Name: **OH-SB-22-46.0-47.0-2 0230524**
Collected: **5/24/2023 10:10:00AM**

TIC Total **1.78**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.1**				**%**	**1**	**5/25/23 11:07**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00781	0.0656	mg/kg	1	5/25/23 17:45

23E1202-02 (Ground Water)

Sample Name: **FB-20230524**
Collected: **5/24/2023 11:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/3/23 1:27
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/3/23 1:27
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/3/23 1:27
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/3/23 1:27
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/3/23 1:27
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/3/23 1:27
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/3/23 1:27
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/3/23 1:27
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/3/23 1:27
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/3/23 1:27

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 19:26
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 19:26
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 19:26

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/26/23 13:25

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-02 (Ground Water) Sample Name: **FB-20230524** Collected: **5/24/2023 11:30:00AM**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	5/30/23 15:28
Antimony	ND	U	0.00693	0.0500	mg/L	1	5/30/23 15:28
Arsenic	ND	U	0.00799	0.0500	mg/L	1	5/30/23 15:28
Barium	ND	U	0.000558	0.0200	mg/L	1	5/30/23 15:28
Beryllium	ND	U	0.000206	0.00100	mg/L	1	5/30/23 15:28
Cadmium	ND	U	0.00130	0.0100	mg/L	1	5/30/23 15:28
Calcium	ND	U	0.256	1.00	mg/L	1	5/30/23 15:28
Chromium	ND	U	0.000480	0.0100	mg/L	1	5/30/23 15:28
Cobalt	ND	U	0.00106	0.00800	mg/L	1	5/30/23 15:28
Copper	ND	U	0.00177	0.0100	mg/L	1	5/30/23 15:28
Iron	ND	U	0.0580	0.200	mg/L	1	5/30/23 15:28
Lead	ND	U	0.00510	0.0500	mg/L	1	5/30/23 15:28
Magnesium	ND	U	0.681	2.00	mg/L	1	5/30/23 15:28
Manganese	ND	U	0.000242	0.0100	mg/L	1	5/30/23 15:28
Nickel	ND	U	0.00200	0.00500	mg/L	1	5/30/23 15:28
Potassium	ND	U	2.41	4.00	mg/L	1	5/30/23 15:28
Selenium	ND	U	0.0152	0.0500	mg/L	1	5/30/23 15:28
Silver	ND	U	0.00465	0.0200	mg/L	1	5/30/23 15:28
Sodium	ND	U	0.205	2.00	mg/L	1	5/30/23 15:28
Thallium	ND	U	0.00828	0.0500	mg/L	1	5/30/23 15:28
Vanadium	ND	U	0.00668	0.00800	mg/L	1	5/30/23 15:28
Zinc	ND	U	0.00144	0.0300	mg/L	1	5/30/23 15:28

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/26/23 17:57	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/26/23 17:57	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/26/23 17:57	UJ, RC:6L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/26/23 17:57	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/26/23 17:57	UJ, RC:6L
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/26/23 17:57	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/26/23 17:57	UJ, RC:6L
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/26/23 17:57	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/26/23 17:57	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/26/23 17:57	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/26/23 17:57	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/26/23 17:57	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/26/23 17:57	UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/26/23 17:57	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-02 (Ground Water) Sample Name: **FB-20230524** Collected: **5/24/2023 11:30:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/26/23 17:57	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/26/23 17:57	UJ, RC:6L
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/26/23 17:57	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/26/23 17:57	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/26/23 17:57	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/26/23 17:57	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/31/23 14:01	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/31/23 14:01	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/31/23 14:01	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/31/23 14:01	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/31/23 14:01	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/31/23 14:01	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/31/23 14:01	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/31/23 14:01	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/31/23 14:01	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/31/23 14:01	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/31/23 14:01	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/31/23 14:01	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/31/23 14:01	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/31/23 14:01	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/31/23 14:01	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/31/23 14:01	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/31/23 14:01	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/31/23 14:01	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/31/23 14:01	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/31/23 14:01	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/31/23 14:01	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/31/23 14:01	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/31/23 14:01	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/31/23 14:01	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/31/23 14:01	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/31/23 14:01	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/31/23 14:01	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/31/23 14:01	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/31/23 14:01	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/31/23 14:01	UJ, RC:Q

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-02 (Ground Water) Sample Name: **FB-20230524** Collected: **5/24/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/31/23 14:01
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/31/23 14:01
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/31/23 14:01
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/31/23 14:01
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/31/23 14:01
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/31/23 14:01
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/31/23 14:01
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/31/23 14:01
Carbazole	ND	U	0.188	2.00	ug/L	1	5/31/23 14:01
Chrysene	ND	U	0.129	2.00	ug/L	1	5/31/23 14:01
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/31/23 14:01
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/31/23 14:01
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/31/23 14:01
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/31/23 14:01
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/31/23 14:01
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/31/23 14:01
Fluorene	ND	U	0.109	2.00	ug/L	1	5/31/23 14:01
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/31/23 14:01
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/31/23 14:01
Isophorone	ND	U	0.111	2.00	ug/L	1	5/31/23 14:01
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/31/23 14:01
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/31/23 14:01
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/31/23 14:01
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/31/23 14:01
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/31/23 14:01
Phenol	ND	U	0.0973	2.00	ug/L	1	5/31/23 14:01
Pyrene	ND	U	0.115	2.00	ug/L	1	5/31/23 14:01

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/26/23 15:40
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/26/23 15:40
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/26/23 15:40
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/26/23 15:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-02 (Ground Water) Sample Name: **FB-20230524** Collected: **5/24/2023 11:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/26/23 15:40	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/26/23 15:40	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/26/23 15:40	UJ, RC:SL
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/26/23 15:40	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/26/23 15:40	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/26/23 15:40	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/26/23 15:40	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/26/23 15:40	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/26/23 15:40	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/26/23 15:40	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/26/23 15:40	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/26/23 15:40	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/26/23 15:40	UJ, RC:SL
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/26/23 15:40	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/26/23 15:40	UJ, RC:SL
Acetone	ND	U	10.0	10.0	ug/L	1	5/26/23 15:40	
Benzene	ND	U	0.129	1.00	ug/L	1	5/26/23 15:40	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/26/23 15:40	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/26/23 15:40	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/26/23 15:40	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/26/23 15:40	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/26/23 15:40	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/26/23 15:40	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/26/23 15:40	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/26/23 15:40	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/26/23 15:40	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/26/23 15:40	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/26/23 15:40	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/26/23 15:40	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/26/23 15:40	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/26/23 15:40	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/26/23 15:40	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/26/23 15:40	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/26/23 15:40	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/26/23 15:40	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/26/23 15:40	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/26/23 15:40	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/26/23 15:40	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/26/23 15:40	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-02 (Ground Water) Sample Name: FB-20230524 Collected: 5/24/2023 11:30:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/26/23 15:40
Styrene	ND	U	0.176	1.00	ug/L	1	5/26/23 15:40
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/26/23 15:40
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/26/23 15:40
Toluene	ND	U	0.205	1.00	ug/L	1	5/26/23 15:40
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/26/23 15:40
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/26/23 15:40
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/26/23 15:40
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/26/23 15:40
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/26/23 15:40
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/26/23 15:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/6/23 17:15

23E1202-03 (Soil) Sample Name: OH-SB-16-3.0-4.0-20230524 Collected: 5/24/2023 12:10:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00526	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1221	ND	U	0.0104	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1232	ND	U	0.0132	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1242	ND	U	0.00771	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1248	ND	U	0.00807	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1254	ND	U	0.00633	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1260	ND	U	0.00491	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1262	ND	U	0.0106	0.0392	mg/kg	1	6/9/23 21:11
Aroclor-1268	ND	U	0.00475	0.0392	mg/kg	1	6/9/23 21:11
Total PCBs	ND	U	0.00366	0.0392	mg/kg	1	6/9/23 21:11

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-202 30524** Collected: **5/24/2023 12:10:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0117	0.119	mg/kg	1	6/13/23 21:52	
2,4-D	ND	U	0.0197	0.119	mg/kg	1	6/13/23 21:52	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	ND	U	0.00595	0.0238	mg/kg	1	6/6/23 13:35	UJ, RC:4L

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5420**		**0.172**	**2.90**	**mg/kg**	**1**	**6/7/23 10:39**	
Antimony	ND	U	0.158	1.45	mg/kg	1	6/7/23 10:39	
Arsenic	**3.00**		**0.103**	**1.45**	**mg/kg**	**1**	**6/7/23 10:39**	
Barium	**77.9**		**0.0439**	**0.580**	**mg/kg**	**1**	**6/7/23 10:39**	
Beryllium	**0.381**		**0.00336**	**0.0290**	**mg/kg**	**1**	**6/7/23 10:39**	
Cadmium	ND	U	0.0565	0.290	mg/kg	1	6/7/23 10:39	
Calcium	**8340**		**3.26**	**29.0**	**mg/kg**	**1**	**6/7/23 10:39**	
Chromium	**9.05**		**0.0328**	**0.290**	**mg/kg**	**1**	**6/7/23 10:39**	
Cobalt	**4.12**		**0.0296**	**0.232**	**mg/kg**	**1**	**6/7/23 10:39**	
Copper	**8.47**		**0.0811**	**0.290**	**mg/kg**	**1**	**6/7/23 10:39**	
Iron	**8530**		**0.822**	**5.80**	**mg/kg**	**1**	**6/7/23 10:39**	
Lead	**3.14**		**0.121**	**1.45**	**mg/kg**	**1**	**6/7/23 10:39**	
Magnesium	**4440**		**10.2**	**58.0**	**mg/kg**	**1**	**6/7/23 10:39**	
Manganese	**226**		**0.0361**	**0.290**	**mg/kg**	**1**	**6/7/23 10:39**	
Nickel	**10.8**		**0.0255**	**0.145**	**mg/kg**	**1**	**6/7/23 10:39**	
Potassium	**1900**		**34.5**	**116**	**mg/kg**	**1**	**6/7/23 10:39**	
Selenium	ND	U	0.278	1.45	mg/kg	1	6/7/23 10:39	
Silver	ND	U	0.0493	0.174	mg/kg	1	6/7/23 10:39	UJ, RC:6L
Sodium	**996**		**5.53**	**58.0**	**mg/kg**	**1**	**6/7/23 10:39**	
Thallium	ND	U	0.0976	1.45	mg/kg	1	6/7/23 10:39	
Vanadium	**13.6**		**0.0667**	**0.580**	**mg/kg**	**1**	**6/7/23 10:39**	
Zinc	**16.1**		**0.0886**	**0.870**	**mg/kg**	**1**	**6/7/23 10:39**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.506**	D	**0.0142**	**0.0309**	**mg/kg**	**20**	**6/12/23 17:51**	J, RC:3H
4,4'-DDE	ND	U	0.000845	0.00155	mg/kg	1	6/10/23 17:48	
4,4'-DDT	**0.140**		**0.00109**	**0.00155**	**mg/kg**	**1**	**6/10/23 17:48**	J, RC:3H,6H
Aldrin	ND	U	0.000732	0.00155	mg/kg	1	6/10/23 17:48	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-202 30524** Collected: **5/24/2023 12:10:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000460	0.00155	mg/kg	1	6/10/23 17:48	
beta-BHC	ND	U	0.000738	0.00155	mg/kg	1	6/10/23 17:48	
Chlordane	**0.626**	D	**0.0137**	**0.0309**	**mg/kg**	**20**	**6/12/23 17:51**	J, RC:3H
delta-BHC	ND	U	0.000718	0.00155	mg/kg	1	6/10/23 17:48	
Dieldrin	ND	U	0.000809	0.00155	mg/kg	1	6/10/23 17:48	
Endosulfan I	ND	U	0.000730	0.00155	mg/kg	1	6/10/23 17:48	
Endosulfan II	ND	U	0.000703	0.00155	mg/kg	1	6/10/23 17:48	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000581	0.00155	mg/kg	1	6/10/23 17:48	
Endosulfans, Total (alpha and beta)	ND	U	0.000703	0.00155	mg/kg	1	6/10/23 17:48	
Endrin	ND	U	0.000534	0.00155	mg/kg	1	6/10/23 17:48	
Endrin aldehyde	ND	U	0.000616	0.00155	mg/kg	1	6/10/23 17:48	
Endrin ketone	ND	U	0.000545	0.00155	mg/kg	1	6/10/23 17:48	
gamma-BHC (Lindane)	ND	U	0.000490	0.00155	mg/kg	1	6/10/23 17:48	
Heptachlor	ND	U	0.000414	0.00155	mg/kg	1	6/10/23 17:48	
Heptachlor Epoxide	ND	U	0.000780	0.00155	mg/kg	1	6/10/23 17:48	
Methoxychlor	ND	U	0.000453	0.00155	mg/kg	1	6/10/23 17:48	
Toxaphene	ND	U	0.0745	0.0785	mg/kg	1	6/10/23 17:48	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0447	0.396	mg/kg	10	6/6/23 23:48	UJ, RC:3
2,3,4,6-Tetrachlorophenol	ND	U	0.244	1.58	mg/kg	10	6/6/23 23:48	
2,4,5-Trichlorophenol	ND	U	0.215	1.58	mg/kg	10	6/6/23 23:48	
2,4,6-Trichlorophenol	ND	U	0.0991	1.58	mg/kg	10	6/6/23 23:48	
2,4-Dichlorophenol	ND	U	0.159	1.58	mg/kg	10	6/6/23 23:48	
2,4-Dimethylphenol	ND	U	0.156	1.58	mg/kg	10	6/6/23 23:48	
2,4-Dinitrophenol	ND	U	0.228	7.93	mg/kg	10	6/6/23 23:48	
2,4-Dinitrotoluene	ND	U	0.169	1.58	mg/kg	10	6/6/23 23:48	
2,6-Dinitrotoluene	ND	U	0.378	1.58	mg/kg	10	6/6/23 23:48	
2-Chloronaphthalene	ND	U	0.182	1.58	mg/kg	10	6/6/23 23:48	
2-Chlorophenol	ND	U	0.209	1.58	mg/kg	10	6/6/23 23:48	
2-Methylnaphthalene	**6090**	D	**19.0**	**119**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
2-Methylphenol	ND	U	0.313	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
2-Nitroaniline	ND	U	0.127	1.58	mg/kg	10	6/6/23 23:48	
2-Nitrophenol	ND	U	0.176	1.58	mg/kg	10	6/6/23 23:48	
3,3'-Dichlorobenzidine	ND	U	0.166	1.58	mg/kg	10	6/6/23 23:48	
3+4-Methylphenol	ND	U	0.290	1.58	mg/kg	10	6/6/23 23:48	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-202 30524** Collected: **5/24/2023 12:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.294	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
4,6-Dinitro-2-methylphenol	ND	U	0.298	3.96	mg/kg	10	6/6/23 23:48	
4-Bromophenyl-phenyl ether	ND	U	0.226	1.58	mg/kg	10	6/6/23 23:48	
4-Chloro-3-methylphenol	ND	U	0.250	1.58	mg/kg	10	6/6/23 23:48	
4-Chloroaniline	ND	U	0.0554	1.58	mg/kg	10	6/6/23 23:48	
4-Chlorophenyl phenyl ether	ND	U	0.0855	1.58	mg/kg	10	6/6/23 23:48	
4-Nitroaniline	ND	U	0.792	1.58	mg/kg	10	6/6/23 23:48	
4-Nitrophenol	ND	U	0.101	1.58	mg/kg	10	6/6/23 23:48	
Acenaphthene	**2960**	D	**4.51**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Acenaphthylene	**836**	D	**2.75**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Acetophenone	ND	U	0.157	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Anthracene	**1570**	D	**11.5**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Atrazine	ND	U	0.149	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3,SL
Benzaldehyde	ND	U	0.486	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Benzo(a)anthracene	**822**	D	**7.97**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Benzo(a)pyrene	**657**	D	**13.8**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	
Benzo(b)fluoranthene	**469**	D	**11.1**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	
Benzo(g,h,i)perylene	**59.6**	D	**0.128**	**1.58**	**mg/kg**	**10**	**6/6/23 23:48**	
Benzo(k)fluoranthene	**51.0**	D	**0.182**	**1.58**	**mg/kg**	**10**	**6/6/23 23:48**	
Biphenyl	**741**	D	**6.96**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	
bis(2-chloroethoxy)methane	ND	U	0.219	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
bis(2-chloroethyl)ether	ND	U	0.174	1.58	mg/kg	10	6/6/23 23:48	
bis(2-chloroisopropyl)ether	ND	U	0.570	1.58	mg/kg	10	6/6/23 23:48	
bis(2-ethylhexyl)phthalate	ND	U	0.316	1.58	mg/kg	10	6/6/23 23:48	
Butylbenzylphthalate	ND	U	0.144	1.58	mg/kg	10	6/6/23 23:48	
Caprolactam	ND	U	0.205	1.58	mg/kg	10	6/6/23 23:48	
Carbazole	**21.6**	D	**0.304**	**3.96**	**mg/kg**	**10**	**6/6/23 23:48**	J, RC:3
Chrysene	**809**	D	**5.42**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Dibenzo(a,h)anthracene	**10.1**	D	**0.157**	**1.58**	**mg/kg**	**10**	**6/6/23 23:48**	J, RC:3
Dibenzofuran	**28.5**	D	**0.0943**	**1.58**	**mg/kg**	**10**	**6/6/23 23:48**	J, RC:3
Diethylphthalate	ND	U	0.307	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Dimethylphthalate	ND	U	0.0982	1.58	mg/kg	10	6/6/23 23:48	
Di-n-butylphthalate	ND	U	0.647	1.58	mg/kg	10	6/6/23 23:48	
Di-n-octylphthalate	ND	U	0.325	1.58	mg/kg	10	6/6/23 23:48	
Fluoranthene	**1390**	D	**7.43**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Fluorene	**1970**	D	**6.60**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Hexachlorobenzene	ND	U	0.207	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Hexachlorobutadiene	ND	U	0.760	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-202 30524** Collected: **5/24/2023 12:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorocyclopentadiene	ND	U	0.660	3.96	mg/kg	10	6/6/23 23:48	UJ, RC:3
Hexachloroethane	ND	U	0.174	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Indeno(1,2,3-cd)pyrene	**46.4**	D	**0.170**	**1.58**	**mg/kg**	**10**	**6/6/23 23:48**	J, RC:3
Isophorone	ND	U	0.104	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Naphthalene	**6630**	D	**11.7**	**158**	**mg/kg**	**1000**	**6/10/23 5:36**	J, RC:3
Nitrobenzene	ND	U	0.269	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
n-Nitroso-di-n-propylamine	ND	U	0.0848	1.58	mg/kg	10	6/6/23 23:48	
n-Nitrosodiphenylamine	ND	U	0.338	1.58	mg/kg	10	6/6/23 23:48	
Pentachlorophenol	ND	U	0.218	3.96	mg/kg	10	6/6/23 23:48	
Phenanthrene	**4400**	D	**10.4**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3
Phenol	ND	U	0.128	1.58	mg/kg	10	6/6/23 23:48	UJ, RC:3
Pyrene	**2210**	D	**5.82**	**79.1**	**mg/kg**	**500**	**6/7/23 21:58**	J, RC:3

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,2,3-trimethyl-	75.0	5.79	J, D	mg/kg	10	6/6/23 23:48
Benzene, 1-ethyl-3-methyl-	60.4	5.51	J, D	mg/kg	10	6/6/23 23:48
Benzene, 1-propynyl-	169	6.23	J, D	mg/kg	10	6/6/23 23:48
Indane	60.3	6.15	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 1,3-dimethyl-	84.3	8.79	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 1,4,6-trimethyl-	30.8	9.24	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 1,5-dimethyl-	121	8.59	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 1,6-dimethyl-	72.6	8.70	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 1,7-dimethyl-	149	8.67	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 1-ethyl-	131	8.52	J, D	mg/kg	10	6/6/23 23:48
Naphthalene, 2,3,6-trimethyl-	44.8	9.20	J, D	mg/kg	10	6/6/23 23:48
unknown (01)	31.7	6.02	J, D	mg/kg	10	6/6/23 23:48
unknown (02)	36.9	9.41	J, D	mg/kg	10	6/6/23 23:48
unknown (03)	53.8	9.48	J, D	mg/kg	10	6/6/23 23:48
unknown (04)	26.3	9.68	J, D	mg/kg	10	6/6/23 23:48
TIC Total	**1,150**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000328	0.00224	mg/kg	1	6/6/23 20:54
1,1,2,2-Tetrachloroethane	ND	U	0.000310	0.00224	mg/kg	1	6/6/23 20:54
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000960	0.00224	mg/kg	1	6/6/23 20:54

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-202 30524** Collected: **5/24/2023 12:10:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,2-Trichloroethane	ND	U	0.000378	0.00224	mg/kg	1	6/6/23 20:54	
1,1-Dichloroethane	ND	U	0.000328	0.00224	mg/kg	1	6/6/23 20:54	
1,1-Dichloroethene	ND	U	0.000415	0.00224	mg/kg	1	6/6/23 20:54	
1,2,3-Trichlorobenzene	ND	U	0.000485	0.00224	mg/kg	1	6/6/23 20:54	
1,2,4-Trichlorobenzene	ND	U	0.000598	0.00224	mg/kg	1	6/6/23 20:54	
1,2,4-Trimethylbenzene	ND	U	0.000310	0.00224	mg/kg	1	6/6/23 20:54	
1,2-Dibromo-3-chloropropane	ND	U	0.000547	0.00224	mg/kg	1	6/6/23 20:54	
1,2-Dibromoethane	ND	U	0.000283	0.00224	mg/kg	1	6/6/23 20:54	
1,2-Dichlorobenzene	ND	U	0.000396	0.00224	mg/kg	1	6/6/23 20:54	
1,2-Dichloroethane	ND	U	0.000316	0.00224	mg/kg	1	6/6/23 20:54	
1,2-Dichloropropane	ND	U	0.000368	0.00224	mg/kg	1	6/6/23 20:54	
1,3-Dichlorobenzene	ND	U	0.000165	0.00224	mg/kg	1	6/6/23 20:54	
1,4-Dichlorobenzene	ND	U	0.000323	0.00224	mg/kg	1	6/6/23 20:54	
2-Butanone	ND	U	0.000366	0.00561	mg/kg	1	6/6/23 20:54	
2-Hexanone	ND	U	0.000210	0.00224	mg/kg	1	6/6/23 20:54	
4-Methyl-2-pentanone	ND	U	0.000280	0.00224	mg/kg	1	6/6/23 20:54	
Acetone	ND	U	0.000680	0.00561	mg/kg	1	6/6/23 20:54	
Benzene	ND	U	0.000204	0.00224	mg/kg	1	6/6/23 20:54	
Bromochloromethane	ND	U	0.000414	0.00224	mg/kg	1	6/6/23 20:54	
Bromodichloromethane	ND	U	0.000282	0.00224	mg/kg	1	6/6/23 20:54	
Bromoform	ND	U	0.000394	0.00224	mg/kg	1	6/6/23 20:54	
Bromomethane	ND	U	0.000647	0.00224	mg/kg	1	6/6/23 20:54	
Carbon disulfide	ND	U	0.000322	0.00224	mg/kg	1	6/6/23 20:54	
Carbon Tetrachloride	ND	U	0.000338	0.00224	mg/kg	1	6/6/23 20:54	
Chlorobenzene	ND	U	0.000325	0.00224	mg/kg	1	6/6/23 20:54	
Chlorodibromomethane	ND	U	0.000276	0.00224	mg/kg	1	6/6/23 20:54	
Chloroethane	ND	U	0.000383	0.00224	mg/kg	1	6/6/23 20:54	
Chloroform	ND	U	0.000377	0.00224	mg/kg	1	6/6/23 20:54	
Chloromethane	ND	U	0.000864	0.00224	mg/kg	1	6/6/23 20:54	
cis-1,2-Dichloroethene	ND	U	0.000108	0.00224	mg/kg	1	6/6/23 20:54	
cis-1,3-Dichloropropene	ND	U	0.000284	0.00224	mg/kg	1	6/6/23 20:54	
Cyclohexane	ND	U	0.000497	0.00224	mg/kg	1	6/6/23 20:54	
Dichlorodifluoromethane	ND	U	0.000757	0.00224	mg/kg	1	6/6/23 20:54	UJ, RC:SL
EthylBenzene	ND	U	0.000304	0.00224	mg/kg	1	6/6/23 20:54	
Isopropylbenzene	ND	U	0.000352	0.00224	mg/kg	1	6/6/23 20:54	
m+p-Xylenes	ND	U	0.000567	0.00449	mg/kg	1	6/6/23 20:54	
Methyl Acetate	ND	U	0.000297	0.00224	mg/kg	1	6/6/23 20:54	
Methyl tert-Butyl Ether	ND	U	0.000379	0.00224	mg/kg	1	6/6/23 20:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-03 (Soil) Sample Name: **OH-SB-16-3.0-4.0-20230524** Collected: **5/24/2023 12:10:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Methylcyclohexane	ND	U	0.000361	0.00224	mg/kg	1	6/6/23 20:54	
Methylene Chloride	ND	U	0.000674	0.00224	mg/kg	1	6/6/23 20:54	UJ, RC:SL
o-Xylene	ND	U	0.000288	0.00224	mg/kg	1	6/6/23 20:54	
Styrene	ND	U	0.000321	0.00224	mg/kg	1	6/6/23 20:54	
tert-Butyl alcohol	ND	U	0.00471	0.0224	mg/kg	1	6/6/23 20:54	
Tetrachloroethene	ND	U	0.000222	0.00224	mg/kg	1	6/6/23 20:54	
Toluene	ND	U	0.000181	0.00224	mg/kg	1	6/6/23 20:54	
Total Xylenes	ND	U	0.000288	0.00224	mg/kg	1	6/6/23 20:54	
trans-1,2-Dichloroethene	ND	U	0.000304	0.00224	mg/kg	1	6/6/23 20:54	
trans-1,3-Dichloropropene	ND	U	0.000429	0.00224	mg/kg	1	6/6/23 20:54	
Trichloroethene	ND	U	0.000330	0.00224	mg/kg	1	6/6/23 20:54	
Trichlorofluoromethane	ND	U	0.000258	0.00224	mg/kg	1	6/6/23 20:54	
Vinyl chloride	ND	U	0.000426	0.00224	mg/kg	1	6/6/23 20:54	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.1**				**%**	**1**	**5/25/23 11:07**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00907	0.0761	mg/kg	1	5/25/23 17:45

23E1202-04 (Ground Water) Sample Name: **TB-20230524** Collected: **5/24/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	5/26/23 16:31	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	5/26/23 16:31	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	5/26/23 16:31	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	5/26/23 16:31	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	5/26/23 16:31	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	5/26/23 16:31	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	5/26/23 16:31	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-04 (Ground Water) Sample Name: **TB-20230524** Collected: **5/24/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	5/26/23 16:31	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	5/26/23 16:31	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	5/26/23 16:31	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	5/26/23 16:31	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	5/26/23 16:31	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	5/26/23 16:31	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	5/26/23 16:31	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	5/26/23 16:31	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	5/26/23 16:31	
2-Butanone	ND	U	10.0	10.0	ug/L	1	5/26/23 16:31	UJ, RC:SL
2-Hexanone	ND	U	0.635	2.00	ug/L	1	5/26/23 16:31	UJ, RC:SL
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	5/26/23 16:31	UJ, RC:SL
Acetone	ND	U	10.0	10.0	ug/L	1	5/26/23 16:31	
Benzene	ND	U	0.129	1.00	ug/L	1	5/26/23 16:31	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	5/26/23 16:31	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	5/26/23 16:31	
Bromoform	ND	U	0.421	1.00	ug/L	1	5/26/23 16:31	
Bromomethane	ND	U	0.702	10.0	ug/L	1	5/26/23 16:31	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	5/26/23 16:31	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	5/26/23 16:31	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	5/26/23 16:31	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	5/26/23 16:31	
Chloroethane	ND	U	0.299	2.00	ug/L	1	5/26/23 16:31	
Chloroform	ND	U	0.365	1.00	ug/L	1	5/26/23 16:31	
Chloromethane	ND	U	0.758	1.00	ug/L	1	5/26/23 16:31	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	5/26/23 16:31	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	5/26/23 16:31	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	5/26/23 16:31	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	5/26/23 16:31	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	5/26/23 16:31	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	5/26/23 16:31	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	5/26/23 16:31	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	5/26/23 16:31	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	5/26/23 16:31	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	5/26/23 16:31	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	5/26/23 16:31	
o-Xylene	ND	U	0.244	1.00	ug/L	1	5/26/23 16:31	
Styrene	ND	U	0.176	1.00	ug/L	1	5/26/23 16:31	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	5/26/23 16:31	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1202
Date to Lab: 5/24/2023 6:26:00PM

23E1202-04 (Ground Water) Sample Name: **TB-20230524** Collected: **5/24/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	5/26/23 16:31
Toluene	ND	U	0.205	1.00	ug/L	1	5/26/23 16:31
Total Xylenes	ND	U	0.244	1.00	ug/L	1	5/26/23 16:31
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	5/26/23 16:31
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	5/26/23 16:31
Trichloroethene	ND	U	0.146	1.00	ug/L	1	5/26/23 16:31
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	5/26/23 16:31
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	5/26/23 16:31

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329464
Project Name	: 23E1202	**Project Number**	: 23E1202
Lab ID	: L2329464-01D	**Date Collected**	: 05/24/23 10:10
Client ID	: OH-SB-22-46.0-47.0-20230524	**Date Received**	: 05/25/23
Sample Location	:	**Date Analyzed**	: 06/28/23 09:06
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F1206262324	**Analyst**	: CNC
Sample Amount	: 1.19 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	3890000	6010	1730	
91-20-3C1	C1-Naphthalenes	2410000	6010	1730	
91-20-3C2	C2-Naphthalenes	1310000	6010	1730	
91-20-3C3	C3-Naphthalenes	393000	6010	1730	
91-20-3C4	C4-Naphthalenes	104000	6010	1730	
208-96-8	Acenaphthylene	310000	6010	1150	
83-32-9	Acenaphthene	875000	6010	1060	
86-73-7	Fluorene	502000	6010	1600	
86-73-7C1	C1-Fluorenes	281000	6010	1600	
86-73-7C2	C2-Fluorenes	188000	6010	1600	
86-73-7C3	C3-Fluorenes	81300	6010	1600	
85-01-8	Phenanthrene	1710000	6010	1990	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1020000	6010	1990	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	381000	6010	1990	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	108000	6010	1990	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	29200	6010	1990	
120-12-7	Anthracene	578000	6010	1240	
206-44-0	Fluoranthene	410000	6010	1910	
129-00-0	Pyrene	700000	6010	1580	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	676000	6010	1580	
56-55-3	Benz(a)anthracene	285000	6010	1220	
218-01-9	Chrysene	227000	6010	1210	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329464
Project Name	: 23E1202	**Project Number**	: 23E1202
Lab ID	: L2329464-01D	**Date Collected**	: 05/24/23 10:10
Client ID	: OH-SB-22-46.0-47.0-20230524	**Date Received**	: 05/25/23
Sample Location	:	**Date Analyzed**	: 06/28/23 09:06
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F1206262324	**Analyst**	: CNC
Sample Amount	: 1.19 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	226000	6010	1210	
218-01-9C2	C2-Chrysenes	100000	6010	1210	
218-01-9C3	C3-Chrysenes	48100	6010	1210	
218-01-9C4	C4-Chrysenes	ND	6010	1210	U
205-99-2	Benzo(b)fluoranthene	76200	6010	1560	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	107000	6010	1190	
192-97-2	Benzo(e)pyrene	87400	6010	1240	
50-32-8	Benzo(a)pyrene	206000	6010	1720	
198-55-0	Perylene	28000	6010	1160	
193-39-5	Indeno(1,2,3-cd)pyrene	67000	6010	1630	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	20500	6010	1620	
191-24-2	Benzo(g,h,i)perylene	66200	6010	1600	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329464
Project Name	: 23E1202	**Project Number**	: 23E1202
Lab ID	: L2329464-02	**Date Collected**	: 05/24/23 12:10
Client ID	: OH-SB-16-3.0-4.0-20230524	**Date Received**	: 05/25/23
Sample Location	:	**Date Analyzed**	: 06/20/23 02:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192313	**Analyst**	: MJS
Sample Amount	: 15.57 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	73.6	2.44	0.700	
91-20-3C1	C1-Naphthalenes	56.6	2.44	0.700	
91-20-3C2	C2-Naphthalenes	74.0	2.44	0.700	
91-20-3C3	C3-Naphthalenes	69.1	2.44	0.700	
91-20-3C4	C4-Naphthalenes	36.8	2.44	0.700	
208-96-8	Acenaphthylene	185	2.44	0.465	
83-32-9	Acenaphthene	62.8	2.44	0.429	
86-73-7	Fluorene	66.6	2.44	0.650	
86-73-7C1	C1-Fluorenes	32.8	2.44	0.650	
86-73-7C2	C2-Fluorenes	64.1	2.44	0.650	
86-73-7C3	C3-Fluorenes	104	2.44	0.650	
85-01-8	Phenanthrene	1040	2.44	0.807	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	379	2.44	0.807	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	253	2.44	0.807	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	136	2.44	0.807	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	45.9	2.44	0.807	
120-12-7	Anthracene	297	2.44	0.502	
206-44-0	Fluoranthene	1670	2.44	0.774	
129-00-0	Pyrene	1450	2.44	0.641	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	510	2.44	0.641	
56-55-3	Benz(a)anthracene	1180	2.44	0.496	
218-01-9	Chrysene	1080	2.44	0.492	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329464
Project Name	: 23E1202	**Project Number**	: 23E1202
Lab ID	: L2329464-02	**Date Collected**	: 05/24/23 12:10
Client ID	: OH-SB-16-3.0-4.0-20230524	**Date Received**	: 05/25/23
Sample Location	:	**Date Analyzed**	: 06/20/23 02:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192313	**Analyst**	: MJS
Sample Amount	: 15.57 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 79
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	501	2.44	0.492	
218-01-9C2	C2-Chrysenes	282	2.44	0.492	
218-01-9C3	C3-Chrysenes	217	2.44	0.492	
218-01-9C4	C4-Chrysenes	121	2.44	0.492	
205-99-2	Benzo(b)fluoranthene	1140	2.44	0.633	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	944	2.44	0.483	
192-97-2	Benzo(e)pyrene	793	2.44	0.503	
50-32-8	Benzo(a)pyrene	1280	2.44	0.695	
198-55-0	Perylene	333	2.44	0.470	
193-39-5	Indeno(1,2,3-cd)pyrene	962	2.44	0.661	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	262	2.44	0.658	
191-24-2	Benzo(g,h,i)perylene	893	2.44	0.647	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329464
Project Name	: 23E1202	**Project Number**	: 23E1202
Lab ID	: L2329464-01	**Date Collected**	: 05/24/23 10:10
Client ID	: OH-SB-22-46.0-47.0-20230524	**Date Received**	: 05/25/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329464
Project Name	: 23E1202	**Project Number**	: 23E1202
Lab ID	: L2329464-02	**Date Collected**	: 05/24/23 12:10
Client ID	: OH-SB-16-3.0-4.0-20230524	**Date Received**	: 05/25/23
Sample Location	:	**Date Analyzed**	: 05/27/23 13:30
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 79
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2329472 and 23E1236
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 28, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-16A-1.0-2.0-20230525	23E1236-01	5/25/2023	Soil
OH-SB-16A-9.5-10.5-20230525	23E1236-02	5/25/2023	Soil
FB-20230525	23E1236-03	5/25/2023	Water
OH-SB-16A-46.0-47.0-20230525	23E1236-04	5/25/2023	Soil
TB-20230525	23E1236-05	5/25/2023	Water

Data validation was performed on the analytical data for (5) samples collected May 25, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOCs 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dichlorobenzene and 1,4-Dichlorobenzene associated with sample OH-SB-16A-46.0-47.0-20230525 were qualified as rejected due to low internal standard recoveries. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples, surrogates, internal standards, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs was listed on the COC for FB-20230525 but this analysis was not reported by Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	FB-20230525 TB-20230525	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-16A-46.0-47.0-20230525	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-16A-46.0-47.0-20230525 RE1 OH-SB-16A-46.0-47.0-20230525 RE2	4-Bromofluorobenzene Dibromofluoromethane Toluene-d8	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20230525 TB-20230525	Acetone	> CL	J (Detects) No Action (NDs)	6H
		Chloroform			
		Vinyl chloride			
		1,2_Dichloroethane			

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Internal Standard	Exceedance	Qualification	Reason Code
8260D	OH-SB-16A-46.0-47.0-20230525	1,4-Dichlorobenzene-d4	%R < 10%	J (Detects) R (NDs)	X

- Associated compounds (1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,2-Dibromo-3-chloropropane) are qualified as rejected due to internal standard recovery.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a

correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230525 TB-20230525	1,1,1-Trichloroethane 1,2-Dichloroethane Bromodichloromethane Carbon tetrachloride Chloroform Dichlorodifluoromethane Trichlorofluoromethane Vinyl chloride	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		1,2,4-Trichlorobenzene	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	OH-SB-16A-1.0-2.0-20230525 OH-SB-16A-9.5-10.5-20230525 OH-SB-16A-46.0-47.0-20230525	Chloromethane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown (5.98). Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	OH-SB-16A-1.0-2.0-20230525 OH-SB-16A-46.0-47.0-20230525	2,4,6-Tribromophenol	> CL	J (Detects) No Action (NDs)	3H
	OH-SB-16A-9.5-10.5-20230525	2-Fluorophenol Phenol-d6	> CL	J (Detects) No Action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde and 2-nitrophenol which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230525	4,6-Dinitro-2-methylphenol 2,4-Dinitrophenol 4-Nitrophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-16A-1.0-2.0-20230525 OH-SB-16A-9.5-10.5-20230525	2-Methylphenol 4-Chloro-3-methylphenol bis(2-chloroisopropyl)ether Hexachloroethane Nitrobenzene n-Nitroso-di-n-propylamine	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-16A-46.0-47.0-20230525	2-Chlorophenol 2-Methylphenol 4-Nitrophenol bis(2-chloroisopropyl)ether bis(2-ethylhexyl)phthalate Hexachloroethane n-Nitroso-di-n-propylamine Phenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine Benzo(g,h,i)perylene Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-16A-1.0-2.0-20230525	DCB	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-16A-46.0-47.0-20230525	TCMX	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-16A-1.0-2.0-20230525	DCB	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230525	Endosulfan sulfate Endrin	10% < %R < CL	J (Detects) UJ (NDs)	6L
		Endrin aldehyde Methoxychlor	> CL	J (Detects) No action (NDs)	6H
	OH-SB-16A-1.0-2.0-20230525 OH-SB-16A-9.5-10.5-20230525 OH-SB-16A-46.0-47.0-20230525	Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
		Methoxychlor	> CL	J (Detects) No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis performed on sample OH-SB-16A-1.0-2.0-20230525 for PCBs exhibited acceptable recoveries and RPDs.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	OH-SB-16A-1.0-2.0-20230525 OH-SB-16A-9.5-10.5-20230525 OH-SB-16A-46.0-47.0-20230525	Methoxychlor	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-16A-1.0-2.0-20230525 OH-SB-16A-9.5-10.5-20230525 OH-SB-16A-46.0-47.0-20230525	Silver	20% < %R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- The MS/MSD analysis performed on sample OH-SB-16A-1.0-2.0-20230525 for cyanide exhibited acceptable recoveries and RPDs.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis performed for cyanide on a sample OH-SB-16A-1.0-2.0-20230525 exhibited acceptable RPD.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 28, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1236

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 23, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E1236

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-16A-1.0-2.0-20230525	23E1236-01	Soil	05/25/2023 08:45	05/25/2023 15:10
OH-SB-16A-9.5-10.5-20230525	23E1236-02	Soil	05/25/2023 08:55	05/25/2023 15:10
FB-20230525	23E1236-03	Ground Water	05/25/2023 11:50	05/25/2023 15:10
OH-SB-16A-46.0-47.0-20230525	23E1236-04	Soil	05/25/2023 12:35	05/25/2023 15:10
TB-20230525	23E1236-05	Ground Water	05/25/2023 00:00	05/25/2023 15:10

PN: 23E1236

APL 23E1236

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: Yu & Associates	SEND REPORT TO: 〃
ADDRESS: 611 River Drive	ADDRESS: 〃
Elmwood Park, NJ 07407	
PHONE: 201-773-9025	PHONE: 〃
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus OH-007	SEND INVOICE TO: 〃
PROJECT MGR: Sixuan Wang	ADDRESS: 〃
PROJECT or PO #: 156854	SAMPLED BY: MRM

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

CONTAMINATION LEVEL

- [ ] HIGH
- [ ] MEDIUM
- [x] LOW

NY STAL Category B

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E1236 -01	OH-SB-16A-1.0-2.0-20230525	05/25/23	0845	✓		S	5		VOCs, SVOCs, PCBs, PEST, Herb, TAL metals, TCN, ~~TCN~~ FCN, Alkalinity PAHs by 8270
-02	OH-SB-16A-9.5-10.5-20230525		0955	✓		S	5		〃
-03	FB-20230525		1150	✓		DI	10		〃
-04	OH-SB-16A-46.0-47.0-20230525		1235	✓		S	5		〃
-05	TB-20230525		LAB	~		S	2		VOCs

RELINQUISHED BY (Print)	MATTHEW O'ROURKE	DATE 05/25/23	RECEIVED BY (Print) J BAEZ
Signature		Time 1327	Signature
RELINQUISHED BY (Print)	J BAEZ	DATE 5/25/23	RECEIVED BY (Print) RUSS NAP
Signature		Time 15:10	Signature
RELINQUISHED BY (Print)		DATE	RECEIVED BY (Print)
Signature		Time	Signature

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.2°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (low).
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.7
The percent recovery for Calcium was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Method 7473:
The percent recovery for Mercury was outside of the QC limits for the matrix spike duplicate (slightly low). The blank spike met all QC criteria.

Methods 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
Samples 23E1236-01 and -04 have surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E1236-01, -02 and -04 have surrogates outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

Sample 23E1236-04, -04RE1 and -04RE2 have surrogates outside of the QC limits (low), due to matrix interferences.
Sample 23E1236-04 has no internal standard area response for (1,4-Dichlorobenzene-d4), due to matrix interference.
Samples 23E1236-03 (FB) and -05 (TB) have one surrogate (4-Bromofluorobenzene) outside of the QC limits (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for 3,3'-Dichlorobenzidine was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Some of the samples and their dilutions have surrogates outside of the QC limits (low and high), due to matrix interferences.

Reviewed By: _____ (SK) 8/23/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20230525**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260 [2C]	12.9	D	0.150	0.731	mg/kg dry	20	6/12/23 11:53
Total PCBs	12.9	D	0.0682	0.731	mg/kg dry	20	6/12/23 11:53

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.77		0.00554	0.0221	mg/kg dry	1	6/6/23 13:37

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6360		0.160	2.69	mg/kg dry	1	6/9/23 12:02
Antimony	5.94		0.146	1.34	mg/kg dry	1	6/9/23 12:02
Arsenic	7.79		0.0959	1.34	mg/kg dry	1	6/9/23 12:02
Barium	112		0.0406	0.537	mg/kg dry	1	6/9/23 12:02
Beryllium	0.524		0.00311	0.0269	mg/kg dry	1	6/9/23 12:02
Cadmium	2.66		0.0524	0.269	mg/kg dry	1	6/9/23 12:02
Calcium	164000	D	30.2	269	mg/kg dry	10	6/9/23 13:38
Chromium	28.5		0.0303	0.269	mg/kg dry	1	6/9/23 12:02
Cobalt	6.45		0.0275	0.215	mg/kg dry	1	6/9/23 12:02
Copper	650	D	0.752	2.69	mg/kg dry	10	6/9/23 13:38
Iron	49200	D	7.61	53.7	mg/kg dry	10	6/9/23 13:38
Lead	251		0.112	1.34	mg/kg dry	1	6/9/23 12:02
Magnesium	8750		9.49	53.7	mg/kg dry	1	6/9/23 12:02
Manganese	321		0.0334	0.269	mg/kg dry	1	6/9/23 12:02
Nickel	95.1		0.0236	0.134	mg/kg dry	1	6/9/23 12:02
Potassium	1030		32.0	107	mg/kg dry	1	6/9/23 12:02
Silver	0.451		0.0457	0.161	mg/kg dry	1	6/9/23 12:02
Sodium	1630		5.12	53.7	mg/kg dry	1	6/9/23 12:02
Vanadium	103		0.0618	0.537	mg/kg dry	1	6/9/23 12:02
Zinc	1030	D	0.821	8.06	mg/kg dry	10	6/9/23 13:38

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.0590		0.000659	0.00144	mg/kg dry	1	6/10/23 17:04
4,4'-DDE [2C]	0.00549		0.000787	0.00144	mg/kg dry	1	6/10/23 17:04
4,4'-DDT	0.0470		0.00102	0.00144	mg/kg dry	1	6/10/23 17:04
Chlordane	0.0296		0.000640	0.00144	mg/kg dry	1	6/10/23 17:04

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	2.17	D	0.0706	0.443	mg/kg dry	2	6/6/23 23:16
Acenaphthene	3.73	D	0.0168	0.295	mg/kg dry	2	6/6/23 23:16

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20230525**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthylene	2.50	D	0.0103	0.295	mg/kg dry	2	6/6/23 23:16
Anthracene	14.2	D	0.0427	0.295	mg/kg dry	2	6/6/23 23:16
Benzo(a)anthracene	29.5	D	0.297	2.95	mg/kg dry	20	6/7/23 20:53
Benzo(a)pyrene	26.9	D	0.514	2.95	mg/kg dry	20	6/7/23 20:53
Benzo(b)fluoranthene	25.1	D	0.414	2.95	mg/kg dry	20	6/7/23 20:53
Benzo(g,h,i)perylene	13.2	D	0.0239	0.295	mg/kg dry	2	6/6/23 23:16
Benzo(k)fluoranthene	8.86	D	0.0339	0.295	mg/kg dry	2	6/6/23 23:16
Biphenyl	0.620	D	0.0259	0.295	mg/kg dry	2	6/6/23 23:16
bis(2-ethylhexyl)phthalate	4.69	D	0.0589	0.295	mg/kg dry	2	6/6/23 23:16
Carbazole	3.08	D	0.0567	0.737	mg/kg dry	2	6/6/23 23:16
Chrysene	27.2	D	0.202	2.95	mg/kg dry	20	6/7/23 20:53
Dibenzo(a,h)anthracene	1.84	D	0.0292	0.295	mg/kg dry	2	6/6/23 23:16
Dibenzofuran	1.95	D	0.0176	0.295	mg/kg dry	2	6/6/23 23:16
Fluoranthene	54.2	D	0.277	2.95	mg/kg dry	20	6/7/23 20:53
Fluorene	4.98	D	0.0246	0.295	mg/kg dry	2	6/6/23 23:16
Indeno(1,2,3-cd)pyrene	11.8	D	0.0317	0.295	mg/kg dry	2	6/6/23 23:16
Naphthalene	2.01	D	0.0218	0.295	mg/kg dry	2	6/6/23 23:16
Phenanthrene	46.3	D	0.388	2.95	mg/kg dry	20	6/7/23 20:53
Pyrene	56.1	D	0.217	2.95	mg/kg dry	20	6/7/23 20:53
TIC_Benzene, 1-fluoro-4-(2-phenylethenyl)-	3.36	J, D			mg/kg dry	2	6/6/23 23:16
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	3.69	J, D			mg/kg dry	2	6/6/23 23:16
TIC_Naphthalene, 1-methyl-	2.49	J, D			mg/kg dry	2	6/6/23 23:16
TIC_Naphthalene, 2,6-dimethyl-	3.84	J, D			mg/kg dry	2	6/6/23 23:16
TIC_Naphthalene, 2-phenyl-	8.09	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (01)	4.50	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (02)	4.82	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (03)	14.0	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (04)	15.9	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (05)	5.58	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (06)	30.2	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (07)	3.37	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (08)	13.8	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (09)	2.09	J, D			mg/kg dry	2	6/6/23 23:16
TIC_unknown (10)	4.50	J, D			mg/kg dry	2	6/6/23 23:16

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	0.0132		0.000888	0.00231	mg/kg dry	1	6/7/23 16:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20230525**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.0211	J			mg/kg dry	1	6/7/23 16:01

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-20230525**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0819		0.00625	0.0250	mg/kg dry	1	6/6/23 13:37

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	1280		0.188	3.17	mg/kg dry	1	6/9/23 12:04
Arsenic	2.08		0.113	1.59	mg/kg dry	1	6/9/23 12:04
Barium	8.70		0.0479	0.634	mg/kg dry	1	6/9/23 12:04
Beryllium	0.0967		0.00367	0.0317	mg/kg dry	1	6/9/23 12:04
Calcium	394000	D	357	3170	mg/kg dry	100	6/9/23 13:40
Chromium	3.13		0.0358	0.317	mg/kg dry	1	6/9/23 12:04
Cobalt	0.824		0.0324	0.254	mg/kg dry	1	6/9/23 12:04
Copper	6.40		0.0887	0.317	mg/kg dry	1	6/9/23 12:04
Iron	3520		0.898	6.34	mg/kg dry	1	6/9/23 12:04
Lead	8.66		0.132	1.59	mg/kg dry	1	6/9/23 12:04
Magnesium	1480		11.2	63.4	mg/kg dry	1	6/9/23 12:04
Manganese	206		0.0394	0.317	mg/kg dry	1	6/9/23 12:04
Nickel	4.03		0.0279	0.159	mg/kg dry	1	6/9/23 12:04
Potassium	786		37.7	127	mg/kg dry	1	6/9/23 12:04
Sodium	1830		6.05	63.4	mg/kg dry	1	6/9/23 12:04
Vanadium	6.18		0.0729	0.634	mg/kg dry	1	6/9/23 12:04
Zinc	16.6		0.0969	0.951	mg/kg dry	1	6/9/23 12:04

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE	0.000966	J	0.000888	0.00162	mg/kg dry	1	6/10/23 17:26
Chlordane	0.00268		0.000722	0.00162	mg/kg dry	1	6/10/23 17:26

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0823	J	0.0399	0.250	mg/kg dry	1	6/6/23 18:27
Acenaphthene	0.505		0.00948	0.166	mg/kg dry	1	6/6/23 18:27
Acenaphthylene	0.159	J	0.00578	0.166	mg/kg dry	1	6/6/23 18:27
Anthracene	14.3	D	0.241	1.66	mg/kg dry	10	6/7/23 19:15
Benzo(a)anthracene	6.89		0.0167	0.166	mg/kg dry	1	6/6/23 18:27

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-20230525**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)pyrene	2.63		0.0290	0.166	mg/kg dry	1	6/6/23 18:27
Benzo(b)fluoranthene	3.89		0.0234	0.166	mg/kg dry	1	6/6/23 18:27
Benzo(g,h,i)perylene	0.655		0.0135	0.166	mg/kg dry	1	6/6/23 18:27
Benzo(k)fluoranthene	0.882		0.0191	0.166	mg/kg dry	1	6/6/23 18:27
Carbazole	0.299	J	0.0320	0.416	mg/kg dry	1	6/6/23 18:27
Chrysene	8.56		0.0114	0.166	mg/kg dry	1	6/6/23 18:27
Dibenzo(a,h)anthracene	0.208		0.0165	0.166	mg/kg dry	1	6/6/23 18:27
Fluoranthene	42.4	D	0.156	1.66	mg/kg dry	10	6/7/23 19:15
Fluorene	0.438		0.0139	0.166	mg/kg dry	1	6/6/23 18:27
Indeno(1,2,3-cd)pyrene	0.639		0.0179	0.166	mg/kg dry	1	6/6/23 18:27
Naphthalene	0.165	J	0.0123	0.166	mg/kg dry	1	6/6/23 18:27
Phenanthrene	1.67		0.0219	0.166	mg/kg dry	1	6/6/23 18:27
Pyrene	29.1	D	0.122	1.66	mg/kg dry	10	6/7/23 19:15
TIC_Benzene, chloro(1,1-dimethylethyl)-	1.11	J			mg/kg dry	1	6/6/23 18:27
TIC_Hexadecanoic acid, butyl ester	7.83	J, B			mg/kg dry	1	6/6/23 18:27
TIC_Naphthalene, 1-phenyl-	1.50	J			mg/kg dry	1	6/6/23 18:27
TIC_Octadecanoic acid, butyl ester	1.48	J, B			mg/kg dry	1	6/6/23 18:27
TIC_unknown (01)	1.07	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (02)	0.912	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (03)	3.22	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (04)	2.36	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (05)	7.70	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (06)	0.958	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (07)	1.62	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (08)	1.74	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (09)	1.59	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (10)	1.64	J			mg/kg dry	1	6/6/23 18:27
TIC_unknown (11)	2.15	J			mg/kg dry	1	6/6/23 18:27

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.00405		0.000268	0.00186	mg/kg dry	1	6/7/23 17:03
TIC_Lab Contamination	0.0129	J			mg/kg dry	1	6/7/23 17:03
TIC_TIC:Naphthalene	0.0423	J			mg/kg dry	1	6/7/23 17:03

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5280		0.174	2.93	mg/kg dry	1	6/9/23 12:06
Barium	31.3		0.0444	0.587	mg/kg dry	1	6/9/23 12:06
Beryllium	0.393		0.00340	0.0293	mg/kg dry	1	6/9/23 12:06
Calcium	8710		3.30	29.3	mg/kg dry	1	6/9/23 12:06
Chromium	9.12		0.0331	0.293	mg/kg dry	1	6/9/23 12:06
Cobalt	3.34		0.0300	0.235	mg/kg dry	1	6/9/23 12:06
Copper	8.65		0.0821	0.293	mg/kg dry	1	6/9/23 12:06
Iron	8600		0.831	5.87	mg/kg dry	1	6/9/23 12:06
Lead	2.66		0.122	1.47	mg/kg dry	1	6/9/23 12:06
Magnesium	3940		10.4	58.7	mg/kg dry	1	6/9/23 12:06
Manganese	236		0.0365	0.293	mg/kg dry	1	6/9/23 12:06
Nickel	10.3		0.0258	0.147	mg/kg dry	1	6/9/23 12:06
Potassium	1450		34.9	117	mg/kg dry	1	6/9/23 12:06
Sodium	752		5.59	58.7	mg/kg dry	1	6/9/23 12:06
Vanadium	13.6		0.0675	0.587	mg/kg dry	1	6/9/23 12:06
Zinc	14.5		0.0896	0.880	mg/kg dry	1	6/9/23 12:06

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.0704		0.00109	0.00154	mg/kg dry	1	6/10/23 17:48
Chlordane	0.205		0.000685	0.00154	mg/kg dry	1	6/10/23 17:48
Heptachlor Epoxide	0.00558		0.000777	0.00154	mg/kg dry	1	6/10/23 17:48

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1660	D	18.9	119	mg/kg dry	500	6/10/23 5:05
Acenaphthene	931	D	4.50	78.8	mg/kg dry	500	6/10/23 5:05
Acenaphthylene	62.9	D	0.110	3.15	mg/kg dry	20	6/7/23 20:20
Anthracene	470	D	11.4	78.8	mg/kg dry	500	6/10/23 5:05
Benzo(a)anthracene	126	D	0.318	3.15	mg/kg dry	20	6/7/23 20:20
Benzo(a)pyrene	99.5	D	0.550	3.15	mg/kg dry	20	6/7/23 20:20
Benzo(b)fluoranthene	77.2	D	0.443	3.15	mg/kg dry	20	6/7/23 20:20
Benzo(g,h,i)perylene	33.6	D	0.256	3.15	mg/kg dry	20	6/7/23 20:20
Benzo(k)fluoranthene	25.5	D	0.363	3.15	mg/kg dry	20	6/7/23 20:20
Biphenyl	104	D	0.277	3.15	mg/kg dry	20	6/7/23 20:20
Chrysene	122	D	0.216	3.15	mg/kg dry	20	6/7/23 20:20
Dibenzo(a,h)anthracene	6.96	D	0.313	3.15	mg/kg dry	20	6/7/23 20:20
Dibenzofuran	35.6	D	0.188	3.15	mg/kg dry	20	6/7/23 20:20
Fluoranthene	417	D	7.41	78.8	mg/kg dry	500	6/10/23 5:05
Fluorene	96.0	D	6.58	78.8	mg/kg dry	500	6/10/23 5:05

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	27.2	D	0.339	3.15	mg/kg dry	20	6/7/23 20:20
Naphthalene	2900	D	5.84	78.8	mg/kg dry	500	6/10/23 5:05
Phenanthrene	1410	D	10.4	78.8	mg/kg dry	500	6/10/23 5:05
Pyrene	652	D	5.80	78.8	mg/kg dry	500	6/10/23 5:05
TIC_Dibenzothiophene	123	J, D			mg/kg dry	20	6/7/23 20:20
TIC_Indane	317	J, D			mg/kg dry	20	6/7/23 20:20
TIC_Naphthalene, 1,4-dimethyl-	254	J, D			mg/kg dry	20	6/7/23 20:20
TIC_Naphthalene, 1,5-dimethyl-	209	J, D			mg/kg dry	20	6/7/23 20:20
TIC_Naphthalene, 1,6-dimethyl-	125	J, D			mg/kg dry	20	6/7/23 20:20
TIC_Naphthalene, 1-ethyl-	233	J, D			mg/kg dry	20	6/7/23 20:20
TIC_Naphthalene, 2,3-dimethyl-	145	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (01)	119	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (02)	227	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (03)	234	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (04)	130	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (05)	446	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (06)	176	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (07)	137	J, D			mg/kg dry	20	6/7/23 20:20
TIC_unknown (08)	143	J, D			mg/kg dry	20	6/7/23 20:20

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	293	D	0.442	3.21	mg/kg dry	1163	6/7/23 17:06
1,2-Dichloroethane	0.208		0.000341	0.00242	mg/kg dry	1	6/7/23 17:32
Benzene	46.2	D	0.292	3.21	mg/kg dry	1163	6/7/23 17:06
Cyclohexane	0.0161		0.000536	0.00242	mg/kg dry	1	6/7/23 17:32
EthylBenzene	438	D	4.34	32.1	mg/kg dry	11628	6/7/23 17:36
Isopropylbenzene	51.5	D	0.503	3.21	mg/kg dry	1163	6/7/23 17:06
m+p-Xylenes	139	D	0.809	6.41	mg/kg dry	1163	6/7/23 17:06
Methylcyclohexane	0.0892		0.000389	0.00242	mg/kg dry	1	6/7/23 17:32
o-Xylene	151	D	0.412	3.21	mg/kg dry	1163	6/7/23 17:06
Toluene	5.65	D	0.258	3.21	mg/kg dry	1163	6/7/23 17:06
Total Xylenes	289	D	0.412	3.21	mg/kg dry	1163	6/7/23 17:06
TIC_1-Heptene, 2,6-dimethyl-	0.0563	J			mg/kg dry	1	6/7/23 17:32
TIC_1-Hexene, 4,5-dimethyl-	0.0605	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, 1,2,3-trimethyl-	0.600	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, 1,3,5-trimethyl-(01)	0.198	J			mg/kg dry	1	6/7/23 17:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1,3,5-trimethyl-(02)	0.0832	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, 1-ethenyl-2-methyl-	0.0670	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, 1-ethyl-2-methyl-	0.344	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, 1-ethyl-4-methyl-	0.0914	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	0.0637	J			mg/kg dry	1	6/7/23 17:32
TIC_Benzene, propyl-	0.0835	J			mg/kg dry	1	6/7/23 17:32
TIC_Decane	0.0694	J			mg/kg dry	1	6/7/23 17:32
TIC_Indane	0.632	J			mg/kg dry	1	6/7/23 17:32
TIC_Nonane, 3-methyl-	0.0547	J			mg/kg dry	1	6/7/23 17:32
TIC_Octane	0.0909	J			mg/kg dry	1	6/7/23 17:32
TIC_TIC:Naphthalene	0.119	J			mg/kg dry	1	6/7/23 17:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20 230525** Collected: **5/25/2023 8:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.0980	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1221	ND	U	0.193	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1232	ND	U	0.245	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1242	ND	U	0.144	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1248	ND	U	0.150	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1254	ND	U	0.118	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1260 [2C]	**12.9**	D	**0.150**	**0.731**	**mg/kg**	**20**	**6/12/23 11:53**	J, RC:3H
Aroclor-1262	ND	U	0.197	0.731	mg/kg	20	6/12/23 11:53	
Aroclor-1268	ND	U	0.0884	0.731	mg/kg	20	6/12/23 11:53	
Total PCBs	**12.9**	D	**0.0682**	**0.731**	**mg/kg**	**20**	**6/12/23 11:53**	J, RC:3H

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	6/13/23 22:16
2,4-D	ND	U	0.0184	0.111	mg/kg	1	6/13/23 22:16

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.77**		**0.00554**	**0.0221**	**mg/kg**	**1**	**6/6/23 13:37**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6360**		**0.160**	**2.69**	**mg/kg**	**1**	**6/9/23 12:02**
Antimony	**5.94**		**0.146**	**1.34**	**mg/kg**	**1**	**6/9/23 12:02**
Arsenic	**7.79**		**0.0959**	**1.34**	**mg/kg**	**1**	**6/9/23 12:02**
Barium	**112**		**0.0406**	**0.537**	**mg/kg**	**1**	**6/9/23 12:02**
Beryllium	**0.524**		**0.00311**	**0.0269**	**mg/kg**	**1**	**6/9/23 12:02**
Cadmium	**2.66**		**0.0524**	**0.269**	**mg/kg**	**1**	**6/9/23 12:02**
Calcium	**164000**	D	**30.2**	**269**	**mg/kg**	**10**	**6/9/23 13:38**
Chromium	**28.5**		**0.0303**	**0.269**	**mg/kg**	**1**	**6/9/23 12:02**
Cobalt	**6.45**		**0.0275**	**0.215**	**mg/kg**	**1**	**6/9/23 12:02**
Copper	**650**	D	**0.752**	**2.69**	**mg/kg**	**10**	**6/9/23 13:38**
Iron	**49200**	D	**7.61**	**53.7**	**mg/kg**	**10**	**6/9/23 13:38**
Lead	**251**		**0.112**	**1.34**	**mg/kg**	**1**	**6/9/23 12:02**
Magnesium	**8750**		**9.49**	**53.7**	**mg/kg**	**1**	**6/9/23 12:02**
Manganese	**321**		**0.0334**	**0.269**	**mg/kg**	**1**	**6/9/23 12:02**
Nickel	**95.1**		**0.0236**	**0.134**	**mg/kg**	**1**	**6/9/23 12:02**
Potassium	**1030**		**32.0**	**107**	**mg/kg**	**1**	**6/9/23 12:02**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20 230525** Collected: **5/25/2023 8:45:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.258	1.34	mg/kg	1	6/9/23 12:02	
Silver	**0.451**		**0.0457**	**0.161**	**mg/kg**	**1**	**6/9/23 12:02**	J, RC:6L
Sodium	**1630**		**5.12**	**53.7**	**mg/kg**	**1**	**6/9/23 12:02**	
Thallium	ND	U	0.0904	1.34	mg/kg	1	6/9/23 12:02	
Vanadium	**103**		**0.0618**	**0.537**	**mg/kg**	**1**	**6/9/23 12:02**	
Zinc	**1030**	D	**0.821**	**8.06**	**mg/kg**	**10**	**6/9/23 13:38**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.0590**		**0.000659**	**0.00144**	**mg/kg**	**1**	**6/10/23 17:04**	J, RC:3H
4,4'-DDE [2C]	**0.00549**		**0.000787**	**0.00144**	**mg/kg**	**1**	**6/10/23 17:04**	J, RC:3H
4,4'-DDT	**0.0470**		**0.00102**	**0.00144**	**mg/kg**	**1**	**6/10/23 17:04**	J, RC:3H
Aldrin	ND	U	0.000682	0.00144	mg/kg	1	6/10/23 17:04	
alpha-BHC	ND	U	0.000428	0.00144	mg/kg	1	6/10/23 17:04	
beta-BHC	ND	U	0.000688	0.00144	mg/kg	1	6/10/23 17:04	
Chlordane	**0.0296**		**0.000640**	**0.00144**	**mg/kg**	**1**	**6/10/23 17:04**	J, RC:3H
delta-BHC	ND	U	0.000669	0.00144	mg/kg	1	6/10/23 17:04	
Dieldrin	ND	U	0.000753	0.00144	mg/kg	1	6/10/23 17:04	
Endosulfan I	ND	U	0.000680	0.00144	mg/kg	1	6/10/23 17:04	
Endosulfan II	ND	U	0.000654	0.00144	mg/kg	1	6/10/23 17:04	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000541	0.00144	mg/kg	1	6/10/23 17:04	
Endosulfans, Total (alpha and beta)	ND	U	0.000654	0.00144	mg/kg	1	6/10/23 17:04	
Endrin	ND	U	0.000497	0.00144	mg/kg	1	6/10/23 17:04	
Endrin aldehyde	ND	U	0.000574	0.00144	mg/kg	1	6/10/23 17:04	
Endrin ketone	ND	U	0.000507	0.00144	mg/kg	1	6/10/23 17:04	
gamma-BHC (Lindane)	ND	U	0.000456	0.00144	mg/kg	1	6/10/23 17:04	
Heptachlor	ND	U	0.000385	0.00144	mg/kg	1	6/10/23 17:04	
Heptachlor Epoxide	ND	U	0.000726	0.00144	mg/kg	1	6/10/23 17:04	
Methoxychlor	ND	U	0.000422	0.00144	mg/kg	1	6/10/23 17:04	
Toxaphene	ND	U	0.0693	0.0731	mg/kg	1	6/10/23 17:04	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00833	0.0737	mg/kg	2	6/6/23 23:16
2,3,4,6-Tetrachlorophenol	ND	U	0.0454	0.295	mg/kg	2	6/6/23 23:16
2,4,5-Trichlorophenol	ND	U	0.0401	0.295	mg/kg	2	6/6/23 23:16
2,4,6-Trichlorophenol	ND	U	0.0184	0.295	mg/kg	2	6/6/23 23:16

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20 230525** Collected: **5/25/2023 8:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0297	0.295	mg/kg	2	6/6/23 23:16	
2,4-Dimethylphenol	ND	U	0.0290	0.295	mg/kg	2	6/6/23 23:16	
2,4-Dinitrophenol	ND	U	0.0425	1.48	mg/kg	2	6/6/23 23:16	
2,4-Dinitrotoluene	ND	U	0.0314	0.295	mg/kg	2	6/6/23 23:16	
2,6-Dinitrotoluene	ND	U	0.0704	0.295	mg/kg	2	6/6/23 23:16	
2-Chloronaphthalene	ND	U	0.0339	0.295	mg/kg	2	6/6/23 23:16	
2-Chlorophenol	ND	U	0.0390	0.295	mg/kg	2	6/6/23 23:16	
2-Methylnaphthalene	**2.17**	D	**0.0706**	**0.443**	**mg/kg**	**2**	**6/6/23 23:16**	
2-Methylphenol	ND	U	0.0582	0.295	mg/kg	2	6/6/23 23:16	
2-Nitroaniline	ND	U	0.0237	0.295	mg/kg	2	6/6/23 23:16	
2-Nitrophenol	ND	U	0.0328	0.295	mg/kg	2	6/6/23 23:16	UJ, RC:Q
3,3'-Dichlorobenzidine	ND	U	0.0310	0.295	mg/kg	2	6/6/23 23:16	
3+4-Methylphenol	ND	U	0.0540	0.295	mg/kg	2	6/6/23 23:16	
3-Nitroaniline	ND	U	0.0547	0.295	mg/kg	2	6/6/23 23:16	
4,6-Dinitro-2-methylphenol	ND	U	0.0556	0.737	mg/kg	2	6/6/23 23:16	
4-Bromophenyl-phenyl ether	ND	U	0.0421	0.295	mg/kg	2	6/6/23 23:16	
4-Chloro-3-methylphenol	ND	U	0.0465	0.295	mg/kg	2	6/6/23 23:16	
4-Chloroaniline	ND	U	0.0103	0.295	mg/kg	2	6/6/23 23:16	
4-Chlorophenyl phenyl ether	ND	U	0.0159	0.295	mg/kg	2	6/6/23 23:16	
4-Nitroaniline	ND	U	0.147	0.295	mg/kg	2	6/6/23 23:16	
4-Nitrophenol	ND	U	0.0189	0.295	mg/kg	2	6/6/23 23:16	
Acenaphthene	**3.73**	D	**0.0168**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
Acenaphthylene	**2.50**	D	**0.0103**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
Acetophenone	ND	U	0.0292	0.295	mg/kg	2	6/6/23 23:16	
Anthracene	**14.2**	D	**0.0427**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
Atrazine	ND	U	0.0277	0.295	mg/kg	2	6/6/23 23:16	UJ, RC:SL
Benzaldehyde	ND	U	0.0906	0.295	mg/kg	2	6/6/23 23:16	
Benzo(a)anthracene	**29.5**	D	**0.297**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**	
Benzo(a)pyrene	**26.9**	D	**0.514**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**	
Benzo(b)fluoranthene	**25.1**	D	**0.414**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**	
Benzo(g,h,i)perylene	**13.2**	D	**0.0239**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
Benzo(k)fluoranthene	**8.86**	D	**0.0339**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
Biphenyl	**0.620**	D	**0.0259**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
bis(2-chloroethoxy)methane	ND	U	0.0407	0.295	mg/kg	2	6/6/23 23:16	
bis(2-chloroethyl)ether	ND	U	0.0323	0.295	mg/kg	2	6/6/23 23:16	
bis(2-chloroisopropyl)ether	ND	U	0.106	0.295	mg/kg	2	6/6/23 23:16	
bis(2-ethylhexyl)phthalate	**4.69**	D	**0.0589**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**	
Butylbenzylphthalate	ND	U	0.0268	0.295	mg/kg	2	6/6/23 23:16	

ND, U - Indicates compound analyzed for but not detected
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D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20 230525** Collected: **5/25/2023 8:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0381	0.295	mg/kg	2	6/6/23 23:16
Carbazole	**3.08**	D	**0.0567**	**0.737**	**mg/kg**	**2**	**6/6/23 23:16**
Chrysene	**27.2**	D	**0.202**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**
Dibenzo(a,h)anthracene	**1.84**	D	**0.0292**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**
Dibenzofuran	**1.95**	D	**0.0176**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**
Diethylphthalate	ND	U	0.0571	0.295	mg/kg	2	6/6/23 23:16
Dimethylphthalate	ND	U	0.0183	0.295	mg/kg	2	6/6/23 23:16
Di-n-butylphthalate	ND	U	0.120	0.295	mg/kg	2	6/6/23 23:16
Di-n-octylphthalate	ND	U	0.0605	0.295	mg/kg	2	6/6/23 23:16
Fluoranthene	**54.2**	D	**0.277**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**
Fluorene	**4.98**	D	**0.0246**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**
Hexachlorobenzene	ND	U	0.0385	0.295	mg/kg	2	6/6/23 23:16
Hexachlorobutadiene	ND	U	0.142	0.295	mg/kg	2	6/6/23 23:16
Hexachlorocyclopentadiene	ND	U	0.123	0.737	mg/kg	2	6/6/23 23:16
Hexachloroethane	ND	U	0.0323	0.295	mg/kg	2	6/6/23 23:16
Indeno(1,2,3-cd)pyrene	**11.8**	D	**0.0317**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**
Isophorone	ND	U	0.0193	0.295	mg/kg	2	6/6/23 23:16
Naphthalene	**2.01**	D	**0.0218**	**0.295**	**mg/kg**	**2**	**6/6/23 23:16**
Nitrobenzene	ND	U	0.0500	0.295	mg/kg	2	6/6/23 23:16
n-Nitroso-di-n-propylamine	ND	U	0.0158	0.295	mg/kg	2	6/6/23 23:16
n-Nitrosodiphenylamine	ND	U	0.0629	0.295	mg/kg	2	6/6/23 23:16
Pentachlorophenol	ND	U	0.0405	0.737	mg/kg	2	6/6/23 23:16
Phenanthrene	**46.3**	D	**0.388**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**
Phenol	ND	U	0.0239	0.295	mg/kg	2	6/6/23 23:16
Pyrene	**56.1**	D	**0.217**	**2.95**	**mg/kg**	**20**	**6/7/23 20:53**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-fluoro-4-(2-phenylethenyl)-,	3.36	10.85	J, D	mg/kg	2	6/6/23 23:16
Hexadecanoic acid, 1,1-dimethylethyl est	3.69	11.84	J, D	mg/kg	2	6/6/23 23:16
Naphthalene, 1-methyl-	2.49	8.05	J, D	mg/kg	2	6/6/23 23:16
Naphthalene, 2,6-dimethyl-	3.84	8.65	J, D	mg/kg	2	6/6/23 23:16
Naphthalene, 2-phenyl-	8.09	11.30	J, D	mg/kg	2	6/6/23 23:16
unknown (01)	4.50	10.31	J, D	mg/kg	2	6/6/23 23:16
unknown (02)	4.82	10.41	J, D	mg/kg	2	6/6/23 23:16
unknown (03)	14.0	11.02	J, D	mg/kg	2	6/6/23 23:16

ND, U - Indicates compound analyzed for but not detected
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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20 230525** Collected: **5/25/2023 8:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (04)	15.9	11.05	J, D	mg/kg	2	6/6/23 23:16
unknown (05)	5.58	11.09	J, D	mg/kg	2	6/6/23 23:16
unknown (06)	30.2	11.14	J, D	mg/kg	2	6/6/23 23:16
unknown (07)	3.37	11.25	J, D	mg/kg	2	6/6/23 23:16
unknown (08)	13.8	11.57	J, D	mg/kg	2	6/6/23 23:16
unknown (09)	2.09	12.36	J, D	mg/kg	2	6/6/23 23:16
unknown (10)	4.50	15.43	J, D	mg/kg	2	6/6/23 23:16
TIC Total	**120**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000337	0.00231	mg/kg	1	6/7/23 16:01
1,1,2,2-Tetrachloroethane	ND	U	0.000318	0.00231	mg/kg	1	6/7/23 16:01
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000987	0.00231	mg/kg	1	6/7/23 16:01
1,1,2-Trichloroethane	ND	U	0.000389	0.00231	mg/kg	1	6/7/23 16:01
1,1-Dichloroethane	ND	U	0.000337	0.00231	mg/kg	1	6/7/23 16:01
1,1-Dichloroethene	ND	U	0.000427	0.00231	mg/kg	1	6/7/23 16:01
1,2,3-Trichlorobenzene	ND	U	0.000498	0.00231	mg/kg	1	6/7/23 16:01
1,2,4-Trichlorobenzene	ND	U	0.000615	0.00231	mg/kg	1	6/7/23 16:01
1,2,4-Trimethylbenzene	ND	U	0.000318	0.00231	mg/kg	1	6/7/23 16:01
1,2-Dibromo-3-chloropropane	ND	U	0.000563	0.00577	mg/kg	1	6/7/23 16:01
1,2-Dibromoethane	ND	U	0.000291	0.00231	mg/kg	1	6/7/23 16:01
1,2-Dichlorobenzene	ND	U	0.000407	0.00231	mg/kg	1	6/7/23 16:01
1,2-Dichloroethane	ND	U	0.000325	0.00231	mg/kg	1	6/7/23 16:01
1,2-Dichloropropane	ND	U	0.000378	0.00231	mg/kg	1	6/7/23 16:01
1,3-Dichlorobenzene	ND	U	0.000170	0.00231	mg/kg	1	6/7/23 16:01
1,4-Dichlorobenzene	ND	U	0.000332	0.00231	mg/kg	1	6/7/23 16:01
2-Butanone	ND	U	0.000376	0.0115	mg/kg	1	6/7/23 16:01
2-Hexanone	ND	U	0.000216	0.00231	mg/kg	1	6/7/23 16:01
4-Methyl-2-pentanone	ND	U	0.000288	0.00231	mg/kg	1	6/7/23 16:01
Acetone	ND	U	0.000699	0.0577	mg/kg	1	6/7/23 16:01
Benzene	ND	U	0.000210	0.00231	mg/kg	1	6/7/23 16:01
Bromochloromethane	ND	U	0.000426	0.00231	mg/kg	1	6/7/23 16:01
Bromodichloromethane	ND	U	0.000289	0.00231	mg/kg	1	6/7/23 16:01
Bromoform	ND	U	0.000405	0.00231	mg/kg	1	6/7/23 16:01
Bromomethane	ND	U	0.000665	0.00231	mg/kg	1	6/7/23 16:01
Carbon disulfide	ND	U	0.000331	0.00231	mg/kg	1	6/7/23 16:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20 230525** Collected: **5/25/2023 8:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Carbon Tetrachloride	ND	U	0.000347	0.00231	mg/kg	1	6/7/23 16:01	
Chlorobenzene	ND	U	0.000334	0.00231	mg/kg	1	6/7/23 16:01	
Chlorodibromomethane	ND	U	0.000284	0.00231	mg/kg	1	6/7/23 16:01	
Chloroethane	ND	U	0.000393	0.00231	mg/kg	1	6/7/23 16:01	
Chloroform	ND	U	0.000388	0.00231	mg/kg	1	6/7/23 16:01	
Chloromethane	**0.0132**		**0.000888**	**0.00231**	**mg/kg**	**1**	**6/7/23 16:01**	J, RC:SL
cis-1,2-Dichloroethene	ND	U	0.000112	0.00231	mg/kg	1	6/7/23 16:01	
cis-1,3-Dichloropropene	ND	U	0.000292	0.00231	mg/kg	1	6/7/23 16:01	
Cyclohexane	ND	U	0.000511	0.00231	mg/kg	1	6/7/23 16:01	
Dichlorodifluoromethane	ND	U	0.000779	0.00231	mg/kg	1	6/7/23 16:01	UJ, RC:SL
EthylBenzene	ND	U	0.000313	0.00231	mg/kg	1	6/7/23 16:01	
Isopropylbenzene	ND	U	0.000362	0.00231	mg/kg	1	6/7/23 16:01	
m+p-Xylenes	ND	U	0.000582	0.00461	mg/kg	1	6/7/23 16:01	
Methyl Acetate	ND	U	0.000306	0.00231	mg/kg	1	6/7/23 16:01	
Methyl tert-Butyl Ether	ND	U	0.000390	0.00231	mg/kg	1	6/7/23 16:01	
Methylcyclohexane	ND	U	0.000371	0.00231	mg/kg	1	6/7/23 16:01	
Methylene Chloride	ND	U	0.000693	0.00577	mg/kg	1	6/7/23 16:01	
o-Xylene	ND	U	0.000296	0.00231	mg/kg	1	6/7/23 16:01	
Styrene	ND	U	0.000330	0.00231	mg/kg	1	6/7/23 16:01	
tert-Butyl alcohol	ND	U	0.00484	0.0231	mg/kg	1	6/7/23 16:01	
Tetrachloroethene	ND	U	0.000228	0.00231	mg/kg	1	6/7/23 16:01	
Toluene	ND	U	0.000186	0.00231	mg/kg	1	6/7/23 16:01	
Total Xylenes	ND	U	0.000296	0.00231	mg/kg	1	6/7/23 16:01	
trans-1,2-Dichloroethene	ND	U	0.000313	0.00231	mg/kg	1	6/7/23 16:01	
trans-1,3-Dichloropropene	ND	U	0.000441	0.00231	mg/kg	1	6/7/23 16:01	
Trichloroethene	ND	U	0.000339	0.00231	mg/kg	1	6/7/23 16:01	
Trichlorofluoromethane	ND	U	0.000265	0.00231	mg/kg	1	6/7/23 16:01	
Vinyl chloride	ND	U	0.000438	0.00231	mg/kg	1	6/7/23 16:01	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0211	3.93	J	mg/kg	1	6/7/23 16:01
TIC Total	**0.021**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-01 (Soil) Sample Name: **OH-SB-16A-1.0-2.0-20230525** Collected: **5/25/2023 8:45:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.3**				**%**	**1**	**5/26/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00808	0.0678	mg/kg	1	6/7/23 17:34

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-20230525** Collected: **5/25/2023 8:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00553	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1221	ND	U	0.0109	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1232	ND	U	0.0138	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1242	ND	U	0.00810	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1248	ND	U	0.00847	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1254	ND	U	0.00665	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1260	ND	U	0.00516	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1262	ND	U	0.0111	0.0412	mg/kg	1	6/10/23 13:09
Aroclor-1268	ND	U	0.00499	0.0412	mg/kg	1	6/10/23 13:09
Total PCBs	ND	U	0.00385	0.0412	mg/kg	1	6/10/23 13:09

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.125	mg/kg	1	6/13/23 22:40
2,4-D	ND	U	0.0207	0.125	mg/kg	1	6/13/23 22:40

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0819**		**0.00625**	**0.0250**	**mg/kg**	**1**	**6/6/23 13:37**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**1280**		**0.188**	**3.17**	**mg/kg**	**1**	**6/9/23 12:04**
Antimony	ND	U	0.173	1.59	mg/kg	1	6/9/23 12:04
Arsenic	**2.08**		**0.113**	**1.59**	**mg/kg**	**1**	**6/9/23 12:04**
Barium	**8.70**		**0.0479**	**0.634**	**mg/kg**	**1**	**6/9/23 12:04**
Beryllium	**0.0967**		**0.00367**	**0.0317**	**mg/kg**	**1**	**6/9/23 12:04**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-2 0230525** Collected: **5/25/2023 8:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	ND	U	0.0618	0.317	mg/kg	1	6/9/23 12:04	
Calcium	**394000**	D	**357**	**3170**	**mg/kg**	**100**	**6/9/23 13:40**	
Chromium	**3.13**		**0.0358**	**0.317**	**mg/kg**	**1**	**6/9/23 12:04**	
Cobalt	**0.824**		**0.0324**	**0.254**	**mg/kg**	**1**	**6/9/23 12:04**	
Copper	**6.40**		**0.0887**	**0.317**	**mg/kg**	**1**	**6/9/23 12:04**	
Iron	**3520**		**0.898**	**6.34**	**mg/kg**	**1**	**6/9/23 12:04**	
Lead	**8.66**		**0.132**	**1.59**	**mg/kg**	**1**	**6/9/23 12:04**	
Magnesium	**1480**		**11.2**	**63.4**	**mg/kg**	**1**	**6/9/23 12:04**	
Manganese	**206**		**0.0394**	**0.317**	**mg/kg**	**1**	**6/9/23 12:04**	
Nickel	**4.03**		**0.0279**	**0.159**	**mg/kg**	**1**	**6/9/23 12:04**	
Potassium	**786**		**37.7**	**127**	**mg/kg**	**1**	**6/9/23 12:04**	
Selenium	ND	U	0.304	1.59	mg/kg	1	6/9/23 12:04	
Silver	ND	U	0.0539	0.190	mg/kg	1	6/9/23 12:04	UJ, RC:6L
Sodium	**1830**		**6.05**	**63.4**	**mg/kg**	**1**	**6/9/23 12:04**	
Thallium	ND	U	0.107	1.59	mg/kg	1	6/9/23 12:04	
Vanadium	**6.18**		**0.0729**	**0.634**	**mg/kg**	**1**	**6/9/23 12:04**	
Zinc	**16.6**		**0.0969**	**0.951**	**mg/kg**	**1**	**6/9/23 12:04**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000743	0.00162	mg/kg	1	6/10/23 17:26	
4,4'-DDE	**0.000966**	J	**0.000888**	**0.00162**	**mg/kg**	**1**	**6/10/23 17:26**	
4,4'-DDT	ND	U	0.00115	0.00162	mg/kg	1	6/10/23 17:26	
Aldrin	ND	U	0.000770	0.00162	mg/kg	1	6/10/23 17:26	
alpha-BHC	ND	U	0.000483	0.00162	mg/kg	1	6/10/23 17:26	
beta-BHC	ND	U	0.000776	0.00162	mg/kg	1	6/10/23 17:26	
Chlordane	**0.00268**		**0.000722**	**0.00162**	**mg/kg**	**1**	**6/10/23 17:26**	
delta-BHC	ND	U	0.000755	0.00162	mg/kg	1	6/10/23 17:26	
Dieldrin	ND	U	0.000849	0.00162	mg/kg	1	6/10/23 17:26	
Endosulfan I	ND	U	0.000767	0.00162	mg/kg	1	6/10/23 17:26	
Endosulfan II	ND	U	0.000738	0.00162	mg/kg	1	6/10/23 17:26	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000611	0.00162	mg/kg	1	6/10/23 17:26	
Endosulfans, Total (alpha and beta)	ND	U	0.000738	0.00162	mg/kg	1	6/10/23 17:26	
Endrin	ND	U	0.000561	0.00162	mg/kg	1	6/10/23 17:26	
Endrin aldehyde	ND	U	0.000647	0.00162	mg/kg	1	6/10/23 17:26	
Endrin ketone	ND	U	0.000572	0.00162	mg/kg	1	6/10/23 17:26	
gamma-BHC (Lindane)	ND	U	0.000515	0.00162	mg/kg	1	6/10/23 17:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-2 0230525** Collected: **5/25/2023 8:55:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000435	0.00162	mg/kg	1	6/10/23 17:26
Heptachlor Epoxide	ND	U	0.000819	0.00162	mg/kg	1	6/10/23 17:26
Methoxychlor	ND	U	0.000476	0.00162	mg/kg	1	6/10/23 17:26
Toxaphene	ND	U	0.0782	0.0824	mg/kg	1	6/10/23 17:26

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00470	0.0416	mg/kg	1	6/6/23 18:27	
2,3,4,6-Tetrachlorophenol	ND	U	0.0256	0.166	mg/kg	1	6/6/23 18:27	
2,4,5-Trichlorophenol	ND	U	0.0226	0.166	mg/kg	1	6/6/23 18:27	
2,4,6-Trichlorophenol	ND	U	0.0104	0.166	mg/kg	1	6/6/23 18:27	
2,4-Dichlorophenol	ND	U	0.0167	0.166	mg/kg	1	6/6/23 18:27	
2,4-Dimethylphenol	ND	U	0.0164	0.166	mg/kg	1	6/6/23 18:27	
2,4-Dinitrophenol	ND	U	0.0240	0.833	mg/kg	1	6/6/23 18:27	
2,4-Dinitrotoluene	ND	U	0.0177	0.166	mg/kg	1	6/6/23 18:27	
2,6-Dinitrotoluene	ND	U	0.0397	0.166	mg/kg	1	6/6/23 18:27	
2-Chloronaphthalene	ND	U	0.0191	0.166	mg/kg	1	6/6/23 18:27	
2-Chlorophenol	ND	U	0.0220	0.166	mg/kg	1	6/6/23 18:27	
2-Methylnaphthalene	**0.0823**	J	**0.0399**	**0.250**	**mg/kg**	**1**	**6/6/23 18:27**	
2-Methylphenol	ND	U	0.0329	0.166	mg/kg	1	6/6/23 18:27	
2-Nitroaniline	ND	U	0.0134	0.166	mg/kg	1	6/6/23 18:27	
2-Nitrophenol	ND	U	0.0185	0.166	mg/kg	1	6/6/23 18:27	UJ, RC:Q
3,3'-Dichlorobenzidine	ND	U	0.0175	0.166	mg/kg	1	6/6/23 18:27	
3+4-Methylphenol	ND	U	0.0305	0.166	mg/kg	1	6/6/23 18:27	
3-Nitroaniline	ND	U	0.0309	0.166	mg/kg	1	6/6/23 18:27	
4,6-Dinitro-2-methylphenol	ND	U	0.0314	0.416	mg/kg	1	6/6/23 18:27	
4-Bromophenyl-phenyl ether	ND	U	0.0237	0.166	mg/kg	1	6/6/23 18:27	
4-Chloro-3-methylphenol	ND	U	0.0262	0.166	mg/kg	1	6/6/23 18:27	
4-Chloroaniline	ND	U	0.00582	0.166	mg/kg	1	6/6/23 18:27	
4-Chlorophenyl phenyl ether	ND	U	0.00898	0.166	mg/kg	1	6/6/23 18:27	
4-Nitroaniline	ND	U	0.0832	0.166	mg/kg	1	6/6/23 18:27	
4-Nitrophenol	ND	U	0.0106	0.166	mg/kg	1	6/6/23 18:27	
Acenaphthene	**0.505**		**0.00948**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**	
Acenaphthylene	**0.159**	J	**0.00578**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**	
Acetophenone	ND	U	0.0165	0.166	mg/kg	1	6/6/23 18:27	
Anthracene	**14.3**	D	**0.241**	**1.66**	**mg/kg**	**10**	**6/7/23 19:15**	
Atrazine	ND	U	0.0156	0.166	mg/kg	1	6/6/23 18:27	UJ, RC:SL
Benzaldehyde	ND	U	0.0511	0.166	mg/kg	1	6/6/23 18:27	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-2 0230525** Collected: **5/25/2023 8:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene	**6.89**		**0.0167**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Benzo(a)pyrene	**2.63**		**0.0290**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Benzo(b)fluoranthene	**3.89**		**0.0234**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Benzo(g,h,i)perylene	**0.655**		**0.0135**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Benzo(k)fluoranthene	**0.882**		**0.0191**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Biphenyl	ND	U	0.0146	0.166	mg/kg	1	6/6/23 18:27
bis(2-chloroethoxy)methane	ND	U	0.0230	0.166	mg/kg	1	6/6/23 18:27
bis(2-chloroethyl)ether	ND	U	0.0182	0.166	mg/kg	1	6/6/23 18:27
bis(2-chloroisopropyl)ether	ND	U	0.0598	0.166	mg/kg	1	6/6/23 18:27
bis(2-ethylhexyl)phthalate	ND	U	0.0332	0.166	mg/kg	1	6/6/23 18:27
Butylbenzylphthalate	ND	U	0.0151	0.166	mg/kg	1	6/6/23 18:27
Caprolactam	ND	U	0.0215	0.166	mg/kg	1	6/6/23 18:27
Carbazole	**0.299**	J	**0.0320**	**0.416**	**mg/kg**	**1**	**6/6/23 18:27**
Chrysene	**8.56**		**0.0114**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Dibenzo(a,h)anthracene	**0.208**		**0.0165**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Dibenzofuran	ND	U	0.00991	0.166	mg/kg	1	6/6/23 18:27
Diethylphthalate	ND	U	0.0322	0.166	mg/kg	1	6/6/23 18:27
Dimethylphthalate	ND	U	0.0103	0.166	mg/kg	1	6/6/23 18:27
Di-n-butylphthalate	ND	U	0.0680	0.166	mg/kg	1	6/6/23 18:27
Di-n-octylphthalate	ND	U	0.0341	0.166	mg/kg	1	6/6/23 18:27
Fluoranthene	**42.4**	D	**0.156**	**1.66**	**mg/kg**	**10**	**6/7/23 19:15**
Fluorene	**0.438**		**0.0139**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Hexachlorobenzene	ND	U	0.0217	0.166	mg/kg	1	6/6/23 18:27
Hexachlorobutadiene	ND	U	0.0798	0.166	mg/kg	1	6/6/23 18:27
Hexachlorocyclopentadiene	ND	U	0.0693	0.416	mg/kg	1	6/6/23 18:27
Hexachloroethane	ND	U	0.0182	0.166	mg/kg	1	6/6/23 18:27
Indeno(1,2,3-cd)pyrene	**0.639**		**0.0179**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Isophorone	ND	U	0.0109	0.166	mg/kg	1	6/6/23 18:27
Naphthalene	**0.165**	J	**0.0123**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Nitrobenzene	ND	U	0.0282	0.166	mg/kg	1	6/6/23 18:27
n-Nitroso-di-n-propylamine	ND	U	0.00891	0.166	mg/kg	1	6/6/23 18:27
n-Nitrosodiphenylamine	ND	U	0.0355	0.166	mg/kg	1	6/6/23 18:27
Pentachlorophenol	ND	U	0.0229	0.416	mg/kg	1	6/6/23 18:27
Phenanthrene	**1.67**		**0.0219**	**0.166**	**mg/kg**	**1**	**6/6/23 18:27**
Phenol	ND	U	0.0135	0.166	mg/kg	1	6/6/23 18:27
Pyrene	**29.1**	D	**0.122**	**1.66**	**mg/kg**	**10**	**6/7/23 19:15**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-2 0230525** Collected: **5/25/2023 8:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, chloro(1,1-dimethylethyl)-	1.11	9.62	J	mg/kg	1	6/6/23 18:27
Hexadecanoic acid, butyl ester	~~7.83~~	11.83	J, B	mg/kg	1	6/6/23 18:27 R, RC:2
Naphthalene, 1-phenyl-	1.50	11.62	J	mg/kg	1	6/6/23 18:27
Octadecanoic acid, butyl ester	~~1.48~~	12.62	J, B	mg/kg	1	6/6/23 18:27 R, RC:2
unknown (01)	1.07	10.34	J	mg/kg	1	6/6/23 18:27
unknown (02)	0.912	10.41	J	mg/kg	1	6/6/23 18:27
unknown (03)	3.22	11.01	J	mg/kg	1	6/6/23 18:27
unknown (04)	2.36	11.09	J	mg/kg	1	6/6/23 18:27
unknown (05)	7.70	11.14	J	mg/kg	1	6/6/23 18:27
unknown (06)	0.958	11.30	J	mg/kg	1	6/6/23 18:27
unknown (07)	1.62	11.56	J	mg/kg	1	6/6/23 18:27
unknown (08)	1.74	11.92	J	mg/kg	1	6/6/23 18:27
unknown (09)	1.59	12.36	J	mg/kg	1	6/6/23 18:27
unknown (10)	1.64	12.43	J	mg/kg	1	6/6/23 18:27
unknown (11)	2.15	15.39	J	mg/kg	1	6/6/23 18:27
TIC Total	~~36.9~~ 27.6					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000272	0.00186	mg/kg	1	6/7/23 17:03
1,1,2,2-Tetrachloroethane	ND	U	0.000257	0.00186	mg/kg	1	6/7/23 17:03
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000798	0.00186	mg/kg	1	6/7/23 17:03
1,1,2-Trichloroethane	ND	U	0.000314	0.00186	mg/kg	1	6/7/23 17:03
1,1-Dichloroethane	ND	U	0.000272	0.00186	mg/kg	1	6/7/23 17:03
1,1-Dichloroethene	ND	U	0.000345	0.00186	mg/kg	1	6/7/23 17:03
1,2,3-Trichlorobenzene	ND	U	0.000403	0.00186	mg/kg	1	6/7/23 17:03
1,2,4-Trichlorobenzene	ND	U	0.000497	0.00186	mg/kg	1	6/7/23 17:03
1,2,4-Trimethylbenzene	ND	U	0.000257	0.00186	mg/kg	1	6/7/23 17:03
1,2-Dibromo-3-chloropropane	ND	U	0.000455	0.00466	mg/kg	1	6/7/23 17:03
1,2-Dibromoethane	ND	U	0.000235	0.00186	mg/kg	1	6/7/23 17:03
1,2-Dichlorobenzene	ND	U	0.000329	0.00186	mg/kg	1	6/7/23 17:03
1,2-Dichloroethane	ND	U	0.000263	0.00186	mg/kg	1	6/7/23 17:03
1,2-Dichloropropane	ND	U	0.000306	0.00186	mg/kg	1	6/7/23 17:03
1,3-Dichlorobenzene	ND	U	0.000137	0.00186	mg/kg	1	6/7/23 17:03
1,4-Dichlorobenzene	ND	U	0.000268	0.00186	mg/kg	1	6/7/23 17:03
2-Butanone	ND	U	0.000304	0.00932	mg/kg	1	6/7/23 17:03
2-Hexanone	ND	U	0.000174	0.00186	mg/kg	1	6/7/23 17:03

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-02 (Soil) Sample Name: **OH-SB-16A-9.5-10.5-2 0230525** Collected: **5/25/2023 8:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Methyl-2-pentanone	ND	U	0.000233	0.00186	mg/kg	1	6/7/23 17:03	
Acetone	ND	U	0.000565	0.0466	mg/kg	1	6/7/23 17:03	
Benzene	ND	U	0.000170	0.00186	mg/kg	1	6/7/23 17:03	
Bromochloromethane	ND	U	0.000344	0.00186	mg/kg	1	6/7/23 17:03	
Bromodichloromethane	ND	U	0.000234	0.00186	mg/kg	1	6/7/23 17:03	
Bromoform	ND	U	0.000327	0.00186	mg/kg	1	6/7/23 17:03	
Bromomethane	ND	U	0.000538	0.00186	mg/kg	1	6/7/23 17:03	
Carbon disulfide	**0.00405**		**0.000268**	**0.00186**	**mg/kg**	**1**	**6/7/23 17:03**	
Carbon Tetrachloride	ND	U	0.000281	0.00186	mg/kg	1	6/7/23 17:03	
Chlorobenzene	ND	U	0.000270	0.00186	mg/kg	1	6/7/23 17:03	
Chlorodibromomethane	ND	U	0.000229	0.00186	mg/kg	1	6/7/23 17:03	
Chloroethane	ND	U	0.000318	0.00186	mg/kg	1	6/7/23 17:03	
Chloroform	ND	U	0.000313	0.00186	mg/kg	1	6/7/23 17:03	
Chloromethane	ND	U	0.000718	0.00186	mg/kg	1	6/7/23 17:03	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.0000902	0.00186	mg/kg	1	6/7/23 17:03	
cis-1,3-Dichloropropene	ND	U	0.000236	0.00186	mg/kg	1	6/7/23 17:03	
Cyclohexane	ND	U	0.000413	0.00186	mg/kg	1	6/7/23 17:03	
Dichlorodifluoromethane	ND	U	0.000629	0.00186	mg/kg	1	6/7/23 17:03	UJ, RC:SL
EthylBenzene	ND	U	0.000253	0.00186	mg/kg	1	6/7/23 17:03	
Isopropylbenzene	ND	U	0.000293	0.00186	mg/kg	1	6/7/23 17:03	
m+p-Xylenes	ND	U	0.000471	0.00373	mg/kg	1	6/7/23 17:03	
Methyl Acetate	ND	U	0.000247	0.00186	mg/kg	1	6/7/23 17:03	
Methyl tert-Butyl Ether	ND	U	0.000315	0.00186	mg/kg	1	6/7/23 17:03	
Methylcyclohexane	ND	U	0.000300	0.00186	mg/kg	1	6/7/23 17:03	
Methylene Chloride	ND	U	0.000560	0.00466	mg/kg	1	6/7/23 17:03	
o-Xylene	ND	U	0.000240	0.00186	mg/kg	1	6/7/23 17:03	
Styrene	ND	U	0.000267	0.00186	mg/kg	1	6/7/23 17:03	
tert-Butyl alcohol	ND	U	0.00392	0.0186	mg/kg	1	6/7/23 17:03	
Tetrachloroethene	ND	U	0.000185	0.00186	mg/kg	1	6/7/23 17:03	
Toluene	ND	U	0.000150	0.00186	mg/kg	1	6/7/23 17:03	
Total Xylenes	ND	U	0.000240	0.00186	mg/kg	1	6/7/23 17:03	
trans-1,2-Dichloroethene	ND	U	0.000253	0.00186	mg/kg	1	6/7/23 17:03	
trans-1,3-Dichloropropene	ND	U	0.000356	0.00186	mg/kg	1	6/7/23 17:03	
Trichloroethene	ND	U	0.000274	0.00186	mg/kg	1	6/7/23 17:03	
Trichlorofluoromethane	ND	U	0.000214	0.00186	mg/kg	1	6/7/23 17:03	
Vinyl chloride	ND	U	0.000354	0.00186	mg/kg	1	6/7/23 17:03	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-02 (Soil)

Sample Name: **OH-SB-16A-9.5-10.5-2 0230525**
Collected: **5/25/2023 8:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.0129	3.92	J	mg/kg	1	6/7/23 17:03
TIC:Naphthalene	0.0423	21.58	J	mg/kg	1	6/7/23 17:03
TIC Total	**0.055**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.0**				**%**	**1**	**5/26/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00857	0.0720	mg/kg	1	6/7/23 17:34

23E1236-03 (Ground Water)

Sample Name: **FB-20230525**
Collected: **5/25/2023 11:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/9/23 21:33
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/9/23 21:33
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/9/23 21:33
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/9/23 21:33
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/9/23 21:33
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/9/23 21:33
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/9/23 21:33
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/9/23 21:33
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/9/23 21:33
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/9/23 21:33

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 19:50
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 19:50
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 19:50

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-03 (Ground Water) Sample Name: **FB-20230525** Collected: **5/25/2023 11:50:00AM**

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	5/26/23 13:35

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/8/23 12:36
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/8/23 12:36
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/8/23 12:36
Barium	ND	U	0.000558	0.0200	mg/L	1	6/8/23 12:36
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/8/23 12:36
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/8/23 12:36
Calcium	ND	U	0.256	1.00	mg/L	1	6/8/23 12:36
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/8/23 12:36
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/8/23 12:36
Copper	ND	U	0.00177	0.0100	mg/L	1	6/8/23 12:36
Iron	ND	U	0.0580	0.200	mg/L	1	6/8/23 12:36
Lead	ND	U	0.00510	0.0500	mg/L	1	6/8/23 12:36
Magnesium	ND	U	0.681	2.00	mg/L	1	6/8/23 12:36
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/8/23 12:36
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/8/23 12:36
Potassium	ND	U	2.41	4.00	mg/L	1	6/8/23 12:36
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/8/23 12:36
Silver	ND	U	0.00465	0.0200	mg/L	1	6/8/23 12:36
Sodium	ND	U	0.205	2.00	mg/L	1	6/8/23 12:36
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/8/23 12:36
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/8/23 12:36
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/8/23 12:36

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	5/31/23 19:56
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	5/31/23 19:56
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	5/31/23 19:56
Aldrin	ND	U	0.000527	0.0200	ug/L	1	5/31/23 19:56
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	5/31/23 19:56
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	5/31/23 19:56
Chlordane	ND	U	0.000327	0.0500	ug/L	1	5/31/23 19:56
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	5/31/23 19:56
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	5/31/23 19:56
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	5/31/23 19:56

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-03 (Ground Water) Sample Name: **FB-20230525** Collected: **5/25/2023 11:50:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	5/31/23 19:56	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	5/31/23 19:56	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	5/31/23 19:56	UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	5/31/23 19:56	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	5/31/23 19:56	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	5/31/23 19:56	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	5/31/23 19:56	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	5/31/23 19:56	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	5/31/23 19:56	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	5/31/23 19:56	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	5/31/23 14:31	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	5/31/23 14:31	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	5/31/23 14:31	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	5/31/23 14:31	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	5/31/23 14:31	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	5/31/23 14:31	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	5/31/23 14:31	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	5/31/23 14:31	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	5/31/23 14:31	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	5/31/23 14:31	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	5/31/23 14:31	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	5/31/23 14:31	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	5/31/23 14:31	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	5/31/23 14:31	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	5/31/23 14:31	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	5/31/23 14:31	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	5/31/23 14:31	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	5/31/23 14:31	UJ, RC:SL
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	5/31/23 14:31	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	5/31/23 14:31	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	5/31/23 14:31	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	5/31/23 14:31	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	5/31/23 14:31	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	5/31/23 14:31	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	5/31/23 14:31	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	5/31/23 14:31	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-03 (Ground Water) Sample Name: **FB-20230525** Collected: **5/25/2023 11:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acetophenone	ND	U	0.170	2.00	ug/L	1	5/31/23 14:31	
Anthracene	ND	U	0.121	2.00	ug/L	1	5/31/23 14:31	
Atrazine	ND	U	0.0861	2.00	ug/L	1	5/31/23 14:31	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	5/31/23 14:31	UJ, RC:Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	5/31/23 14:31	
Biphenyl	ND	U	0.106	2.00	ug/L	1	5/31/23 14:31	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	5/31/23 14:31	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	5/31/23 14:31	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	5/31/23 14:31	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	5/31/23 14:31	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	5/31/23 14:31	
Caprolactam	ND	U	0.193	2.00	ug/L	1	5/31/23 14:31	
Carbazole	ND	U	0.188	2.00	ug/L	1	5/31/23 14:31	
Chrysene	ND	U	0.129	2.00	ug/L	1	5/31/23 14:31	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	5/31/23 14:31	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	5/31/23 14:31	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	5/31/23 14:31	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	5/31/23 14:31	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	5/31/23 14:31	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	5/31/23 14:31	
Fluorene	ND	U	0.109	2.00	ug/L	1	5/31/23 14:31	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	5/31/23 14:31	
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	5/31/23 14:31	
Isophorone	ND	U	0.111	2.00	ug/L	1	5/31/23 14:31	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	5/31/23 14:31	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	5/31/23 14:31	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	5/31/23 14:31	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	5/31/23 14:31	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	5/31/23 14:31	
Phenol	ND	U	0.0973	2.00	ug/L	1	5/31/23 14:31	
Pyrene	ND	U	0.115	2.00	ug/L	1	5/31/23 14:31	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-03 (Ground Water) Sample Name: **FB-20230525** Collected: **5/25/2023 11:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/5/23 15:26	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/5/23 15:26	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/5/23 15:26	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/5/23 15:26	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/5/23 15:26	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/5/23 15:26	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/5/23 15:26	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/5/23 15:26	RC:SL
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/5/23 15:26	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/5/23 15:26	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/5/23 15:26	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/5/23 15:26	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/5/23 15:26	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/5/23 15:26	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/5/23 15:26	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/5/23 15:26	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/5/23 15:26	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/5/23 15:26	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/5/23 15:26	
Acetone	ND	U	10.0	10.0	ug/L	1	6/5/23 15:26	
Benzene	ND	U	0.129	1.00	ug/L	1	6/5/23 15:26	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/5/23 15:26	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/5/23 15:26	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/5/23 15:26	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/5/23 15:26	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/5/23 15:26	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/5/23 15:26	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/5/23 15:26	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/5/23 15:26	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/5/23 15:26	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/5/23 15:26	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/5/23 15:26	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/5/23 15:26	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/5/23 15:26	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/5/23 15:26	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/5/23 15:26	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/5/23 15:26	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/5/23 15:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-03 (Ground Water) Sample Name: **FB-20230525** Collected: **5/25/2023 11:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/5/23 15:26	UJ, RC:3L
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/5/23 15:26	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/5/23 15:26	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/5/23 15:26	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/5/23 15:26	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/5/23 15:26	
Styrene	ND	U	0.176	1.00	ug/L	1	6/5/23 15:26	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/5/23 15:26	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/5/23 15:26	
Toluene	ND	U	0.205	1.00	ug/L	1	6/5/23 15:26	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/5/23 15:26	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/5/23 15:26	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/5/23 15:26	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/5/23 15:26	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/5/23 15:26	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/5/23 15:26	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/6/23 17:15

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00525	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1221	ND	U	0.0103	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1232	ND	U	0.0131	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1242	ND	U	0.00769	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1248	ND	U	0.00804	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1254	ND	U	0.00631	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1260	ND	U	0.00490	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1262	ND	U	0.0105	0.0391	mg/kg	1	6/10/23 13:31
Aroclor-1268	ND	U	0.00473	0.0391	mg/kg	1	6/10/23 13:31

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total PCBs	ND	U	0.00365	0.0391	mg/kg	1	6/10/23 13:31

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0116	0.119	mg/kg	1	6/13/23 23:04
2,4-D	ND	U	0.0197	0.119	mg/kg	1	6/13/23 23:04

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00593	0.0237	mg/kg	1	6/6/23 13:37

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5280**		**0.174**	**2.93**	**mg/kg**	**1**	**6/9/23 12:06**	
Antimony	ND	U	0.160	1.47	mg/kg	1	6/9/23 12:06	
Arsenic	ND	U	0.105	1.47	mg/kg	1	6/9/23 12:06	
Barium	**31.3**		**0.0444**	**0.587**	**mg/kg**	**1**	**6/9/23 12:06**	
Beryllium	**0.393**		**0.00340**	**0.0293**	**mg/kg**	**1**	**6/9/23 12:06**	
Cadmium	ND	U	0.0572	0.293	mg/kg	1	6/9/23 12:06	
Calcium	**8710**		**3.30**	**29.3**	**mg/kg**	**1**	**6/9/23 12:06**	
Chromium	**9.12**		**0.0331**	**0.293**	**mg/kg**	**1**	**6/9/23 12:06**	
Cobalt	**3.34**		**0.0300**	**0.235**	**mg/kg**	**1**	**6/9/23 12:06**	
Copper	**8.65**		**0.0821**	**0.293**	**mg/kg**	**1**	**6/9/23 12:06**	
Iron	**8600**		**0.831**	**5.87**	**mg/kg**	**1**	**6/9/23 12:06**	
Lead	**2.66**		**0.122**	**1.47**	**mg/kg**	**1**	**6/9/23 12:06**	
Magnesium	**3940**		**10.4**	**58.7**	**mg/kg**	**1**	**6/9/23 12:06**	
Manganese	**236**		**0.0365**	**0.293**	**mg/kg**	**1**	**6/9/23 12:06**	
Nickel	**10.3**		**0.0258**	**0.147**	**mg/kg**	**1**	**6/9/23 12:06**	
Potassium	**1450**		**34.9**	**117**	**mg/kg**	**1**	**6/9/23 12:06**	
Selenium	ND	U	0.282	1.47	mg/kg	1	6/9/23 12:06	
Silver	ND	U	0.0499	0.176	mg/kg	1	6/9/23 12:06	UJ, RC:6L
Sodium	**752**		**5.59**	**58.7**	**mg/kg**	**1**	**6/9/23 12:06**	
Thallium	ND	U	0.0987	1.47	mg/kg	1	6/9/23 12:06	
Vanadium	**13.6**		**0.0675**	**0.587**	**mg/kg**	**1**	**6/9/23 12:06**	
Zinc	**14.5**		**0.0896**	**0.880**	**mg/kg**	**1**	**6/9/23 12:06**	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000705	0.00154	mg/kg	1	6/10/23 17:48	
4,4'-DDE	ND	U	0.000843	0.00154	mg/kg	1	6/10/23 17:48	
4,4'-DDT	**0.0704**		**0.00109**	**0.00154**	**mg/kg**	**1**	**6/10/23 17:48**	
Aldrin	ND	U	0.000730	0.00154	mg/kg	1	6/10/23 17:48	
alpha-BHC	ND	U	0.000459	0.00154	mg/kg	1	6/10/23 17:48	
beta-BHC	ND	U	0.000736	0.00154	mg/kg	1	6/10/23 17:48	
Chlordane	**0.205**		**0.000685**	**0.00154**	**mg/kg**	**1**	**6/10/23 17:48**	
delta-BHC	ND	U	0.000716	0.00154	mg/kg	1	6/10/23 17:48	
Dieldrin	ND	U	0.000806	0.00154	mg/kg	1	6/10/23 17:48	
Endosulfan I	ND	U	0.000728	0.00154	mg/kg	1	6/10/23 17:48	
Endosulfan II	ND	U	0.000700	0.00154	mg/kg	1	6/10/23 17:48	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000580	0.00154	mg/kg	1	6/10/23 17:48	
Endosulfans, Total (alpha and beta)	ND	U	0.000700	0.00154	mg/kg	1	6/10/23 17:48	
Endrin	ND	U	0.000532	0.00154	mg/kg	1	6/10/23 17:48	
Endrin aldehyde	ND	U	0.000614	0.00154	mg/kg	1	6/10/23 17:48	
Endrin ketone	ND	U	0.000543	0.00154	mg/kg	1	6/10/23 17:48	
gamma-BHC (Lindane)	ND	U	0.000488	0.00154	mg/kg	1	6/10/23 17:48	
Heptachlor	ND	U	0.000412	0.00154	mg/kg	1	6/10/23 17:48	
Heptachlor Epoxide	**0.00558**		**0.000777**	**0.00154**	**mg/kg**	**1**	**6/10/23 17:48**	
Methoxychlor	ND	U	0.000452	0.00154	mg/kg	1	6/10/23 17:48	
Toxaphene	ND	U	0.0742	0.0782	mg/kg	1	6/10/23 17:48	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0891	0.789	mg/kg	20	6/7/23 20:20
2,3,4,6-Tetrachlorophenol	ND	U	0.486	3.15	mg/kg	20	6/7/23 20:20
2,4,5-Trichlorophenol	ND	U	0.429	3.15	mg/kg	20	6/7/23 20:20
2,4,6-Trichlorophenol	ND	U	0.197	3.15	mg/kg	20	6/7/23 20:20
2,4-Dichlorophenol	ND	U	0.318	3.15	mg/kg	20	6/7/23 20:20
2,4-Dimethylphenol	ND	U	0.311	3.15	mg/kg	20	6/7/23 20:20
2,4-Dinitrophenol	ND	U	0.455	15.8	mg/kg	20	6/7/23 20:20
2,4-Dinitrotoluene	ND	U	0.337	3.15	mg/kg	20	6/7/23 20:20
2,6-Dinitrotoluene	ND	U	0.754	3.15	mg/kg	20	6/7/23 20:20
2-Chloronaphthalene	ND	U	0.363	3.15	mg/kg	20	6/7/23 20:20
2-Chlorophenol	ND	U	0.417	3.15	mg/kg	20	6/7/23 20:20
2-Methylnaphthalene	**1660**	D	**18.9**	**119**	**mg/kg**	**500**	**6/10/23 5:05**
2-Methylphenol	ND	U	0.623	3.15	mg/kg	20	6/7/23 20:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Nitroaniline	ND	U	0.254	3.15	mg/kg	20	6/7/23 20:20	
2-Nitrophenol	ND	U	0.351	3.15	mg/kg	20	6/7/23 20:20	
3,3'-Dichlorobenzidine	ND	U	0.332	3.15	mg/kg	20	6/7/23 20:20	
3+4-Methylphenol	ND	U	0.578	3.15	mg/kg	20	6/7/23 20:20	
3-Nitroaniline	ND	U	0.585	3.15	mg/kg	20	6/7/23 20:20	
4,6-Dinitro-2-methylphenol	ND	U	0.595	7.89	mg/kg	20	6/7/23 20:20	
4-Bromophenyl-phenyl ether	ND	U	0.450	3.15	mg/kg	20	6/7/23 20:20	
4-Chloro-3-methylphenol	ND	U	0.498	3.15	mg/kg	20	6/7/23 20:20	
4-Chloroaniline	ND	U	0.110	3.15	mg/kg	20	6/7/23 20:20	
4-Chlorophenyl phenyl ether	ND	U	0.170	3.15	mg/kg	20	6/7/23 20:20	
4-Nitroaniline	ND	U	1.58	3.15	mg/kg	20	6/7/23 20:20	
4-Nitrophenol	ND	U	0.202	3.15	mg/kg	20	6/7/23 20:20	
Acenaphthene	**931**	D	**4.50**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	
Acenaphthylene	**62.9**	D	**0.110**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Acetophenone	ND	U	0.313	3.15	mg/kg	20	6/7/23 20:20	
Anthracene	**470**	D	**11.4**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	
Atrazine	ND	U	0.296	3.15	mg/kg	20	6/7/23 20:20	UJ, RC:SL
Benzaldehyde	ND	U	0.970	3.15	mg/kg	20	6/7/23 20:20	UJ, RC:Q
Benzo(a)anthracene	**126**	D	**0.318**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Benzo(a)pyrene	**99.5**	D	**0.550**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Benzo(b)fluoranthene	**77.2**	D	**0.443**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Benzo(g,h,i)perylene	**33.6**	D	**0.256**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	J, RC:SL
Benzo(k)fluoranthene	**25.5**	D	**0.363**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Biphenyl	**104**	D	**0.277**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
bis(2-chloroethoxy)methane	ND	U	0.436	3.15	mg/kg	20	6/7/23 20:20	
bis(2-chloroethyl)ether	ND	U	0.346	3.15	mg/kg	20	6/7/23 20:20	
bis(2-chloroisopropyl)ether	ND	U	1.14	3.15	mg/kg	20	6/7/23 20:20	
bis(2-ethylhexyl)phthalate	ND	U	0.631	3.15	mg/kg	20	6/7/23 20:20	
Butylbenzylphthalate	ND	U	0.287	3.15	mg/kg	20	6/7/23 20:20	
Caprolactam	ND	U	0.408	3.15	mg/kg	20	6/7/23 20:20	
Carbazole	ND	U	0.607	7.89	mg/kg	20	6/7/23 20:20	
Chrysene	**122**	D	**0.216**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Dibenzo(a,h)anthracene	**6.96**	D	**0.313**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Dibenzofuran	**35.6**	D	**0.188**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Diethylphthalate	ND	U	0.612	3.15	mg/kg	20	6/7/23 20:20	
Dimethylphthalate	ND	U	0.196	3.15	mg/kg	20	6/7/23 20:20	
Di-n-butylphthalate	ND	U	1.29	3.15	mg/kg	20	6/7/23 20:20	
Di-n-octylphthalate	ND	U	0.647	3.15	mg/kg	20	6/7/23 20:20	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Fluoranthene	**417**	D	**7.41**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	
Fluorene	**96.0**	D	**6.58**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	
Hexachlorobenzene	ND	U	0.412	3.15	mg/kg	20	6/7/23 20:20	
Hexachlorobutadiene	ND	U	1.51	3.15	mg/kg	20	6/7/23 20:20	
Hexachlorocyclopentadiene	ND	U	1.32	7.89	mg/kg	20	6/7/23 20:20	UJ, RC:SL
Hexachloroethane	ND	U	0.346	3.15	mg/kg	20	6/7/23 20:20	
Indeno(1,2,3-cd)pyrene	**27.2**	D	**0.339**	**3.15**	**mg/kg**	**20**	**6/7/23 20:20**	
Isophorone	ND	U	0.207	3.15	mg/kg	20	6/7/23 20:20	
Naphthalene	**2900**	D	**5.84**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	
Nitrobenzene	ND	U	0.536	3.15	mg/kg	20	6/7/23 20:20	
n-Nitroso-di-n-propylamine	ND	U	0.169	3.15	mg/kg	20	6/7/23 20:20	
n-Nitrosodiphenylamine	ND	U	0.673	3.15	mg/kg	20	6/7/23 20:20	
Pentachlorophenol	ND	U	0.434	7.89	mg/kg	20	6/7/23 20:20	UJ, RC:SL
Phenanthrene	**1410**	D	**10.4**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	
Phenol	ND	U	0.256	3.15	mg/kg	20	6/7/23 20:20	
Pyrene	**652**	D	**5.80**	**78.8**	**mg/kg**	**500**	**6/10/23 5:05**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Dibenzothiophene	123	10.41	J, D	mg/kg	20	6/7/23 20:20
Indane	317	6.15	J, D	mg/kg	20	6/7/23 20:20
Naphthalene, 1,4-dimethyl-	254	8.66	J, D	mg/kg	20	6/7/23 20:20
Naphthalene, 1,5-dimethyl-	209	8.58	J, D	mg/kg	20	6/7/23 20:20
Naphthalene, 1,6-dimethyl-	125	8.68	J, D	mg/kg	20	6/7/23 20:20
Naphthalene, 1-ethyl-	233	8.51	J, D	mg/kg	20	6/7/23 20:20
Naphthalene, 2,3-dimethyl-	145	8.78	J, D	mg/kg	20	6/7/23 20:20
unknown (01)	119	10.11	J, D	mg/kg	20	6/7/23 20:20
unknown (02)	227	11.02	J, D	mg/kg	20	6/7/23 20:20
unknown (03)	234	11.05	J, D	mg/kg	20	6/7/23 20:20
unknown (04)	130	11.10	J, D	mg/kg	20	6/7/23 20:20
unknown (05)	446	11.14	J, D	mg/kg	20	6/7/23 20:20
unknown (06)	176	11.57	J, D	mg/kg	20	6/7/23 20:20
unknown (07)	137	11.63	J, D	mg/kg	20	6/7/23 20:20
unknown (08)	143	11.87	J, D	mg/kg	20	6/7/23 20:20
TIC Total	**3,020**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000353	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000334	0.00242	mg/kg	1	6/7/23 17:32	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00104	0.00242	mg/kg	1	6/7/23 17:32	
1,1,2-Trichloroethane	ND	U	0.000408	0.00242	mg/kg	1	6/7/23 17:32	
1,1-Dichloroethane	ND	U	0.000353	0.00242	mg/kg	1	6/7/23 17:32	
1,1-Dichloroethene	ND	U	0.000447	0.00242	mg/kg	1	6/7/23 17:32	
1,2,3-Trichlorobenzene	~~ND~~	~~U~~	0.000522	0.00242	mg/kg	1	6/7/23 17:32	R, RC:X
1,2,4-Trichlorobenzene	~~ND~~	~~U~~	0.000645	0.00242	mg/kg	1	6/7/23 17:32	R, RC:X
1,2,4-Trimethylbenzene	**293**	D	**0.442**	**3.21**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
1,2-Dibromo-3-chloropropane	~~ND~~	~~U~~	0.000590	0.00605	mg/kg	1	6/7/23 17:32	R, RC:X
1,2-Dibromoethane	ND	U	0.000305	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:SL
1,2-Dichlorobenzene	~~ND~~	~~U~~	0.000427	0.00242	mg/kg	1	6/7/23 17:32	R, RC:X
1,2-Dichloroethane	**0.208**		**0.000341**	**0.00242**	**mg/kg**	**1**	**6/7/23 17:32**	J, RC:3L
1,2-Dichloropropane	ND	U	0.000397	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
1,3-Dichlorobenzene	ND	U	0.000178	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
1,4-Dichlorobenzene	~~ND~~	~~U~~	0.000348	0.00242	mg/kg	1	6/7/23 17:32	R, RC:X
2-Butanone	ND	U	0.000394	0.0121	mg/kg	1	6/7/23 17:32	UJ, RC:3L
2-Hexanone	ND	U	0.000226	0.00242	mg/kg	1	6/7/23 17:32	
4-Methyl-2-pentanone	ND	U	0.000302	0.00242	mg/kg	1	6/7/23 17:32	
Acetone	ND	U	0.000733	0.0605	mg/kg	1	6/7/23 17:32	
Benzene	**46.2**	D	**0.292**	**3.21**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
Bromochloromethane	ND	U	0.000446	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
Bromodichloromethane	ND	U	0.000304	0.00242	mg/kg	1	6/7/23 17:32	
Bromoform	ND	U	0.000424	0.00242	mg/kg	1	6/7/23 17:32	
Bromomethane	ND	U	0.000698	0.00242	mg/kg	1	6/7/23 17:32	
Carbon disulfide	ND	U	0.000347	0.00242	mg/kg	1	6/7/23 17:32	
Carbon Tetrachloride	ND	U	0.000364	0.00242	mg/kg	1	6/7/23 17:32	
Chlorobenzene	ND	U	0.000351	0.00242	mg/kg	1	6/7/23 17:32	
Chlorodibromomethane	ND	U	0.000298	0.00242	mg/kg	1	6/7/23 17:32	
Chloroethane	ND	U	0.000412	0.00242	mg/kg	1	6/7/23 17:32	
Chloroform	ND	U	0.000406	0.00242	mg/kg	1	6/7/23 17:32	
Chloromethane	ND	U	0.000931	0.00242	mg/kg	1	6/7/23 17:32	RC:SL
cis-1,2-Dichloroethene	ND	U	0.000117	0.00242	mg/kg	1	6/7/23 17:32	
cis-1,3-Dichloropropene	ND	U	0.000306	0.00242	mg/kg	1	6/7/23 17:32	
Cyclohexane	**0.0161**		**0.000536**	**0.00242**	**mg/kg**	**1**	**6/7/23 17:32**	J, RC:3L
Dichlorodifluoromethane	ND	U	0.000816	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L,SL
EthylBenzene	**438**	D	**4.34**	**32.1**	**mg/kg**	**11628**	**6/7/23 17:36**	J, RC:3L

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Isopropylbenzene	**51.5**	D	**0.503**	**3.21**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
m+p-Xylenes	**139**	D	**0.809**	**6.41**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
Methyl Acetate	ND	U	0.000320	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000409	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
Methylcyclohexane	**0.0892**		**0.000389**	**0.00242**	**mg/kg**	**1**	**6/7/23 17:32**	J, RC:3L
Methylene Chloride	ND	U	0.000727	0.00605	mg/kg	1	6/7/23 17:32	UJ, RC:3L
o-Xylene	**151**	D	**0.412**	**3.21**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
Styrene	ND	U	0.000346	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
tert-Butyl alcohol	ND	U	0.00508	0.0242	mg/kg	1	6/7/23 17:32	
Tetrachloroethene	ND	U	0.000239	0.00242	mg/kg	1	6/7/23 17:32	
Toluene	**5.65**	D	**0.258**	**3.21**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
Total Xylenes	**289**	D	**0.412**	**3.21**	**mg/kg**	**1163**	**6/7/23 17:06**	J, RC:3L
trans-1,2-Dichloroethene	ND	U	0.000328	0.00242	mg/kg	1	6/7/23 17:32	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000462	0.00242	mg/kg	1	6/7/23 17:32	
Trichloroethene	ND	U	0.000356	0.00242	mg/kg	1	6/7/23 17:32	
Trichlorofluoromethane	ND	U	0.000278	0.00242	mg/kg	1	6/7/23 17:32	
Vinyl chloride	ND	U	0.000460	0.00242	mg/kg	1	6/7/23 17:32	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Heptene, 2,6-dimethyl-	0.0563	13.31	J	mg/kg	1	6/7/23 17:32
1-Hexene, 4,5-dimethyl-	0.0605	13.58	J	mg/kg	1	6/7/23 17:32
Benzene, 1,2,3-trimethyl-	0.600	16.58	J	mg/kg	1	6/7/23 17:32
Benzene, 1,3,5-trimethyl- (01)	0.198	16.67	J	mg/kg	1	6/7/23 17:32
Benzene, 1,3,5-trimethyl- (02)	0.0832	17.96	J	mg/kg	1	6/7/23 17:32
Benzene, 1-ethenyl-2-methyl-	0.0670	17.38	J	mg/kg	1	6/7/23 17:32
Benzene, 1-ethyl-2-methyl-	0.344	16.50	J	mg/kg	1	6/7/23 17:32
Benzene, 1-ethyl-4-methyl-	0.0914	16.96	J	mg/kg	1	6/7/23 17:32
Benzene, 1-methyl-3-(1-methylethyl)-	0.0637	18.45	J	mg/kg	1	6/7/23 17:32
Benzene, propyl-	0.0835	16.34	J	mg/kg	1	6/7/23 17:32
Decane	0.0694	16.74	J	mg/kg	1	6/7/23 17:32
Indane	0.632	18.29	J	mg/kg	1	6/7/23 17:32
Nonane, 3-methyl-	0.0547	15.31	J	mg/kg	1	6/7/23 17:32
Octane	0.0909	11.78	J	mg/kg	1	6/7/23 17:32
TIC:Naphthalene	0.119	21.58	J	mg/kg	1	6/7/23 17:32
TIC Total	**2.61**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-04 (Soil) Sample Name: **OH-SB-16A-46.0-47.0-20230525** Collected: **5/25/2023 12:35:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.4**				**%**	**1**	**5/26/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.0399	0.335	mg/kg	5	6/7/23 17:34

23E1236-05 (Ground Water) Sample Name: **TB-20230525** Collected: **5/25/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/5/23 15:52	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/5/23 15:52	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/5/23 15:52	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/5/23 15:52	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/5/23 15:52	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/5/23 15:52	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/5/23 15:52	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/5/23 15:52	RC:SL
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/5/23 15:52	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/5/23 15:52	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/5/23 15:52	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/5/23 15:52	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/5/23 15:52	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/5/23 15:52	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/5/23 15:52	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/5/23 15:52	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/5/23 15:52	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/5/23 15:52	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/5/23 15:52	
Acetone	ND	U	10.0	10.0	ug/L	1	6/5/23 15:52	
Benzene	ND	U	0.129	1.00	ug/L	1	6/5/23 15:52	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/5/23 15:52	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/5/23 15:52	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/5/23 15:52	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/5/23 15:52	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/5/23 15:52	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/5/23 15:52	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1236
Date to Lab: 5/25/2023 3:10:00PM

23E1236-05 (Ground Water) Sample Name: **TB-20230525** Collected: **5/25/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/5/23 15:52	UJ, RC:3L
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/5/23 15:52	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/5/23 15:52	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/5/23 15:52	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/5/23 15:52	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/5/23 15:52	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/5/23 15:52	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/5/23 15:52	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/5/23 15:52	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/5/23 15:52	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/5/23 15:52	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/5/23 15:52	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/5/23 15:52	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/5/23 15:52	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/5/23 15:52	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/5/23 15:52	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/5/23 15:52	
Styrene	ND	U	0.176	1.00	ug/L	1	6/5/23 15:52	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/5/23 15:52	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/5/23 15:52	
Toluene	ND	U	0.205	1.00	ug/L	1	6/5/23 15:52	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/5/23 15:52	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/5/23 15:52	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/5/23 15:52	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/5/23 15:52	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/5/23 15:52	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/5/23 15:52	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329742
Project Name	: 23E1236	**Project Number**	: 23E1236
Lab ID	: L2329742-01	**Date Collected**	: 05/25/23 08:45
Client ID	: OH-SB-16A-1.0-2.0-20230525	**Date Received**	: 05/26/23
Sample Location	:	**Date Analyzed**	: 06/20/23 05:40
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192315	**Analyst**	: MJS
Sample Amount	: 2.27 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	972	25.6	7.34	
91-20-3C1	C1-Naphthalenes	1370	25.6	7.34	
91-20-3C2	C2-Naphthalenes	2720	25.6	7.34	
91-20-3C3	C3-Naphthalenes	2730	25.6	7.34	
91-20-3C4	C4-Naphthalenes	1680	25.6	7.34	
208-96-8	Acenaphthylene	1850	25.6	4.88	
83-32-9	Acenaphthene	1730	25.6	4.50	
86-73-7	Fluorene	2460	25.6	6.82	
86-73-7C1	C1-Fluorenes	1780	25.6	6.82	
86-73-7C2	C2-Fluorenes	2190	25.6	6.82	
86-73-7C3	C3-Fluorenes	2620	25.6	6.82	
85-01-8	Phenanthrene	26800	25.6	8.47	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	16300	25.6	8.47	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	9720	25.6	8.47	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	3560	25.6	8.47	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1270	25.6	8.47	
120-12-7	Anthracene	8040	25.6	5.27	
206-44-0	Fluoranthene	29200	25.6	8.12	
129-00-0	Pyrene	32500	25.6	6.72	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	13900	25.6	6.72	
56-55-3	Benz(a)anthracene	21400	25.6	5.21	
218-01-9	Chrysene	19200	25.6	5.16	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329742
Project Name	: 23E1236	**Project Number**	: 23E1236
Lab ID	: L2329742-01	**Date Collected**	: 05/25/23 08:45
Client ID	: OH-SB-16A-1.0-2.0-20230525	**Date Received**	: 05/26/23
Sample Location	:	**Date Analyzed**	: 06/20/23 05:40
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192315	**Analyst**	: MJS
Sample Amount	: 2.27 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	12700	25.6	5.16	
218-01-9C2	C2-Chrysenes BS	7020	25.6	5.16	
218-01-9C3	C3-Chrysenes	4470	25.6	5.16	
218-01-9C4	C4-Chrysenes	2180	25.6	5.16	
205-99-2	Benzo(b)fluoranthene	18500	25.6	6.64	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	15100	25.6	5.07	
192-97-2	Benzo(e)pyrene	13500	25.6	5.27	
50-32-8	Benzo(a)pyrene	22300	25.6	7.29	
198-55-0	Perylene	5230	25.6	4.93	
193-39-5	Indeno(1,2,3-cd)pyrene	15100	25.6	6.94	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	4400	25.6	6.90	
191-24-2	Benzo(g,h,i)perylene	14700	25.6	6.79	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329742
Project Name	: 23E1236	**Project Number**	: 23E1236
Lab ID	: L2329742-02D	**Date Collected**	: 05/25/23 08:55
Client ID	: OH-SB-16A-9.5-10.5-20230525	**Date Received**	: 05/26/23
Sample Location	:	**Date Analyzed**	: 06/23/23 20:21
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F1206232309	**Analyst**	: CNC
Sample Amount	: 10.62 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	169	14.0	4.03	
91-20-3C1	C1-Naphthalenes	55.5	14.0	4.03	
91-20-3C2	C2-Naphthalenes	112	14.0	4.03	
91-20-3C3	C3-Naphthalenes	215	14.0	4.03	
91-20-3C4	C4-Naphthalenes	208	14.0	4.03	
208-96-8	Acenaphthylene	68.6	14.0	2.67	
83-32-9	Acenaphthene	50.1	14.0	2.47	
86-73-7	Fluorene	156	14.0	3.74	
86-73-7C1	C1-Fluorenes	179	14.0	3.74	
86-73-7C2	C2-Fluorenes	282	14.0	3.74	
86-73-7C3	C3-Fluorenes	302	14.0	3.74	
85-01-8	Phenanthrene	181	14.0	4.64	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1400	14.0	4.64	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1200	14.0	4.64	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	421	14.0	4.64	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	132	14.0	4.64	
120-12-7	Anthracene	792	14.0	2.89	
206-44-0	Fluoranthene	14200	14.0	4.45	
129-00-0	Pyrene	13700	14.0	3.69	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	4450	14.0	3.69	
56-55-3	Benz(a)anthracene	4570	14.0	2.86	
218-01-9	Chrysene	2620	14.0	2.83	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329742
Project Name	: 23E1236	**Project Number**	: 23E1236
Lab ID	: L2329742-02D	**Date Collected**	: 05/25/23 08:55
Client ID	: OH-SB-16A-9.5-10.5-20230525	**Date Received**	: 05/26/23
Sample Location	:	**Date Analyzed**	: 06/23/23 20:21
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F1206232309	**Analyst**	: CNC
Sample Amount	: 10.62 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1180	14.0	2.83	
218-01-9C2	C2-Chrysenes BS	419	14.0	2.83	
218-01-9C3	C3-Chrysenes	260	14.0	2.83	
218-01-9C4	C4-Chrysenes	111	14.0	2.83	
205-99-2	Benzo(b)fluoranthene	1620	14.0	3.64	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1590	14.0	2.78	
192-97-2	Benzo(e)pyrene	1050	14.0	2.89	
50-32-8	Benzo(a)pyrene	1780	14.0	4.00	
198-55-0	Perylene	400	14.0	2.70	
193-39-5	Indeno(1,2,3-cd)pyrene	563	14.0	3.80	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	156	14.0	3.79	
191-24-2	Benzo(g,h,i)perylene	458	14.0	3.72	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2329742
Project Name	: 23E1236	Project Number	: 23E1236
Lab ID	: L2329742-03D	Date Collected	: 05/25/23 12:35
Client ID	: OH-SB-16A-46.0-47.0-20230525	Date Received	: 05/26/23
Sample Location	:	Date Analyzed	: 06/23/23 23:10
Sample Matrix	: SOIL	Date Extracted	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 10
Lab File ID	: F1206232311	Analyst	: CNC
Sample Amount	: 1.38 g	Instrument ID	: PAH12
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 86
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	~~2040000~~	917	264.	E
91-20-3C1	C1-Naphthalenes	1360000	917	264.	
91-20-3C2	C2-Naphthalenes	777000	917	264.	
91-20-3C3	C3-Naphthalenes	284000	917	264.	
91-20-3C4	C4-Naphthalenes	68200	917	264.	
208-96-8	Acenaphthylene	93700	917	175.	
83-32-9	Acenaphthene	659000	917	162.	
86-73-7	Fluorene	320000	917	245.	
86-73-7C1	C1-Fluorenes	174000	917	245.	
86-73-7C2	C2-Fluorenes	102000	917	245.	
86-73-7C3	C3-Fluorenes	45600	917	245.	
85-01-8	Phenanthrene	1040000	917	304.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	603000	917	304.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	235000	917	304.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	59600	917	304.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	15800	917	304.	
120-12-7	Anthracene	327000	917	189.	
206-44-0	Fluoranthene	252000	917	291.	
129-00-0	Pyrene	406000	917	241.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	371000	917	241.	
56-55-3	Benz(a)anthracene	194000	917	187.	
218-01-9	Chrysene	168000	917	185.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329742
Project Name	: 23E1236	**Project Number**	: 23E1236
Lab ID	: L2329742-03D	**Date Collected**	: 05/25/23 12:35
Client ID	: OH-SB-16A-46.0-47.0-20230525	**Date Received**	: 05/26/23
Sample Location	:	**Date Analyzed**	: 06/23/23 23:10
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206232311	**Analyst**	: CNC
Sample Amount	: 1.38 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	158000	917	185.	
218-01-9C2	C2-Chrysenes BS	70600	917	185.	
218-01-9C3	C3-Chrysenes	31000	917	185.	
218-01-9C4	C4-Chrysenes	9890	917	185.	
205-99-2	Benzo(b)fluoranthene	60200	917	238.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	81600	917	182.	
192-97-2	Benzo(e)pyrene	69100	917	189.	
50-32-8	Benzo(a)pyrene	160000	917	262.	
198-55-0	Perylene	21600	917	177.	
193-39-5	Indeno(1,2,3-cd)pyrene	55000	917	249.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	18600	917	248.	
191-24-2	Benzo(g,h,i)perylene	55300	917	244.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2329742
Project Name	: 23E1236	**Project Number**	: 23E1236
Lab ID	: L2329742-03D2	**Date Collected**	: 05/25/23 12:35
Client ID	: OH-SB-16A-46.0-47.0-20230525	**Date Received**	: 05/26/23
Sample Location	:	**Date Analyzed**	: 06/24/23 01:58
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 50
Lab File ID	: F1206232313	**Analyst**	: CNC
Sample Amount	: 1.38 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2160000	4580	1320	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2330357 and 23E1405
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: April 12, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-12-0.5-1.5-20230531	23E1405-01	5/31/2023	Soil
OH-SB-12A-1.5-2.5-20230531	23E1405-02	5/31/2023	Soil
OH-SB-24-5.0-6.0-20230531	23E1405-03	5/31/2023	Soil
FB-20230531	23E1405-04	5/31/2023	Water
DUP-20230531	23E1405-05	5/31/2023	Soil
TB-20230531	23E1405-06	5/31/2023	Water

Data validation was performed on the analytical data for six (6) samples collected May 31 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples, surrogates, matrix spike samples and field duplicates.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs was listed on the COC for FB-20230531 but this analysis was not reported by Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with OH-SB-24-5.0-6.0-20230531 and DUP-20240531 [23E1405-03,04] exhibited a detection for Methylene Chloride (0.0165 ug/L). Associated sample non-detections are not qualified.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20240531 TB-20240531	Bromomethane 1,1,2,2-Tetrachloroethane	%R < CL	J (Detects) UJ (NDs)	6L
	OH-SB-24-5.0-6.0-20230531 23E1405-03 DUP-20240531	Methylene Chloride	%R > CL	J (Detects) No Action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was performed on sample OH-SB-24-5.0-6.0-20230531 [23E1405-03] in this SDG. All recoveries were within acceptable ranges except the following identified in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	OH-SB-24-5.0-6.0-20230531 [23E1405-03]	1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene	%R < CL	J (Detects) UJ (NDs)	4L
		Acetone	%R > CL	J (Detects) No Action (NDs)	4H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicate, DUP-20240531 [23E1405-05], is the duplicate for sample OH-SB-12-0.5-1.5-20230531 [23E1405-01]. All RPDs exhibited acceptable RPDs.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except those listed in the table below.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20240531 [23E1405-04] TB-20240531 [23E1405-06]	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (ND)	Q
		1,2,3-Trichlorobenzene	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q
	OH-SB-12-0.5-1.5-20230531 [23E1405-01] OH-SB-12A-1.5-2.5-20230531 [23E1405-02] OH-SB-24-5.0-6.0-20230531 [23E1405-03] DUP-20230531 [23E1405-05]	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (ND)	Q
		Bromochloromethane	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-SB-24-5.0-6.0-20230531 [23E1405-03] DUP-20230531 [23E1405-05]	2-Butanone 2-Hexanone Acetone Methylene Chloride	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	FB-20240531 [23E1405-04] TB-20240531 [23E1405-06]	Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		4-Methyl-2-pentanone Bromomethane Methyl Acetate	CCV %D > 20% (decrease in response)	J (Detects) UJ (NDs)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, J, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank (BAF0337-BLK1) associated with all soil samples [23E1405-01,-02,-03,-05] exhibited TIC detections for Hexadecanoic acid, 1,1-dimethylethyl est (3.33), Octadecanoic acid, butyl ester (1.72), and unknown (0.416). TICs identified in the associated samples and qualified by the lab with a 'B' qualifier are qualified based on the following: TIC detections less than five times the method blank detection are qualified as rejected, reason code 2. TIC detections greater than five times the method blank detection are not qualified. The following TICs were qualified in this SDG:

Sample	TIC
OH-SB-24-5.0-6.0-20230531 [23E1405-03]	Hexadecanoic acid, 1,1-dimethylethyl est

- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8270E	OH-SB-24-5.0-6.0-20230531 [23E1405-03]	Nitrobenzene-d5	%R < 10%	None; Qualification not warranted as only one of the six surrogates was outside control limits.	---

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	All Soil Samples [23E1405-01,-02,-03,-05]	2,4-Dimethylphenol 2-Methylphenol 4-Chloro-3-methylphenol Biphenyl	%R > CL	J (Detects) No Action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicate, DUP-20240531 [23E1405-05], is the duplicate for sample OH-SB-12-0.5-1.5-20230531 [23E1405-01]. All RPDs exhibited acceptable RPDs.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20240531 [23E1405-04]	Benzaldehyde	%RSD >20% & correlation coefficient <0.99	J (Detects) UJ (ND)	Q
	All Soil Samples [23E1405-01,-02,-03,-05]	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol	RRF < 0.05	J (Detects) UJ (ND)	Q
		2-Nitrophenol	%RSD >20% & correlation coefficient <0.99	J (Detects) UJ (ND)	Q
		1,4-Dioxane	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20240531 [23E1405-04]	4-Nitrophenol Benzaldehyde Bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-12-0.5-1.5-20230531 [23E1405-01] OH-SB-24-5.0-6.0-20230531 [23E1405-03] DUP-20230531 [23E1405-05]	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 4,6-Dinitro-2-methylphenol 4-Chloro-3-methylphenol 4-Nitroaniline Bis(2-chloroisopropyl)ether Bis(2-ethylhexyl)phthalate Di-n-octylphthalate n-Nitroso-di-n-propylamine	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine Hexachlorocyclopentadiene Hexachloroethane	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-12A-1.5-2.5-20230531 [23E1405-02] OH-SB-24-5.0-6.0-20230531 [23E1405-03RE1]	2,4-Dinitrophenol Bis(2-ethylhexyl)phthalate Butylbenzylphthalate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine Benzaldehyde Bis(2-chloroethyl)ether Hexachlorocyclopentadiene Pentachlorophenol Phenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, J, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-12-0.5-1.5-20230531 [23E1405-01] DUP-20230531 [23E1405-05]	DCB (Column 1 & 2)	%R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-12A-1.5-2.5-20230531 [23E1405-02]	DCB (Column 1)	%R < CL	J (Detects) UJ (NDs)	3L
		DCB (Column 2)	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-24-5.0-6.0-20230531 [23E1405-03]	DCB (Column 1)	%R < CL	J (Detects) UJ (NDs)	3L
8151A	All Soil Samples [23E1405-01,-02,-03,-05]	DCAA (Column 1 & 2)	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-12A-1.5-2.5-20230531 [23E1405-02]	TCMX (Column 2) DCB (Column 2)	%R > CL	J (Detects) No action (NDs)	3H
	DUP-20230531 [23E1405-05]	DCB (Column 1)	%R < CL	J (Detects) UJ (NDs)	3L

- Where primary and/or secondary column surrogate recoveries were within control limits and sample results are non-detect, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8082A	All Soil Samples [23E1405-01,-02,-03,-05]	Aroclor-1016	%R < CL	J (Detects) UJ (NDs)	6L
8081B	FB-20240531 [23E1405-04]	Endrin	%R < CL	J (Detects) UJ (NDs)	6L
	All Soil Samples [23E1405-01,-02,-03,-05]	4-4'-DDE Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L
		Methoxychlor	%R > CL	J (Detects) No Action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicate, DUP-20240531 [23E1405-05], is the duplicate for sample OH-SB-12-0.5-1.5-20230531 [23E1405-01]. RPDs were outside control limits for the following analytes: 4,4'-DDE. Parent and duplicate concentrations for associated analytes are qualified as estimated, J, reason code 8.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	OH-SB-12-0.5-1.5-20230531 [23E1405-01]	DCAA (Column 2) 2,4-D (Column 2)	%RSD > 20% & incorrect calibration curve used	J (Detects) UJ (ND)	Q
8081B	FB-20240531 [23E1405-04]	4,4'-DDT (Column 1 & 2) Beta-BHC (Column 2) Dieldrin (Column 2)	%RSD > 20% & incorrect calibration curve used	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151B	OH-SB-12-0.5-1.5-20230531 [23E1405-01]	2,4-D (Column 1)	CCV %D > 20% (increase in response)	J (detects) No Action (non-detects)	SH
8081B	FB-20240531 [23E1405-04]	Methoxychlor (Column 1 & 2) 4,4'-DDD (Column 2) 4,4'-DDT (Column 2) Endosulfan sulfate (Column 2)	CCV %D > 20% (increase in response)	J (detects) No Action (non-detects)	SH

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination except for the following:
  - The field blank [23E1405-04] has detections of iron (0.281 mg/L) and sodium (7.02 mg/L). Associated sample detections greater than five times the field blank detections are not qualified. Note the field blank and parent samples are mixed matrices (water vs. soil).

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
200.7	FB-20240531 [23E1405-04]	Silver	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicate, DUP-20240531 [23E1405-05], is the duplicate for sample OH-SB-12-0.5-1.5-20230531 [23E1405-01]. RPDs were outside control limits for the following analytes: Chromium, Copper, Magnesium, Nickel, and Iron. Parent and duplicate concentrations for associated analytes are qualified as estimated, J, reason code 8.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
245.1	FB-20240531 [23E1405-04]	Mercury	%R > CL	J (Detects) No Action (NDs)	SH
200.7	FB-20240531 [23E1405-04]	Calcium	%R > CL	J (Detects) No Action (NDs)	SH

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Benjamin Long
Validator
Brown and Caldwell

Dated: April 12, 2024

Peer Review: JLD

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	23E1405	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	APL Laboratories
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	Soil Sampling

SAMPLE INFORMATION

Parent Sample ID:	OH-SB-12-0.5-1.5-20230531	Date/Time:	5/31/23 8:31	Matrix:	SO
Duplicate Sample ID:	DUP-20230531	Date/Time:	5/31/23 0:00	Matrix:	SO

Analytes	Unit	Fraction	Analytical Results[a]		Relative Percent Difference (RPD) Comparison		Difference between results	Reporting Limit (RL) Comparison (If Needed)							Actions Required
			OH-SB-12-0.5-1.5-20230531	DUP-20230531	RPD Control Limit: 50%[b]	Are both results ≥5X RL[c]		OH-SB-12-0.5-1.5-20230531			DUP-20230531			Control Limit: Is the difference in sample conc. ≥ 4X either RL?	
								RL	4x RL	5x RL	RL	4x RL	5x RL		
Mercury	MG/KG	T	0.0753	0.141	47%	**Yes**	**0.066**	0.0212	0.08	0.11	0.0211	0.08	0.11		No further action required
Percent Solids	PERCENT	T	94.2	94.6	0%	**Yes**	**0.40**		0.00	0.00		0.00	0.00		No further action required
Aluminum	MG/KG	T	2700	2950	8%	**Yes**	**250**	2.68	10.7	13.4	2.63	10.52	13.15		No further action required
Arsenic	MG/KG	T	3.52	2.27		**No**	**1.25**	1.34	5.36	6.70	1.31	5.24	6.55	**No**	No further action required
Barium	MG/KG	T	24.6	21.8	13%	**Yes**	**2.80**	0.536	2.14	2.68	0.526	2.10	2.63		No further action required
Beryllium	MG/KG	T	0.211	0.211	0%	**Yes**	**0**	0.0268	0.11	0.13	0.0263	0.11	0.13		No further action required
Chromium	MG/KG	T	19.5	12.9	51%	**Yes**	**6.6**	0.268	1.07	1.34	0.263	1.05	1.32		Qualify detects/non-detects as estimated, J/UJ
Cobalt	MG/KG	T	3.86	3.39	14%	**Yes**	**0.47**	0.214	0.86	1.07	0.21	0.84	1.05		No further action required
Copper	MG/KG	T	140	63.1	122%	**Yes**	**76.9**	0.268	1.07	1.34	0.263	1.05	1.32		Qualify detects/non-detects as estimated, J/UJ
Lead	MG/KG	T	26	25.7	1%	**Yes**	**0.30**	1.34	5.36	6.70	1.31	5.24	6.55		No further action required
Magnesium	MG/KG	T	40100	19000	111%	**Yes**	**21100**	536	2144	2680	52.6	210	263		Qualify detects/non-detects as estimated, J/UJ
Manganese	MG/KG	T	240	189	27%	**Yes**	**51**	0.268	1.07	1.34	0.263	1.05	1.32		No further action required
Nickel	MG/KG	T	31.6	13.7	131%	**Yes**	**17.9**	0.134	0.54	0.67	0.131	0.52	0.66		Qualify detects/non-detects as estimated, J/UJ
Sodium	MG/KG	T	103	202		**No**	**99**	53.6	214	268	52.6	210	263	**No**	No further action required
Vanadium	MG/KG	T	29.2	33.4	13%	**Yes**	**4.20**	0.536	2.14	2.68	0.526	2.10	2.63		No further action required
Zinc	MG/KG	T	24.3	25.9	6%	**Yes**	**1.60**	0.804	3.22	4.02	0.789	3.16	3.95		No further action required
Calcium	MG/KG	T	79900	68100	17%	**Yes**	**11800**	268	1072	1340	263	1052	1315		No further action required
Iron	MG/KG	T	40500	18000	125%	**Yes**	**22500**	53.6	214	268	5.26	21	26		Qualify detects/non-detects as estimated, J/UJ
4,4'-DDD	MG/KG	T	0.00587	0.00334		**No**	**0.0025**	0.00138	0.01	0.01	0.00137	0.01	0.01	**No**	No further action required
4,4'-DDE	MG/KG	T	0.0108	0.00371		**No**	**0.0071**	0.00138	0.01	0.01	0.00137	0.01	0.01	**Yes**	Qualify detects/non-detects as estimated, J/UJ
4,4'-DDT	MG/KG	T	0.0183	0.0135	36%	**Yes**	**0.0048**	0.00138	0.01	0.01	0.00137	0.01	0.01		No further action required
Chlordane (Technical)	MG/KG	T	0.005	0.00292		**No**	**0.0021**	0.00138	0.01	0.01	0.00137	0.01	0.01	**No**	No further action required
Aroclor 1260	MG/KG	T	0.141	0.146		**No**	**0.0050**	0.035	0.14	0.18	0.0349	0.14	0.17	**No**	No further action required
Total PCBs	MG/KG	T	0.141	0.139		**No**	**0.0020**	0.035	0.14	0.18	0.0349	0.14	0.17	**No**	No further action required
bis(2-Ethylhexyl)phthalate	MG/KG	T	6.65	*1.41*		**No**	**5.24**	1.41	5.64	7.05	1.41	5.64	7.05	**No**	No further action required
Chrysene	MG/KG	T	0.507	*1.41*		**No**	**0.90**	1.41	5.64	7.05	1.41	5.64	7.05	**No**	No further action required
Fluoranthene	MG/KG	T	0.395	*1.41*		**No**	**1.02**	1.41	5.64	7.05	1.41	5.64	7.05	**No**	No further action required
Pyrene	MG/KG	T	0.648	*1.41*		**No**	**0.76**	1.41	5.64	7.05	1.41	5.64	7.05	**No**	No further action required

[a]Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

[b]**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

[c]When both results are greater than 5X the Reporting Limit (RL) the RPD is calculated. If either result is below 5X the RL, the absolute difference between the two results is compared to 4X the RL.

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	L2330357	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	Alpha Laboratories
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	Soil Sampling

SAMPLE INFORMATION

Parent Sample ID:	OH-SB-12-0.5-1.5-20230531	Date/Time:	5/31/23 8:31	Matrix:	SO
Duplicate Sample ID:	DUP-20230531	Date/Time:	5/31/23 0:00	Matrix:	SO

Analytes	Unit	Fraction	Analytical Results[a]		Relative Percent Difference (RPD) Comparison		Difference between results	Reporting Limit (RL) Comparison (If Needed)							Actions Required
								OH-SB-12-0.5-1.5-20230531			DUP-20230531			Control Limit: Is the difference in sample conc. ≥ 4X either RL?	
			OH-SB-12-0.5-1.5-20230531	DUP-20230531	RPD Control Limit: 50%[b]	Are both results ≥5X RL[c]		RL	4x RL	5x RL	RL	4x RL	5x RL		
Acenaphthene	UG/KG	T	22.6	27.1		No	5	75.8	303.2	379.0	92.0	368	460	No	No further action required
Acenaphthylene	UG/KG	T	81.1	96.0		No	15	75.8	303.2	379.0	92.0	368	460	No	No further action required
Anthracene	UG/KG	T	64.4	87.2		No	23	75.8	303.2	379.0	92.0	368	460	No	No further action required
Benzo (e) Pyrene	UG/KG	T	292	354		No	62	75.8	303.2	379.0	92.0	368	460	No	No further action required
Benzo(a)anthracene	UG/KG	T	201	175		No	26	75.8	303.2	379.0	92.0	368	460	No	No further action required
Benzo(a)pyrene	UG/KG	T	240	238		No	2	75.8	303.2	379.0	92.0	368	460	No	No further action required
Benzo(b)fluoranthene	UG/KG	T	212	198		No	14	75.8	303.2	379.0	92.0	368	460	No	No further action required
Benzo(g,h,i)perylene	UG/KG	T	321	401		No	80	75.8	303.2	379.0	92.0	368	460	No	No further action required
Benzo(j,k)fluoranthenes	UG/KG	T	191	171		No	20	75.8	303.2	379.0	92.0	368	460	No	No further action required
C1-Chrysenes	UG/KG	T	224	274		No	50.0	75.8	303.2	379.0	92.0	368	460	No	No further action required
C1-Fluoranthenes/pyrene	UG/KG	T	192	240		No	48.0	75.8	303.2	379.0	92.0	368	460	No	No further action required
C1-Fluorenes	UG/KG	T	*75.8*	36.4		No	39	75.8	303.2	379.0	92.0	368	460	No	No further action required
C1-Naphthalenes	UG/KG	T	30.6	56.5		No	26	75.8	303.2	379.0	92.0	368	460	No	No further action required
C1-Phenanthrenes/Anthracenes	UG/KG	T	110	167		No	57	75.8	303.2	379.0	92.0	368	460	No	No further action required
C2-Chrysenes	UG/KG	T	490	697	30%	Yes	207	75.8	303.2	379.0	92.0	368	460		No further action required
C2-Fluorenes	UG/KG	T	*75.8*	84.7		No	9	75.8	303.2	379.0	92.0	368	460	No	No further action required
C2-Naphthalenes	UG/KG	T	56.0	74.9		No	19	75.8	303.2	379.0	92.0	368	460	No	No further action required
C2-Phenanthrenes/Anthracenes	UG/KG	T	72.8	118		No	45	75.8	303.2	379.0	92.0	368	460	No	No further action required
C3-Chrysenes	UG/KG	T	1640	2240	27%	Yes	600	75.8	303.2	379.0	92.0	368	460		No further action required
C3-Naphthalenes	UG/KG	T	50.6	78.8		No	28	75.8	303.2	379.0	92.0	368	460	No	No further action required
C3-Phenanthrenes/Anthracenes	UG/KG	T	73.9	105		No	31	75.8	303.2	379.0	92.0	368	460	No	No further action required
C4-Chrysenes	UG/KG	T	1670	2400	30%	Yes	730	75.8	303.2	379.0	92.0	368	460		No further action required
C4-Naphthalenes	UG/KG	T	*75.8*	60.2		No	16	75.8	303.2	379.0	92.0	368	460	No	No further action required
Chrysene	UG/KG	T	232	222		No	10	75.8	303.2	379.0	92.0	368	460	No	No further action required
Dibenz(a,h) & (a,c)anthracene	UG/KG	T	84.1	103		No	19	75.8	303.2	379.0	92.0	368	460	No	No further action required
Fluoranthene	UG/KG	T	294	224		No	70	75.8	303.2	379.0	92.0	368	460	No	No further action required
Fluorene	UG/KG	T	21.8	31.8		No	10	75.8	303.2	379.0	92.0	368	460	No	No further action required
Indeno(1,2,3-c,d)pyrene	UG/KG	T	216	255		No	39	75.8	303.2	379.0	92.0	368	460	No	No further action required
Naphthalene	UG/KG	T	*75.8*	73.4		No	2	75.8	303.2	379.0	92.0	368	460	No	No further action required
Perylene	UG/KG	T	146	195		No	49	75.8	303.2	379.0	92.0	368	460	No	No further action required
Phenanthrene	UG/KG	T	186	182		No	4	75.8	303.2	379.0	92.0	368	460	No	No further action required
Pyrene	UG/KG	T	278	273		No	5	75.8	303.2	379.0	92.0	368	460	No	No further action required

[a]Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

[b]**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

[c]When both results are greater than 5X the Reporting Limit (RL) the RPD is calculated. If either result is below 5X the RL, the absolute difference between the two results is compared to 4X the RL.

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1405

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 24, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23E1405

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-12-0.5-1.5-20230531	23E1405-01	Soil	05/31/2023 08:31	05/31/2023 14:15
OH-SB-12A-1.5-2.5-20230531	23E1405-02	Soil	05/31/2023 10:15	05/31/2023 14:15
OH-SB-12A-5.0-6.0-20230531	23E1405-03	Soil	05/31/2023 11:10	05/31/2023 14:15
FB-20230531	23E1405-04	Ground Water	05/31/2023 12:35	05/31/2023 14:15
DUP-20230531	23E1405-05	Soil	05/31/2023 00:00	05/31/2023 14:15
TB-20230531	23E1405-06	Ground Water	05/31/2023 00:00	05/31/2023 14:15

PN: 23E1405

APL 23E1405

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd floor, Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-773-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Giovanna OH 007	SEND INVOICE TO: Ds
PROJECT MGR: Sixuan Wang	ADDRESS: Left
PROJECT or PO #: 176854.	SAMPLED BY: HM

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

[X] NY State Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E1405-01	OH-SB-12-05-15-20230531	05/31	0831	V		S	5		VOC, SVOC, PCB, Pest, Herb, Tal Metals TCN, FCN, Mobilized PAHs by 8270
-02	OH-SB-12A-1.5-2.5-20230531	05/31	1015	V		S	5		" "
-03	OH-SB-12A-5.0-6.0-20230531	05/31	1110	V		S	5		" "
-04	FB-20230531	05/31	1235	V		DI water	10		" "
-05	DUP-20230531	05/31	9999	V		S	5		" "
-06	TB-20230531	05/31	CAB	V		DI	2		VOC

RELINQUISHED BY (Print) Vrunda Pujara	DATE 05/31/23	RECEIVED BY (Print) Alfonso Rivera	
Signature	Time 1953.	Signature	
RELINQUISHED BY (Print) Alfonso Rivera	DATE 5-31-23	RECEIVED BY (Print) Rox Nyp	
Signature	Time 1415	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.0°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 200.7
The percent recovery for Silver was outside of the QC limits for the blank spike (low).

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Samples 23E1405-01, -02, -03 and -05 have surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PCBs [8082A]
Samples 23E1405-01, -02, -03 and -05 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E1405-02 and -05 have surrogates outside of the QC limits (low and high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, blank spike duplicate, matrix spikes and matrix spike duplicates (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

Sample 23E1405-03 has one surrogate (Nitrobenzene-d5) outside of the QC limits (low), due to matrix interference.

Reviewed By: _____ (SK) 8/24/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	0.141		0.00438	0.0350	mg/kg dry	1	6/13/23 0:05
Total PCBs	0.141		0.00327	0.0350	mg/kg dry	1	6/13/23 0:05

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0753		0.00531	0.0212	mg/kg dry	1	6/12/23 14:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2700		0.159	2.68	mg/kg dry	1	6/14/23 11:13
Arsenic	3.52		0.0956	1.34	mg/kg dry	1	6/14/23 11:13
Barium	24.6		0.0405	0.536	mg/kg dry	1	6/14/23 11:13
Beryllium	0.211		0.00310	0.0268	mg/kg dry	1	6/14/23 11:13
Calcium	79900	D	30.1	268	mg/kg dry	10	6/14/23 13:13
Chromium	19.5		0.0303	0.268	mg/kg dry	1	6/14/23 11:13
Cobalt	3.86		0.0274	0.214	mg/kg dry	1	6/14/23 11:13
Copper	140		0.0750	0.268	mg/kg dry	1	6/14/23 11:13
Iron	40500	D	7.59	53.6	mg/kg dry	10	6/14/23 13:13
Lead	26.0		0.112	1.34	mg/kg dry	1	6/14/23 11:13
Magnesium	40100	D	94.7	536	mg/kg dry	10	6/14/23 13:13
Manganese	240		0.0333	0.268	mg/kg dry	1	6/14/23 11:13
Nickel	31.6		0.0235	0.134	mg/kg dry	1	6/14/23 11:13
Sodium	103		5.11	53.6	mg/kg dry	1	6/14/23 11:13
Vanadium	29.2		0.0616	0.536	mg/kg dry	1	6/14/23 11:13
Zinc	24.3		0.0819	0.804	mg/kg dry	1	6/14/23 11:13

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00587		0.000631	0.00138	mg/kg dry	1	6/13/23 20:47
4,4'-DDE	0.0108		0.000754	0.00138	mg/kg dry	1	6/13/23 20:47
4,4'-DDT	0.0183		0.000974	0.00138	mg/kg dry	1	6/13/23 20:47
Chlordane [2C]	0.00484		0.000613	0.00138	mg/kg dry	1	6/13/23 20:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-ethylhexyl)phthalate	6.65		0.282	1.41	mg/kg dry	1	6/12/23 22:12
Chrysene	0.507	J	0.0968	1.41	mg/kg dry	1	6/12/23 22:12
Fluoranthene	0.395	J	0.133	1.41	mg/kg dry	1	6/12/23 22:12
Pyrene	0.648	J	0.104	1.41	mg/kg dry	1	6/12/23 22:12
TIC_unknown	3.08	B, J			mg/kg dry	1	6/12/23 22:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20230531**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.272		0.00531	0.0213	mg/kg dry	1	6/12/23 14:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5800		0.162	2.72	mg/kg dry	1	6/14/23 11:15
Arsenic	6.32		0.0972	1.36	mg/kg dry	1	6/14/23 11:15
Barium	87.0		0.0412	0.545	mg/kg dry	1	6/14/23 11:15
Beryllium	0.393		0.00316	0.0272	mg/kg dry	1	6/14/23 11:15
Cadmium	0.937		0.0531	0.272	mg/kg dry	1	6/14/23 11:15
Calcium	89100	D	30.6	272	mg/kg dry	10	6/14/23 13:16
Chromium	26.0		0.0308	0.272	mg/kg dry	1	6/14/23 11:15
Cobalt	4.88		0.0278	0.218	mg/kg dry	1	6/14/23 11:15
Copper	181		0.0762	0.272	mg/kg dry	1	6/14/23 11:15
Iron	50400	D	7.72	54.5	mg/kg dry	10	6/14/23 13:16
Lead	208		0.114	1.36	mg/kg dry	1	6/14/23 11:15
Magnesium	17200		9.63	54.5	mg/kg dry	1	6/14/23 11:15
Manganese	305		0.0339	0.272	mg/kg dry	1	6/14/23 11:15
Nickel	27.5		0.0239	0.136	mg/kg dry	1	6/14/23 11:15
Potassium	335		32.4	109	mg/kg dry	1	6/14/23 11:15
Silver	0.190		0.0463	0.163	mg/kg dry	1	6/14/23 11:15
Sodium	646		5.20	54.5	mg/kg dry	1	6/14/23 11:15
Vanadium	89.1		0.0627	0.545	mg/kg dry	1	6/14/23 11:15
Zinc	233		0.0832	0.817	mg/kg dry	1	6/14/23 11:15

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane	0.0349		0.000614	0.00138	mg/kg dry	1	6/14/23 19:16
Heptachlor Epoxide	0.00699		0.000697	0.00138	mg/kg dry	1	6/14/23 19:16

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	10.4	D	1.03	7.07	mg/kg dry	50	6/13/23 21:39
Benzo(a)anthracene	16.8	D	0.712	7.07	mg/kg dry	50	6/13/23 21:39
Benzo(a)pyrene	19.1	D	1.23	7.07	mg/kg dry	50	6/13/23 21:39
Benzo(b)fluoranthene	18.7	D	0.994	7.07	mg/kg dry	50	6/13/23 21:39
Benzo(g,h,i)perylene	8.28	D	0.574	7.07	mg/kg dry	50	6/13/23 21:39
Benzo(k)fluoranthene	11.4	D	0.813	7.07	mg/kg dry	50	6/13/23 21:39
bis(2-ethylhexyl)phthalate	42.7	D	1.41	7.07	mg/kg dry	50	6/13/23 21:39
Chrysene	18.0	D	0.485	7.07	mg/kg dry	50	6/13/23 21:39
Dibenzo(a,h)anthracene	3.33	J, D	0.701	7.07	mg/kg dry	50	6/13/23 21:39
Fluoranthene	49.3	D	0.664	7.07	mg/kg dry	50	6/13/23 21:39

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20230531**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	4.36	J, D	0.590	7.07	mg/kg dry	50	6/13/23 21:39
Indeno(1,2,3-cd)pyrene	8.51	D	0.760	7.07	mg/kg dry	50	6/13/23 21:39
Phenanthrene	28.2	D	0.930	7.07	mg/kg dry	50	6/13/23 21:39
Pyrene	40.6	D	0.520	7.07	mg/kg dry	50	6/13/23 21:39
TIC_Cyclohexaneethanol, 3-hydroxy-.beta.,4-d	28.1	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (01)	24.0	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (02)	23.1	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (03)	28.4	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (04)	26.9	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (05)	25.7	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (06)	26.9	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (07)	23.3	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (08)	40.5	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (09)	23.5	J, D			mg/kg dry	50	6/13/23 21:39
TIC_unknown (10)	33.3	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (11)	25.2	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (12)	24.7	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (13)	25.7	D, J			mg/kg dry	50	6/13/23 21:39
TIC_unknown (14)	33.0	D, J			mg/kg dry	50	6/13/23 21:39

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00350		0.000272	0.00197	mg/kg dry	1	6/10/23 3:17
Benzene	0.00184	J	0.000179	0.00197	mg/kg dry	1	6/10/23 3:17
Cyclohexane	0.00453		0.000436	0.00197	mg/kg dry	1	6/10/23 3:17
EthylBenzene	0.00969		0.000267	0.00197	mg/kg dry	1	6/10/23 3:17
Isopropylbenzene	0.00372		0.000309	0.00197	mg/kg dry	1	6/10/23 3:17
m+p-Xylenes	0.00382	J	0.000497	0.00394	mg/kg dry	1	6/10/23 3:17
Methylcyclohexane	0.00855		0.000317	0.00197	mg/kg dry	1	6/10/23 3:17
o-Xylene	0.000872	J	0.000253	0.00197	mg/kg dry	1	6/10/23 3:17
Toluene	0.000683	J	0.000158	0.00197	mg/kg dry	1	6/10/23 3:17
Total Xylenes	0.00469		0.000253	0.00197	mg/kg dry	1	6/10/23 3:17
TIC_(R)-(-)-(Z)-14-Methyl-8-hexadecen-1-ol	0.0167	J			mg/kg dry	1	6/10/23 3:17
TIC_Acetic acid, 2-phenylethyl ester	0.00948	J			mg/kg dry	1	6/10/23 3:17
TIC_Benzene, (1-methylenebutyl)-	0.00664	J			mg/kg dry	1	6/10/23 3:17
TIC_Benzene, 1-ethyl-4-methyl-	0.00843	J			mg/kg dry	1	6/10/23 3:17
TIC_Benzene, 2-butenyl-	0.00948	J			mg/kg dry	1	6/10/23 3:17

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20230531**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Bicyclo[4.1.0]heptan-2-one , 3,7,7-trimet	0.00894	J			mg/kg dry	1	6/10/23 3:17
TIC_Cyclohexane, (2-methylpropyl)-	0.0120	J			mg/kg dry	1	6/10/23 3:17
TIC_Cyclohexane, propyl-	0.00688	J			mg/kg dry	1	6/10/23 3:17
TIC_Cyclopropane, 1,1,2,3-tetramethyl-	0.00816	J			mg/kg dry	1	6/10/23 3:17
TIC_Naphthalene, decahydro-	0.00733	J			mg/kg dry	1	6/10/23 3:17
TIC_Nonane	0.0137	J			mg/kg dry	1	6/10/23 3:17
TIC_Octane, 3,3-dimethyl-	0.0125	J			mg/kg dry	1	6/10/23 3:17
TIC_TIC:Naphthalene	0.0139	J			mg/kg dry	1	6/10/23 3:17
TIC_Undecane	0.0137	J			mg/kg dry	1	6/10/23 3:17
TIC_Undecane, 3,6-dimethyl-	0.00815	J			mg/kg dry	1	6/10/23 3:17

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0601		0.00688	0.0577	mg/kg dry	1	6/7/23 17:34

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20230531**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.391		0.00607	0.0243	mg/kg dry	1	6/12/23 14:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5690		0.185	3.11	mg/kg dry	1	6/14/23 11:18
Antimony	2.97		0.170	1.56	mg/kg dry	1	6/14/23 11:18
Arsenic	6.30		0.111	1.56	mg/kg dry	1	6/14/23 11:18
Barium	34.6		0.0471	0.623	mg/kg dry	1	6/14/23 11:18
Beryllium	0.415		0.00361	0.0311	mg/kg dry	1	6/14/23 11:18
Cadmium	0.358		0.0607	0.311	mg/kg dry	1	6/14/23 11:18
Calcium	254000	D	35.0	311	mg/kg dry	10	6/14/23 13:18
Chromium	10.8		0.0352	0.311	mg/kg dry	1	6/14/23 11:18
Cobalt	2.53		0.0318	0.249	mg/kg dry	1	6/14/23 11:18
Copper	168		0.0871	0.311	mg/kg dry	1	6/14/23 11:18
Iron	9310		0.882	6.23	mg/kg dry	1	6/14/23 11:18
Lead	227		0.130	1.56	mg/kg dry	1	6/14/23 11:18
Magnesium	2790		11.0	62.3	mg/kg dry	1	6/14/23 11:18
Manganese	113		0.0387	0.311	mg/kg dry	1	6/14/23 11:18
Nickel	7.97		0.0274	0.156	mg/kg dry	1	6/14/23 11:18

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
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MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20230531**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Potassium	1750		37.0	125	mg/kg dry	1	6/14/23 11:18
Selenium	1.60		0.299	1.56	mg/kg dry	1	6/14/23 11:18
Silver	0.306		0.0530	0.187	mg/kg dry	1	6/14/23 11:18
Sodium	585		5.94	62.3	mg/kg dry	1	6/14/23 11:18
Vanadium	15.9		0.0716	0.623	mg/kg dry	1	6/14/23 11:18
Zinc	184		0.0951	0.934	mg/kg dry	1	6/14/23 11:18

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00192		0.000723	0.00158	mg/kg dry	1	6/14/23 19:35

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.773		0.0387	0.243	mg/kg dry	1	6/12/23 18:57
3+4-Methylphenol	0.168		0.0296	0.162	mg/kg dry	1	6/12/23 18:57
Acenaphthene	1.65		0.00922	0.162	mg/kg dry	1	6/12/23 18:57
Acenaphthylene	2.28		0.00562	0.162	mg/kg dry	1	6/12/23 18:57
Anthracene	2.65		0.0234	0.162	mg/kg dry	1	6/12/23 18:57
Benzo(a)anthracene	4.71		0.0163	0.162	mg/kg dry	1	6/12/23 18:57
Benzo(a)pyrene	5.85		0.0282	0.162	mg/kg dry	1	6/12/23 18:57
Benzo(b)fluoranthene	6.00		0.0227	0.162	mg/kg dry	1	6/12/23 18:57
Benzo(g,h,i)perylene	8.96		0.0131	0.162	mg/kg dry	1	6/12/23 18:57
Benzo(k)fluoranthene	2.69		0.0186	0.162	mg/kg dry	1	6/12/23 18:57
Biphenyl	0.285		0.0142	0.162	mg/kg dry	1	6/12/23 18:57
bis(2-ethylhexyl)phthalate	1.43		0.0323	0.162	mg/kg dry	1	6/12/23 18:57
Carbazole	0.630		0.0311	0.404	mg/kg dry	1	6/12/23 18:57
Chrysene	5.50		0.0111	0.162	mg/kg dry	1	6/12/23 18:57
Dibenzo(a,h)anthracene	1.27		0.0160	0.162	mg/kg dry	1	6/12/23 18:57
Dibenzofuran	0.830		0.00963	0.162	mg/kg dry	1	6/12/23 18:57
Fluoranthene	7.66		0.0152	0.162	mg/kg dry	1	6/12/23 18:57
Fluorene	1.33		0.0135	0.162	mg/kg dry	1	6/12/23 18:57
Indeno(1,2,3-cd)pyrene	4.45		0.0174	0.162	mg/kg dry	1	6/12/23 18:57
Naphthalene	1.93		0.0120	0.162	mg/kg dry	1	6/12/23 18:57
Phenanthrene	6.61		0.0213	0.162	mg/kg dry	1	6/12/23 18:57
Pyrene	10.8	D	0.119	1.62	mg/kg dry	10	6/13/23 20:04
TIC_Benzene, 2-propenyl-	1.53	J			mg/kg dry	1	6/12/23 18:57
TIC_Benzocycloheptatriene	1.18	J			mg/kg dry	1	6/12/23 18:57
TIC_Hexadecanoic acid, 1,1-dimethylethyl est	2.18	B, J			mg/kg dry	1	6/12/23 18:57
TIC_Tetradecane, 2,6,10-trimethyl-	0.853	J			mg/kg dry	1	6/12/23 18:57

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1405-03 (Soil) Sample Name: OH-SB-12A-5.0-6.0-20230531

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_unknown (01)	0.916	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (02)	0.996	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (03)	0.841	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (04)	0.847	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (05)	0.920	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (06)	1.00	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (07)	1.41	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (08)	1.15	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (09)	0.964	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (10)	1.67	J			mg/kg dry	1	6/12/23 18:57
TIC_unknown (11)	2.53	J			mg/kg dry	1	6/12/23 18:57

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2-Propanone	0.00736	J			mg/kg dry	1	6/12/23 14:30
TIC_3,4-Octadiene, 7-methyl-	0.00587	J			mg/kg dry	1	6/12/23 14:30
TIC_Decane, 3,4-dimethyl-	0.0120	J			mg/kg dry	1	6/12/23 14:30
TIC_Hydrazine, 1,1-dimethyl-	0.0108	J			mg/kg dry	1	6/12/23 14:30
TIC_Lab Contamination	0.0106	J			mg/kg dry	1	6/12/23 14:30
TIC_Propanoyl chloride	0.0136	J			mg/kg dry	1	6/12/23 14:30

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.395		0.00868	0.0729	mg/kg dry	1	6/7/23 17:34

23E1405-04 (Ground Water) Sample Name: FB-20230531

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Iron	0.281		0.0580	0.200	mg/L	1	6/13/23 10:45
Sodium	7.02		0.205	2.00	mg/L	1	6/13/23 10:45

23E1405-05 (Soil) Sample Name: DUP-20230531

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260 [2C]	0.139		0.00716	0.0349	mg/kg dry	1	6/13/23 1:12
Total PCBs	0.139		0.00326	0.0349	mg/kg dry	1	6/13/23 1:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1405-05 (Soil) Sample Name: **DUP-20230531**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.141		0.00528	0.0211	mg/kg dry	1	6/12/23 14:50

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2950		0.156	2.63	mg/kg dry	1	6/14/23 11:20
Arsenic	2.27		0.0938	1.31	mg/kg dry	1	6/14/23 11:20
Barium	21.8		0.0398	0.526	mg/kg dry	1	6/14/23 11:20
Beryllium	0.211		0.00304	0.0263	mg/kg dry	1	6/14/23 11:20
Calcium	68100	D	29.6	263	mg/kg dry	10	6/14/23 13:20
Chromium	12.9		0.0297	0.263	mg/kg dry	1	6/14/23 11:20
Cobalt	3.39		0.0269	0.210	mg/kg dry	1	6/14/23 11:20
Copper	63.1		0.0736	0.263	mg/kg dry	1	6/14/23 11:20
Iron	18000		0.745	5.26	mg/kg dry	1	6/14/23 11:20
Lead	25.7		0.110	1.31	mg/kg dry	1	6/14/23 11:20
Magnesium	19000		9.29	52.6	mg/kg dry	1	6/14/23 11:20
Manganese	189		0.0327	0.263	mg/kg dry	1	6/14/23 11:20
Nickel	13.7		0.0231	0.131	mg/kg dry	1	6/14/23 11:20
Sodium	202		5.01	52.6	mg/kg dry	1	6/14/23 11:20
Vanadium	33.4		0.0605	0.526	mg/kg dry	1	6/14/23 11:20
Zinc	25.9		0.0803	0.789	mg/kg dry	1	6/14/23 11:20

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00334		0.000629	0.00137	mg/kg dry	1	6/13/23 21:42
4,4'-DDE	0.00371		0.000751	0.00137	mg/kg dry	1	6/13/23 21:42
4,4'-DDT	0.0135		0.000970	0.00137	mg/kg dry	1	6/13/23 21:42
Chlordane	0.00292		0.000611	0.00137	mg/kg dry	1	6/13/23 21:42

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclododecanol	0.0175	J			mg/kg dry	1	6/12/23 15:02
TIC_Cyclopentaneacetaldehyde, 2-formyl-3-met (01)	0.0230	J			mg/kg dry	1	6/12/23 15:02
TIC_Cyclopentaneacetaldehyde, 2-formyl-3-met (02)	0.0266	J			mg/kg dry	1	6/12/23 15:02

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531** Collected: **5/31/2023 8:31:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	UJ, RC:3L,6L ND	U	0.00470	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1221	UJ, RC:3L,6L ND	U	0.00924	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1232	UJ, RC:3L,6L ND	U	0.0118	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1242	UJ, RC:3L,6L ND	U	0.00688	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1248	UJ, RC:3L,6L ND	U	0.00720	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1254	UJ, RC:3L,6L ND	U	0.00565	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1260	J, RC:3L,6L **0.141**		**0.00438**	**0.0350**	**mg/kg**	**1**	**6/13/23 0:05**
Aroclor-1262	UJ, RC:3L,6L ND	U	0.00942	0.0350	mg/kg	1	6/13/23 0:05
Aroclor-1268	UJ, RC:3L,6L ND	U	0.00424	0.0350	mg/kg	1	6/13/23 0:05
Total PCBs	J, RC:3L,6L **0.141**		**0.00327**	**0.0350**	**mg/kg**	**1**	**6/13/23 0:05**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0104	0.106	mg/kg	1	6/28/23 13:23
2,4-D	ND	U	0.0176	0.106	mg/kg	1	6/28/23 13:23

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0753**		**0.00531**	**0.0212**	**mg/kg**	**1**	**6/12/23 14:50**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2700**		**0.159**	**2.68**	**mg/kg**	**1**	**6/14/23 11:13**
Antimony	ND	U	0.146	1.34	mg/kg	1	6/14/23 11:13
Arsenic	**3.52**		**0.0956**	**1.34**	**mg/kg**	**1**	**6/14/23 11:13**
Barium	**24.6**		**0.0405**	**0.536**	**mg/kg**	**1**	**6/14/23 11:13**
Beryllium	**0.211**		**0.00310**	**0.0268**	**mg/kg**	**1**	**6/14/23 11:13**
Cadmium	ND	U	0.0522	0.268	mg/kg	1	6/14/23 11:13
Calcium	**79900**	D	**30.1**	**268**	**mg/kg**	**10**	**6/14/23 13:13**
Chromium	J, RC:8 **19.5**		**0.0303**	**0.268**	**mg/kg**	**1**	**6/14/23 11:13**
Cobalt	**3.86**		**0.0274**	**0.214**	**mg/kg**	**1**	**6/14/23 11:13**
Copper	J, RC:8 **140**		**0.0750**	**0.268**	**mg/kg**	**1**	**6/14/23 11:13**
Iron	J, RC:8 **40500**	D	**7.59**	**53.6**	**mg/kg**	**10**	**6/14/23 13:13**
Lead	**26.0**		**0.112**	**1.34**	**mg/kg**	**1**	**6/14/23 11:13**
Magnesium	J, RC:8 **40100**	D	**94.7**	**536**	**mg/kg**	**10**	**6/14/23 13:13**
Manganese	**240**		**0.0333**	**0.268**	**mg/kg**	**1**	**6/14/23 11:13**
Nickel	J, RC:8 **31.6**		**0.0235**	**0.134**	**mg/kg**	**1**	**6/14/23 11:13**
Potassium	ND	U	31.9	107	mg/kg	1	6/14/23 11:13

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531** Collected: **5/31/2023 8:31:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.257	1.34	mg/kg	1	6/14/23 11:13
Silver	ND	U	0.0456	0.161	mg/kg	1	6/14/23 11:13
Sodium	**103**		**5.11**	**53.6**	**mg/kg**	**1**	**6/14/23 11:13**
Thallium	ND	U	0.0902	1.34	mg/kg	1	6/14/23 11:13
Vanadium	**29.2**		**0.0616**	**0.536**	**mg/kg**	**1**	**6/14/23 11:13**
Zinc	**24.3**		**0.0819**	**0.804**	**mg/kg**	**1**	**6/14/23 11:13**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	**0.00587**		**0.000631**	**0.00138**	**mg/kg**	**1**	**6/13/23 20:47**
4,4'-DDE J, RC:6L,8	**0.0108**		**0.000754**	**0.00138**	**mg/kg**	**1**	**6/13/23 20:47**
4,4'-DDT	**0.0183**		**0.000974**	**0.00138**	**mg/kg**	**1**	**6/13/23 20:47**
Aldrin	ND	U	0.000654	0.00138	mg/kg	1	6/13/23 20:47
alpha-BHC	ND	U	0.000411	0.00138	mg/kg	1	6/13/23 20:47
beta-BHC	ND	U	0.000659	0.00138	mg/kg	1	6/13/23 20:47
Chlordane [2C]	**0.00484**		**0.000613**	**0.00138**	**mg/kg**	**1**	**6/13/23 20:47**
delta-BHC	ND	U	0.000641	0.00138	mg/kg	1	6/13/23 20:47
Dieldrin	ND	U	0.000722	0.00138	mg/kg	1	6/13/23 20:47
Endosulfan I	ND	U	0.000652	0.00138	mg/kg	1	6/13/23 20:47
Endosulfan II UJ, RC:6L	ND	U	0.000627	0.00138	mg/kg	1	6/13/23 20:47
Endosulfan sulfate	ND	U	0.000519	0.00138	mg/kg	1	6/13/23 20:47
Endosulfans, Total (alpha and beta)	ND	U	0.000627	0.00138	mg/kg	1	6/13/23 20:47
Endrin	ND	U	0.000476	0.00138	mg/kg	1	6/13/23 20:47
Endrin aldehyde	ND	U	0.000550	0.00138	mg/kg	1	6/13/23 20:47
Endrin ketone	ND	U	0.000486	0.00138	mg/kg	1	6/13/23 20:47
gamma-BHC (Lindane)	ND	U	0.000437	0.00138	mg/kg	1	6/13/23 20:47
Heptachlor	ND	U	0.000369	0.00138	mg/kg	1	6/13/23 20:47
Heptachlor Epoxide	ND	U	0.000696	0.00138	mg/kg	1	6/13/23 20:47
Methoxychlor	ND	U	0.000404	0.00138	mg/kg	1	6/13/23 20:47
Toxaphene	ND	U	0.0665	0.0700	mg/kg	1	6/13/23 20:47

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane UJ, RC:Q	ND	U	0.0399	0.353	mg/kg	1	6/12/23 22:12
2,3,4,6-Tetrachlorophenol	ND	U	0.218	1.41	mg/kg	1	6/12/23 22:12
2,4,5-Trichlorophenol	ND	U	0.192	1.41	mg/kg	1	6/12/23 22:12
2,4,6-Trichlorophenol	ND	U	0.0884	1.41	mg/kg	1	6/12/23 22:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531** Collected: **5/31/2023 8:31:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dichlorophenol		ND	U	0.142	1.41	mg/kg	1	6/12/23 22:12
2,4-Dimethylphenol		ND	U	0.139	1.41	mg/kg	1	6/12/23 22:12
2,4-Dinitrophenol	UJ, RC:Q	ND	U	0.204	7.08	mg/kg	1	6/12/23 22:12
2,4-Dinitrotoluene		ND	U	0.151	1.41	mg/kg	1	6/12/23 22:12
2,6-Dinitrotoluene		ND	U	0.337	1.41	mg/kg	1	6/12/23 22:12
2-Chloronaphthalene		ND	U	0.162	1.41	mg/kg	1	6/12/23 22:12
2-Chlorophenol		ND	U	0.187	1.41	mg/kg	1	6/12/23 22:12
2-Methylnaphthalene		ND	U	0.339	2.12	mg/kg	1	6/12/23 22:12
2-Methylphenol		ND	U	0.279	1.41	mg/kg	1	6/12/23 22:12
2-Nitroaniline		ND	U	0.114	1.41	mg/kg	1	6/12/23 22:12
2-Nitrophenol	UJ, RC:Q	ND	U	0.157	1.41	mg/kg	1	6/12/23 22:12
3,3'-Dichlorobenzidine		ND	U	0.149	1.41	mg/kg	1	6/12/23 22:12
3+4-Methylphenol		ND	U	0.259	1.41	mg/kg	1	6/12/23 22:12
3-Nitroaniline		ND	U	0.262	1.41	mg/kg	1	6/12/23 22:12
4,6-Dinitro-2-methylphenol	UJ, RC:Q	ND	U	0.266	3.53	mg/kg	1	6/12/23 22:12
4-Bromophenyl-phenyl ether		ND	U	0.202	1.41	mg/kg	1	6/12/23 22:12
4-Chloro-3-methylphenol		ND	U	0.223	1.41	mg/kg	1	6/12/23 22:12
4-Chloroaniline		ND	U	0.0495	1.41	mg/kg	1	6/12/23 22:12
4-Chlorophenyl phenyl ether		ND	U	0.0763	1.41	mg/kg	1	6/12/23 22:12
4-Nitroaniline		ND	U	0.707	1.41	mg/kg	1	6/12/23 22:12
4-Nitrophenol		ND	U	0.0904	1.41	mg/kg	1	6/12/23 22:12
Acenaphthene		ND	U	0.0805	1.41	mg/kg	1	6/12/23 22:12
Acenaphthylene		ND	U	0.0491	1.41	mg/kg	1	6/12/23 22:12
Acetophenone		ND	U	0.140	1.41	mg/kg	1	6/12/23 22:12
Anthracene		ND	U	0.205	1.41	mg/kg	1	6/12/23 22:12
Atrazine	UJ, RC:SL	ND	U	0.133	1.41	mg/kg	1	6/12/23 22:12
Benzaldehyde		ND	U	0.434	1.41	mg/kg	1	6/12/23 22:12
Benzo(a)anthracene		ND	U	0.142	1.41	mg/kg	1	6/12/23 22:12
Benzo(a)pyrene		ND	U	0.246	1.41	mg/kg	1	6/12/23 22:12
Benzo(b)fluoranthene		ND	U	0.198	1.41	mg/kg	1	6/12/23 22:12
Benzo(g,h,i)perylene		ND	U	0.115	1.41	mg/kg	1	6/12/23 22:12
Benzo(k)fluoranthene		ND	U	0.162	1.41	mg/kg	1	6/12/23 22:12
Biphenyl		ND	U	0.124	1.41	mg/kg	1	6/12/23 22:12
bis(2-chloroethoxy)methane		ND	U	0.195	1.41	mg/kg	1	6/12/23 22:12
bis(2-chloroethyl)ether		ND	U	0.155	1.41	mg/kg	1	6/12/23 22:12
bis(2-chloroisopropyl)ether		ND	U	0.508	1.41	mg/kg	1	6/12/23 22:12
bis(2-ethylhexyl)phthalate	J, RC:SH	**6.65**		**0.282**	**1.41**	**mg/kg**	**1**	**6/12/23 22:12**
Butylbenzylphthalate		ND	U	0.128	1.41	mg/kg	1	6/12/23 22:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531** Collected: **5/31/2023 8:31:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.183	1.41	mg/kg	1	6/12/23 22:12
Carbazole	ND	U	0.272	3.53	mg/kg	1	6/12/23 22:12
Chrysene	**0.507**	J	**0.0968**	**1.41**	**mg/kg**	**1**	**6/12/23 22:12**
Dibenzo(a,h)anthracene	ND	U	0.140	1.41	mg/kg	1	6/12/23 22:12
Dibenzofuran	ND	U	0.0842	1.41	mg/kg	1	6/12/23 22:12
Diethylphthalate	ND	U	0.274	1.41	mg/kg	1	6/12/23 22:12
Dimethylphthalate	ND	U	0.0877	1.41	mg/kg	1	6/12/23 22:12
Di-n-butylphthalate	ND	U	0.577	1.41	mg/kg	1	6/12/23 22:12
Di-n-octylphthalate	ND	U	0.290	1.41	mg/kg	1	6/12/23 22:12
Fluoranthene	**0.395**	J	**0.133**	**1.41**	**mg/kg**	**1**	**6/12/23 22:12**
Fluorene	ND	U	0.118	1.41	mg/kg	1	6/12/23 22:12
Hexachlorobenzene	ND	U	0.185	1.41	mg/kg	1	6/12/23 22:12
Hexachlorobutadiene	ND	U	0.678	1.41	mg/kg	1	6/12/23 22:12
Hexachlorocyclopentadiene UJ, RC:SL	ND	U	0.589	3.53	mg/kg	1	6/12/23 22:12
Hexachloroethane UJ, RC:SL	ND	U	0.155	1.41	mg/kg	1	6/12/23 22:12
Indeno(1,2,3-cd)pyrene	ND	U	0.152	1.41	mg/kg	1	6/12/23 22:12
Isophorone	ND	U	0.0925	1.41	mg/kg	1	6/12/23 22:12
Naphthalene	ND	U	0.105	1.41	mg/kg	1	6/12/23 22:12
Nitrobenzene	ND	U	0.240	1.41	mg/kg	1	6/12/23 22:12
n-Nitroso-di-n-propylamine	ND	U	0.0757	1.41	mg/kg	1	6/12/23 22:12
n-Nitrosodiphenylamine	ND	U	0.301	1.41	mg/kg	1	6/12/23 22:12
Pentachlorophenol	ND	U	0.194	3.53	mg/kg	1	6/12/23 22:12
Phenanthrene	ND	U	0.186	1.41	mg/kg	1	6/12/23 22:12
Phenol	ND	U	0.115	1.41	mg/kg	1	6/12/23 22:12
Pyrene	**0.648**	J	**0.104**	**1.41**	**mg/kg**	**1**	**6/12/23 22:12**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown	3.08	11.84	B, J	mg/kg	1	6/12/23 22:12
TIC Total	**3.08**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000352	0.00241	mg/kg	1	6/10/23 2:46
1,1,2,2-Tetrachloroethane	ND	U	0.000333	0.00241	mg/kg	1	6/10/23 2:46
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00103	0.00241	mg/kg	1	6/10/23 2:46
1,1,2-Trichloroethane	ND	U	0.000406	0.00241	mg/kg	1	6/10/23 2:46

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531** Collected: **5/31/2023 8:31:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethane	ND	U	0.000352	0.00241	mg/kg	1	6/10/23 2:46
1,1-Dichloroethene	ND	U	0.000446	0.00241	mg/kg	1	6/10/23 2:46
1,2,3-Trichlorobenzene	ND	U	0.000521	0.00241	mg/kg	1	6/10/23 2:46
1,2,4-Trichlorobenzene	ND	U	0.000643	0.00241	mg/kg	1	6/10/23 2:46
1,2,4-Trimethylbenzene	ND	U	0.000333	0.00241	mg/kg	1	6/10/23 2:46
1,2-Dibromo-3-chloropropane	ND	U	0.000588	0.00241	mg/kg	1	6/10/23 2:46
1,2-Dibromoethane	ND	U	0.000304	0.00241	mg/kg	1	6/10/23 2:46
1,2-Dichlorobenzene	ND	U	0.000426	0.00241	mg/kg	1	6/10/23 2:46
1,2-Dichloroethane	ND	U	0.000340	0.00241	mg/kg	1	6/10/23 2:46
1,2-Dichloropropane	ND	U	0.000396	0.00241	mg/kg	1	6/10/23 2:46
1,3-Dichlorobenzene	ND	U	0.000177	0.00241	mg/kg	1	6/10/23 2:46
1,4-Dichlorobenzene	ND	U	0.000347	0.00241	mg/kg	1	6/10/23 2:46
2-Butanone	ND	U	0.000393	0.00603	mg/kg	1	6/10/23 2:46
2-Hexanone	ND	U	0.000226	0.00241	mg/kg	1	6/10/23 2:46
4-Methyl-2-pentanone	ND	U	0.000301	0.00241	mg/kg	1	6/10/23 2:46
Acetone	ND	U	0.000731	0.00603	mg/kg	1	6/10/23 2:46
Benzene	ND	U	0.000219	0.00241	mg/kg	1	6/10/23 2:46
Bromochloromethane UJ, RC:Q	ND	U	0.000445	0.00241	mg/kg	1	6/10/23 2:46
Bromodichloromethane	ND	U	0.000303	0.00241	mg/kg	1	6/10/23 2:46
Bromoform	ND	U	0.000423	0.00241	mg/kg	1	6/10/23 2:46
Bromomethane	ND	U	0.000696	0.00241	mg/kg	1	6/10/23 2:46
Carbon disulfide	ND	U	0.000346	0.00241	mg/kg	1	6/10/23 2:46
Carbon Tetrachloride	ND	U	0.000363	0.00241	mg/kg	1	6/10/23 2:46
Chlorobenzene	ND	U	0.000350	0.00241	mg/kg	1	6/10/23 2:46
Chlorodibromomethane	ND	U	0.000297	0.00241	mg/kg	1	6/10/23 2:46
Chloroethane	ND	U	0.000411	0.00241	mg/kg	1	6/10/23 2:46
Chloroform	ND	U	0.000405	0.00241	mg/kg	1	6/10/23 2:46
Chloromethane	ND	U	0.000929	0.00241	mg/kg	1	6/10/23 2:46
cis-1,2-Dichloroethene	ND	U	0.000117	0.00241	mg/kg	1	6/10/23 2:46
cis-1,3-Dichloropropene	ND	U	0.000305	0.00241	mg/kg	1	6/10/23 2:46
Cyclohexane	ND	U	0.000534	0.00241	mg/kg	1	6/10/23 2:46
Dichlorodifluoromethane	ND	U	0.000814	0.00241	mg/kg	1	6/10/23 2:46
EthylBenzene	ND	U	0.000327	0.00241	mg/kg	1	6/10/23 2:46
Isopropylbenzene	ND	U	0.000379	0.00241	mg/kg	1	6/10/23 2:46
m+p-Xylenes	ND	U	0.000609	0.00482	mg/kg	1	6/10/23 2:46
Methyl Acetate	ND	U	0.000320	0.00241	mg/kg	1	6/10/23 2:46
Methyl tert-Butyl Ether	ND	U	0.000408	0.00241	mg/kg	1	6/10/23 2:46
Methylcyclohexane	ND	U	0.000388	0.00241	mg/kg	1	6/10/23 2:46

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-01 (Soil) Sample Name: **OH-SB-12-0.5-1.5-20230531** Collected: **5/31/2023 8:31:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylene Chloride		ND	U	0.000725	0.00241	mg/kg	1	6/10/23 2:46
o-Xylene		ND	U	0.000310	0.00241	mg/kg	1	6/10/23 2:46
Styrene		ND	U	0.000345	0.00241	mg/kg	1	6/10/23 2:46
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00506	0.0241	mg/kg	1	6/10/23 2:46
Tetrachloroethene		ND	U	0.000239	0.00241	mg/kg	1	6/10/23 2:46
Toluene		ND	U	0.000194	0.00241	mg/kg	1	6/10/23 2:46
Total Xylenes		ND	U	0.000310	0.00241	mg/kg	1	6/10/23 2:46
trans-1,2-Dichloroethene		ND	U	0.000327	0.00241	mg/kg	1	6/10/23 2:46
trans-1,3-Dichloropropene		ND	U	0.000461	0.00241	mg/kg	1	6/10/23 2:46
Trichloroethene		ND	U	0.000355	0.00241	mg/kg	1	6/10/23 2:46
Trichlorofluoromethane		ND	U	0.000277	0.00241	mg/kg	1	6/10/23 2:46
Vinyl chloride		ND	U	0.000458	0.00241	mg/kg	1	6/10/23 2:46

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**94.2**				**%**	**1**	**6/1/23 10:54**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00714	0.0599	mg/kg	1	6/7/23 17:34

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8082A - PCBs

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	UJ, RC:3L,6L	ND	U	0.00470	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1221		ND	U	0.00925	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1232		ND	U	0.0118	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1242		ND	U	0.00689	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1248		ND	U	0.00721	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1254		ND	U	0.00566	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1260		ND	U	0.00439	0.0351	mg/kg	1	6/13/23 0:27
Aroclor-1262		ND	U	0.00944	0.0351	mg/kg	1	6/13/23 0:27

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8082A - PCBs (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1268	UJ, RC:3L,6L	ND	U	0.00424	0.0351	mg/kg	1	6/13/23 0:27
Total PCBs	UJ, RC:3L,6L	ND	U	0.00327	0.0351	mg/kg	1	6/13/23 0:27

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0104	0.106	mg/kg	1	6/14/23 0:40
2,4-D	ND	U	0.0176	0.106	mg/kg	1	6/14/23 0:40

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.272**		**0.00531**	**0.0213**	**mg/kg**	**1**	**6/12/23 14:50**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5800**		**0.162**	**2.72**	**mg/kg**	**1**	**6/14/23 11:15**
Antimony	ND	U	0.148	1.36	mg/kg	1	6/14/23 11:15
Arsenic	**6.32**		**0.0972**	**1.36**	**mg/kg**	**1**	**6/14/23 11:15**
Barium	**87.0**		**0.0412**	**0.545**	**mg/kg**	**1**	**6/14/23 11:15**
Beryllium	**0.393**		**0.00316**	**0.0272**	**mg/kg**	**1**	**6/14/23 11:15**
Cadmium	**0.937**		**0.0531**	**0.272**	**mg/kg**	**1**	**6/14/23 11:15**
Calcium	**89100**	D	**30.6**	**272**	**mg/kg**	**10**	**6/14/23 13:16**
Chromium	**26.0**		**0.0308**	**0.272**	**mg/kg**	**1**	**6/14/23 11:15**
Cobalt	**4.88**		**0.0278**	**0.218**	**mg/kg**	**1**	**6/14/23 11:15**
Copper	**181**		**0.0762**	**0.272**	**mg/kg**	**1**	**6/14/23 11:15**
Iron	**50400**	D	**7.72**	**54.5**	**mg/kg**	**10**	**6/14/23 13:16**
Lead	**208**		**0.114**	**1.36**	**mg/kg**	**1**	**6/14/23 11:15**
Magnesium	**17200**		**9.63**	**54.5**	**mg/kg**	**1**	**6/14/23 11:15**
Manganese	**305**		**0.0339**	**0.272**	**mg/kg**	**1**	**6/14/23 11:15**
Nickel	**27.5**		**0.0239**	**0.136**	**mg/kg**	**1**	**6/14/23 11:15**
Potassium	**335**		**32.4**	**109**	**mg/kg**	**1**	**6/14/23 11:15**
Selenium	ND	U	0.262	1.36	mg/kg	1	6/14/23 11:15
Silver	**0.190**		**0.0463**	**0.163**	**mg/kg**	**1**	**6/14/23 11:15**
Sodium	**646**		**5.20**	**54.5**	**mg/kg**	**1**	**6/14/23 11:15**
Thallium	ND	U	0.0917	1.36	mg/kg	1	6/14/23 11:15
Vanadium	**89.1**		**0.0627**	**0.545**	**mg/kg**	**1**	**6/14/23 11:15**
Zinc	**233**		**0.0832**	**0.817**	**mg/kg**	**1**	**6/14/23 11:15**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD		ND	U	0.000632	0.00138	mg/kg	1	6/14/23 19:16
4,4'-DDE	UJ, RC:6L	ND	U	0.000755	0.00138	mg/kg	1	6/14/23 19:16
4,4'-DDT		ND	U	0.000975	0.00138	mg/kg	1	6/14/23 19:16
Aldrin		ND	U	0.000655	0.00138	mg/kg	1	6/14/23 19:16
alpha-BHC		ND	U	0.000411	0.00138	mg/kg	1	6/14/23 19:16
beta-BHC		ND	U	0.000660	0.00138	mg/kg	1	6/14/23 19:16
Chlordane		**0.0349**		**0.000614**	**0.00138**	**mg/kg**	**1**	**6/14/23 19:16**
delta-BHC		ND	U	0.000642	0.00138	mg/kg	1	6/14/23 19:16
Dieldrin		ND	U	0.000723	0.00138	mg/kg	1	6/14/23 19:16
Endosulfan I		ND	U	0.000652	0.00138	mg/kg	1	6/14/23 19:16
Endosulfan II	UJ, RC:6L	ND	U	0.000628	0.00138	mg/kg	1	6/14/23 19:16
Endosulfan sulfate		ND	U	0.000520	0.00138	mg/kg	1	6/14/23 19:16
Endosulfans, Total (alpha and beta)		ND	U	0.000628	0.00138	mg/kg	1	6/14/23 19:16
Endrin		ND	U	0.000477	0.00138	mg/kg	1	6/14/23 19:16
Endrin aldehyde		ND	U	0.000550	0.00138	mg/kg	1	6/14/23 19:16
Endrin ketone		ND	U	0.000487	0.00138	mg/kg	1	6/14/23 19:16
gamma-BHC (Lindane)		ND	U	0.000438	0.00138	mg/kg	1	6/14/23 19:16
Heptachlor		ND	U	0.000370	0.00138	mg/kg	1	6/14/23 19:16
Heptachlor Epoxide		**0.00699**		**0.000697**	**0.00138**	**mg/kg**	**1**	**6/14/23 19:16**
Methoxychlor		ND	U	0.000405	0.00138	mg/kg	1	6/14/23 19:16
Toxaphene		ND	U	0.0665	0.0701	mg/kg	1	6/14/23 19:16

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	UJ, RC:Q	ND	U	0.200	1.77	mg/kg	50	6/13/23 21:39
2,3,4,6-Tetrachlorophenol		ND	U	1.09	7.07	mg/kg	50	6/13/23 21:39
2,4,5-Trichlorophenol		ND	U	0.962	7.07	mg/kg	50	6/13/23 21:39
2,4,6-Trichlorophenol		ND	U	0.443	7.07	mg/kg	50	6/13/23 21:39
2,4-Dichlorophenol		ND	U	0.712	7.07	mg/kg	50	6/13/23 21:39
2,4-Dimethylphenol		ND	U	0.696	7.07	mg/kg	50	6/13/23 21:39
2,4-Dinitrophenol	UJ, RC:Q	ND	U	1.02	35.4	mg/kg	50	6/13/23 21:39
2,4-Dinitrotoluene		ND	U	0.754	7.07	mg/kg	50	6/13/23 21:39
2,6-Dinitrotoluene		ND	U	1.69	7.07	mg/kg	50	6/13/23 21:39
2-Chloronaphthalene		ND	U	0.813	7.07	mg/kg	50	6/13/23 21:39
2-Chlorophenol		ND	U	0.935	7.07	mg/kg	50	6/13/23 21:39
2-Methylnaphthalene		ND	U	1.69	10.6	mg/kg	50	6/13/23 21:39
2-Methylphenol		ND	U	1.40	7.07	mg/kg	50	6/13/23 21:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Nitroaniline	ND	U	0.568	7.07	mg/kg	50	6/13/23 21:39
2-Nitrophenol UJ, RC:Q	ND	U	0.786	7.07	mg/kg	50	6/13/23 21:39
3,3'-Dichlorobenzidine	ND	U	0.744	7.07	mg/kg	50	6/13/23 21:39
3+4-Methylphenol	ND	U	1.30	7.07	mg/kg	50	6/13/23 21:39
3-Nitroaniline	ND	U	1.31	7.07	mg/kg	50	6/13/23 21:39
4,6-Dinitro-2-methylphenol UJ, RC:Q	ND	U	1.33	17.7	mg/kg	50	6/13/23 21:39
4-Bromophenyl-phenyl ether	ND	U	1.01	7.07	mg/kg	50	6/13/23 21:39
4-Chloro-3-methylphenol	ND	U	1.12	7.07	mg/kg	50	6/13/23 21:39
4-Chloroaniline	ND	U	0.248	7.07	mg/kg	50	6/13/23 21:39
4-Chlorophenyl phenyl ether	ND	U	0.382	7.07	mg/kg	50	6/13/23 21:39
4-Nitroaniline	ND	U	3.54	7.07	mg/kg	50	6/13/23 21:39
4-Nitrophenol	ND	U	0.453	7.07	mg/kg	50	6/13/23 21:39
Acenaphthene	ND	U	0.403	7.07	mg/kg	50	6/13/23 21:39
Acenaphthylene	ND	U	0.246	7.07	mg/kg	50	6/13/23 21:39
Acetophenone	ND	U	0.701	7.07	mg/kg	50	6/13/23 21:39
Anthracene	**10.4**	D	**1.03**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Atrazine UJ, RC:SL	ND	U	0.664	7.07	mg/kg	50	6/13/23 21:39
Benzaldehyde UJ, RC:SL	ND	U	2.17	7.07	mg/kg	50	6/13/23 21:39
Benzo(a)anthracene	**16.8**	D	**0.712**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Benzo(a)pyrene	**19.1**	D	**1.23**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Benzo(b)fluoranthene	**18.7**	D	**0.994**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Benzo(g,h,i)perylene	**8.28**	D	**0.574**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Benzo(k)fluoranthene	**11.4**	D	**0.813**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Biphenyl	ND	U	0.622	7.07	mg/kg	50	6/13/23 21:39
bis(2-chloroethoxy)methane	ND	U	0.978	7.07	mg/kg	50	6/13/23 21:39
bis(2-chloroethyl)ether	ND	U	0.776	7.07	mg/kg	50	6/13/23 21:39
bis(2-chloroisopropyl)ether UJ, RC:SL	ND	U	2.54	7.07	mg/kg	50	6/13/23 21:39
bis(2-ethylhexyl)phthalate J, RC:SH	**42.7**	D	**1.41**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Butylbenzylphthalate	ND	U	0.643	7.07	mg/kg	50	6/13/23 21:39
Caprolactam	ND	U	0.914	7.07	mg/kg	50	6/13/23 21:39
Carbazole	ND	U	1.36	17.7	mg/kg	50	6/13/23 21:39
Chrysene	**18.0**	D	**0.485**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Dibenzo(a,h)anthracene	**3.33**	J, D	**0.701**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Dibenzofuran	ND	U	0.421	7.07	mg/kg	50	6/13/23 21:39
Diethylphthalate	ND	U	1.37	7.07	mg/kg	50	6/13/23 21:39
Dimethylphthalate	ND	U	0.439	7.07	mg/kg	50	6/13/23 21:39
Di-n-butylphthalate	ND	U	2.89	7.07	mg/kg	50	6/13/23 21:39
Di-n-octylphthalate	ND	U	1.45	7.07	mg/kg	50	6/13/23 21:39

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluoranthene		**49.3**	D	**0.664**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Fluorene		**4.36**	J, D	**0.590**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Hexachlorobenzene		ND	U	0.924	7.07	mg/kg	50	6/13/23 21:39
Hexachlorobutadiene		ND	U	3.39	7.07	mg/kg	50	6/13/23 21:39
Hexachlorocyclopentadiene	UJ, RC:SL	ND	U	2.95	17.7	mg/kg	50	6/13/23 21:39
Hexachloroethane		ND	U	0.776	7.07	mg/kg	50	6/13/23 21:39
Indeno(1,2,3-cd)pyrene		**8.51**	D	**0.760**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Isophorone		ND	U	0.463	7.07	mg/kg	50	6/13/23 21:39
Naphthalene		ND	U	0.524	7.07	mg/kg	50	6/13/23 21:39
Nitrobenzene		ND	U	1.20	7.07	mg/kg	50	6/13/23 21:39
n-Nitroso-di-n-propylamine		ND	U	0.379	7.07	mg/kg	50	6/13/23 21:39
n-Nitrosodiphenylamine		ND	U	1.51	7.07	mg/kg	50	6/13/23 21:39
Pentachlorophenol	UJ, RC:SL	ND	U	0.972	17.7	mg/kg	50	6/13/23 21:39
Phenanthrene		**28.2**	D	**0.930**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**
Phenol	UJ, RC:SL	ND	U	0.574	7.07	mg/kg	50	6/13/23 21:39
Pyrene		**40.6**	D	**0.520**	**7.07**	**mg/kg**	**50**	**6/13/23 21:39**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexaneethanol, 3-hydroxy-.beta.,4-d	28.1	17.10	J, D	mg/kg	50	6/13/23 21:39
unknown (01)	24.0	14.59	J, D	mg/kg	50	6/13/23 21:39
unknown (02)	23.1	15.35	J, D	mg/kg	50	6/13/23 21:39
unknown (03)	28.4	15.48	J, D	mg/kg	50	6/13/23 21:39
unknown (04)	26.9	15.83	J, D	mg/kg	50	6/13/23 21:39
unknown (05)	25.7	15.91	D, J	mg/kg	50	6/13/23 21:39
unknown (06)	26.9	16.33	D, J	mg/kg	50	6/13/23 21:39
unknown (07)	23.3	16.37	D, J	mg/kg	50	6/13/23 21:39
unknown (08)	40.5	16.66	J, D	mg/kg	50	6/13/23 21:39
unknown (09)	23.5	17.13	J, D	mg/kg	50	6/13/23 21:39
unknown (10)	33.3	17.27	D, J	mg/kg	50	6/13/23 21:39
unknown (11)	25.2	17.91	D, J	mg/kg	50	6/13/23 21:39
unknown (12)	24.7	19.24	D, J	mg/kg	50	6/13/23 21:39
unknown (13)	25.7	19.26	D, J	mg/kg	50	6/13/23 21:39
unknown (14)	33.0	20.10	D, J	mg/kg	50	6/13/23 21:39
TIC Total	**412**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane		ND	U	0.000287	0.00197	mg/kg	1	6/10/23 3:17
1,1,2,2-Tetrachloroethane		ND	U	0.000272	0.00197	mg/kg	1	6/10/23 3:17
1,1,2-Trichloro-1,2,2 Trifluoroethane		ND	U	0.000842	0.00197	mg/kg	1	6/10/23 3:17
1,1,2-Trichloroethane		ND	U	0.000332	0.00197	mg/kg	1	6/10/23 3:17
1,1-Dichloroethane		ND	U	0.000287	0.00197	mg/kg	1	6/10/23 3:17
1,1-Dichloroethene		ND	U	0.000364	0.00197	mg/kg	1	6/10/23 3:17
1,2,3-Trichlorobenzene		ND	U	0.000425	0.00197	mg/kg	1	6/10/23 3:17
1,2,4-Trichlorobenzene		ND	U	0.000524	0.00197	mg/kg	1	6/10/23 3:17
1,2,4-Trimethylbenzene		**0.00350**		**0.000272**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
1,2-Dibromo-3-chloropropane		ND	U	0.000480	0.00197	mg/kg	1	6/10/23 3:17
1,2-Dibromoethane		ND	U	0.000248	0.00197	mg/kg	1	6/10/23 3:17
1,2-Dichlorobenzene		ND	U	0.000347	0.00197	mg/kg	1	6/10/23 3:17
1,2-Dichloroethane		ND	U	0.000277	0.00197	mg/kg	1	6/10/23 3:17
1,2-Dichloropropane		ND	U	0.000323	0.00197	mg/kg	1	6/10/23 3:17
1,3-Dichlorobenzene		ND	U	0.000145	0.00197	mg/kg	1	6/10/23 3:17
1,4-Dichlorobenzene		ND	U	0.000283	0.00197	mg/kg	1	6/10/23 3:17
2-Butanone		ND	U	0.000321	0.00492	mg/kg	1	6/10/23 3:17
2-Hexanone		ND	U	0.000184	0.00197	mg/kg	1	6/10/23 3:17
4-Methyl-2-pentanone		ND	U	0.000246	0.00197	mg/kg	1	6/10/23 3:17
Acetone		ND	U	0.000596	0.00492	mg/kg	1	6/10/23 3:17
Benzene		**0.00184**	J	**0.000179**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
Bromochloromethane	UJ, RC:Q	ND	U	0.000363	0.00197	mg/kg	1	6/10/23 3:17
Bromodichloromethane		ND	U	0.000247	0.00197	mg/kg	1	6/10/23 3:17
Bromoform		ND	U	0.000345	0.00197	mg/kg	1	6/10/23 3:17
Bromomethane		ND	U	0.000568	0.00197	mg/kg	1	6/10/23 3:17
Carbon disulfide		ND	U	0.000282	0.00197	mg/kg	1	6/10/23 3:17
Carbon Tetrachloride		ND	U	0.000296	0.00197	mg/kg	1	6/10/23 3:17
Chlorobenzene		ND	U	0.000285	0.00197	mg/kg	1	6/10/23 3:17
Chlorodibromomethane		ND	U	0.000242	0.00197	mg/kg	1	6/10/23 3:17
Chloroethane		ND	U	0.000335	0.00197	mg/kg	1	6/10/23 3:17
Chloroform		ND	U	0.000331	0.00197	mg/kg	1	6/10/23 3:17
Chloromethane		ND	U	0.000758	0.00197	mg/kg	1	6/10/23 3:17
cis-1,2-Dichloroethene		ND	U	0.0000951	0.00197	mg/kg	1	6/10/23 3:17
cis-1,3-Dichloropropene		ND	U	0.000249	0.00197	mg/kg	1	6/10/23 3:17
Cyclohexane		**0.00453**		**0.000436**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
Dichlorodifluoromethane		ND	U	0.000664	0.00197	mg/kg	1	6/10/23 3:17
EthylBenzene		**0.00969**		**0.000267**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	**0.00372**		**0.000309**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
m+p-Xylenes	**0.00382**	J	**0.000497**	**0.00394**	**mg/kg**	**1**	**6/10/23 3:17**
Methyl Acetate	ND	U	0.000261	0.00197	mg/kg	1	6/10/23 3:17
Methyl tert-Butyl Ether	ND	U	0.000333	0.00197	mg/kg	1	6/10/23 3:17
Methylcyclohexane	**0.00855**		**0.000317**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
Methylene Chloride	ND	U	0.000591	0.00197	mg/kg	1	6/10/23 3:17
o-Xylene	**0.000872**	J	**0.000253**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
Styrene	ND	U	0.000281	0.00197	mg/kg	1	6/10/23 3:17
tert-Butyl alcohol UJ, RC:Q	ND	U	0.00413	0.0197	mg/kg	1	6/10/23 3:17
Tetrachloroethene	ND	U	0.000195	0.00197	mg/kg	1	6/10/23 3:17
Toluene	**0.000683**	J	**0.000158**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
Total Xylenes	**0.00469**		**0.000253**	**0.00197**	**mg/kg**	**1**	**6/10/23 3:17**
trans-1,2-Dichloroethene	ND	U	0.000267	0.00197	mg/kg	1	6/10/23 3:17
trans-1,3-Dichloropropene	ND	U	0.000376	0.00197	mg/kg	1	6/10/23 3:17
Trichloroethene	ND	U	0.000289	0.00197	mg/kg	1	6/10/23 3:17
Trichlorofluoromethane	ND	U	0.000226	0.00197	mg/kg	1	6/10/23 3:17
Vinyl chloride	ND	U	0.000374	0.00197	mg/kg	1	6/10/23 3:17

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
(R)-(-)-(Z)-14-Methyl-8-hexadecen-1-ol	0.0167	21.35	J	mg/kg	1	6/10/23 3:17
Acetic acid, 2-phenylethyl ester	0.00948	22.52	J	mg/kg	1	6/10/23 3:17
Benzene, (1-methylenebutyl)-	0.00664	24.10	J	mg/kg	1	6/10/23 3:17
Benzene, 1-ethyl-4-methyl-	0.00843	18.94	J	mg/kg	1	6/10/23 3:17
Benzene, 2-butenyl-	0.00948	22.23	J	mg/kg	1	6/10/23 3:17
Bicyclo[4.1.0]heptan-2-one, 3,7,7-trimet	0.00894	21.69	J	mg/kg	1	6/10/23 3:17
Cyclohexane, (2-methylpropyl)-	0.0120	19.37	J	mg/kg	1	6/10/23 3:17
Cyclohexane, propyl-	0.00688	17.11	J	mg/kg	1	6/10/23 3:17
Cyclopropane, 1,1,2,3-tetramethyl-	0.00816	20.67	J	mg/kg	1	6/10/23 3:17
Naphthalene, decahydro-	0.00733	20.25	J	mg/kg	1	6/10/23 3:17
Nonane	0.0137	16.04	J	mg/kg	1	6/10/23 3:17
Octane, 3,3-dimethyl-	0.0125	18.81	J	mg/kg	1	6/10/23 3:17
TIC:Naphthalene	0.0139	23.27	J	mg/kg	1	6/10/23 3:17
Undecane	0.0137	20.34	J	mg/kg	1	6/10/23 3:17
Undecane, 3,6-dimethyl-	0.00815	22.38	J	mg/kg	1	6/10/23 3:17
TIC Total	**0.156**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-02 (Soil) Sample Name: **OH-SB-12A-1.5-2.5-20 230531** Collected: **5/31/2023 10:15:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**94.1**				**%**	**1**	**6/1/23 10:54**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.0601**		**0.00688**	**0.0577**	**mg/kg**	**1**	**6/7/23 17:34**

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20 230531** Collected: **5/31/2023 11:10:00AM**

SW 846 8082A - PCBs

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	UJ, RC:3L,6L	ND	U	0.00538	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1221		ND	U	0.0106	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1232		ND	U	0.0135	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1242		ND	U	0.00788	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1248		ND	U	0.00824	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1254		ND	U	0.00647	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1260		ND	U	0.00502	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1262		ND	U	0.0108	0.0401	mg/kg	1	6/13/23 0:49
Aroclor-1268		ND	U	0.00485	0.0401	mg/kg	1	6/13/23 0:49
Total PCBs		ND	U	0.00374	0.0401	mg/kg	1	6/13/23 0:49

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0119	0.121	mg/kg	1	6/14/23 1:03
2,4-D	ND	U	0.0202	0.121	mg/kg	1	6/14/23 1:03

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.391**		**0.00607**	**0.0243**	**mg/kg**	**1**	**6/12/23 14:50**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5690**		**0.185**	**3.11**	**mg/kg**	**1**	**6/14/23 11:18**
Antimony	**2.97**		**0.170**	**1.56**	**mg/kg**	**1**	**6/14/23 11:18**
Arsenic	**6.30**		**0.111**	**1.56**	**mg/kg**	**1**	**6/14/23 11:18**
Barium	**34.6**		**0.0471**	**0.623**	**mg/kg**	**1**	**6/14/23 11:18**
Beryllium	**0.415**		**0.00361**	**0.0311**	**mg/kg**	**1**	**6/14/23 11:18**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20 230531** Collected: **5/31/2023 11:10:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	**0.358**		**0.0607**	**0.311**	**mg/kg**	**1**	**6/14/23 11:18**
Calcium	**254000**	D	**35.0**	**311**	**mg/kg**	**10**	**6/14/23 13:18**
Chromium	**10.8**		**0.0352**	**0.311**	**mg/kg**	**1**	**6/14/23 11:18**
Cobalt	**2.53**		**0.0318**	**0.249**	**mg/kg**	**1**	**6/14/23 11:18**
Copper	**168**		**0.0871**	**0.311**	**mg/kg**	**1**	**6/14/23 11:18**
Iron	**9310**		**0.882**	**6.23**	**mg/kg**	**1**	**6/14/23 11:18**
Lead	**227**		**0.130**	**1.56**	**mg/kg**	**1**	**6/14/23 11:18**
Magnesium	**2790**		**11.0**	**62.3**	**mg/kg**	**1**	**6/14/23 11:18**
Manganese	**113**		**0.0387**	**0.311**	**mg/kg**	**1**	**6/14/23 11:18**
Nickel	**7.97**		**0.0274**	**0.156**	**mg/kg**	**1**	**6/14/23 11:18**
Potassium	**1750**		**37.0**	**125**	**mg/kg**	**1**	**6/14/23 11:18**
Selenium	**1.60**		**0.299**	**1.56**	**mg/kg**	**1**	**6/14/23 11:18**
Silver	**0.306**		**0.0530**	**0.187**	**mg/kg**	**1**	**6/14/23 11:18**
Sodium	**585**		**5.94**	**62.3**	**mg/kg**	**1**	**6/14/23 11:18**
Thallium	ND	U	0.105	1.56	mg/kg	1	6/14/23 11:18
Vanadium	**15.9**		**0.0716**	**0.623**	**mg/kg**	**1**	**6/14/23 11:18**
Zinc	**184**		**0.0951**	**0.934**	**mg/kg**	**1**	**6/14/23 11:18**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	**0.00192**		**0.000723**	**0.00158**	**mg/kg**	**1**	**6/14/23 19:35**
4,4'-DDE UJ, RC:6L	ND	U	0.000864	0.00158	mg/kg	1	6/14/23 19:35
4,4'-DDT	ND	U	0.00111	0.00158	mg/kg	1	6/14/23 19:35
Aldrin	ND	U	0.000748	0.00158	mg/kg	1	6/14/23 19:35
alpha-BHC	ND	U	0.000470	0.00158	mg/kg	1	6/14/23 19:35
beta-BHC	ND	U	0.000754	0.00158	mg/kg	1	6/14/23 19:35
Chlordane	ND	U	0.000702	0.00158	mg/kg	1	6/14/23 19:35
delta-BHC	ND	U	0.000734	0.00158	mg/kg	1	6/14/23 19:35
Dieldrin	ND	U	0.000826	0.00158	mg/kg	1	6/14/23 19:35
Endosulfan I	ND	U	0.000746	0.00158	mg/kg	1	6/14/23 19:35
Endosulfan II UJ, RC:6L	ND	U	0.000718	0.00158	mg/kg	1	6/14/23 19:35
Endosulfan sulfate	ND	U	0.000594	0.00158	mg/kg	1	6/14/23 19:35
Endosulfans, Total (alpha and beta)	ND	U	0.000718	0.00158	mg/kg	1	6/14/23 19:35
Endrin	ND	U	0.000545	0.00158	mg/kg	1	6/14/23 19:35
Endrin aldehyde	ND	U	0.000629	0.00158	mg/kg	1	6/14/23 19:35
Endrin ketone	ND	U	0.000556	0.00158	mg/kg	1	6/14/23 19:35
gamma-BHC (Lindane)	ND	U	0.000500	0.00158	mg/kg	1	6/14/23 19:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20 230531** Collected: **5/31/2023 11:10:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000423	0.00158	mg/kg	1	6/14/23 19:35
Heptachlor Epoxide	ND	U	0.000797	0.00158	mg/kg	1	6/14/23 19:35
Methoxychlor	ND	U	0.000463	0.00158	mg/kg	1	6/14/23 19:35
Toxaphene	ND	U	0.0761	0.0802	mg/kg	1	6/14/23 19:35

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane UJ, RC:Q	ND	U	0.00457	0.0404	mg/kg	1	6/12/23 18:57
2,3,4,6-Tetrachlorophenol	ND	U	0.0249	0.162	mg/kg	1	6/12/23 18:57
2,4,5-Trichlorophenol	ND	U	0.0220	0.162	mg/kg	1	6/12/23 18:57
2,4,6-Trichlorophenol	ND	U	0.0101	0.162	mg/kg	1	6/12/23 18:57
2,4-Dichlorophenol	ND	U	0.0163	0.162	mg/kg	1	6/12/23 18:57
2,4-Dimethylphenol	ND	U	0.0159	0.162	mg/kg	1	6/12/23 18:57
2,4-Dinitrophenol UJ, RC:Q	ND	U	0.0233	0.810	mg/kg	1	6/12/23 18:57
2,4-Dinitrotoluene	ND	U	0.0172	0.162	mg/kg	1	6/12/23 18:57
2,6-Dinitrotoluene	ND	U	0.0386	0.162	mg/kg	1	6/12/23 18:57
2-Chloronaphthalene	ND	U	0.0186	0.162	mg/kg	1	6/12/23 18:57
2-Chlorophenol	ND	U	0.0214	0.162	mg/kg	1	6/12/23 18:57
2-Methylnaphthalene	**0.773**		**0.0387**	**0.243**	**mg/kg**	**1**	**6/12/23 18:57**
2-Methylphenol	ND	U	0.0319	0.162	mg/kg	1	6/12/23 18:57
2-Nitroaniline	ND	U	0.0130	0.162	mg/kg	1	6/12/23 18:57
2-Nitrophenol UJ, RC:Q	ND	U	0.0180	0.162	mg/kg	1	6/12/23 18:57
3,3'-Dichlorobenzidine	ND	U	0.0170	0.162	mg/kg	1	6/12/23 18:57
3+4-Methylphenol	**0.168**		**0.0296**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
3-Nitroaniline	ND	U	0.0300	0.162	mg/kg	1	6/12/23 18:57
4,6-Dinitro-2-methylphenol UJ, RC:Q	ND	U	0.0305	0.404	mg/kg	1	6/12/23 18:57
4-Bromophenyl-phenyl ether	ND	U	0.0231	0.162	mg/kg	1	6/12/23 18:57
4-Chloro-3-methylphenol	ND	U	0.0255	0.162	mg/kg	1	6/12/23 18:57
4-Chloroaniline	ND	U	0.00566	0.162	mg/kg	1	6/12/23 18:57
4-Chlorophenyl phenyl ether	ND	U	0.00873	0.162	mg/kg	1	6/12/23 18:57
4-Nitroaniline	ND	U	0.0809	0.162	mg/kg	1	6/12/23 18:57
4-Nitrophenol	ND	U	0.0103	0.162	mg/kg	1	6/12/23 18:57
Acenaphthene	**1.65**		**0.00922**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Acenaphthylene	**2.28**		**0.00562**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Acetophenone	ND	U	0.0160	0.162	mg/kg	1	6/12/23 18:57
Anthracene	**2.65**		**0.0234**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Atrazine UJ, RC:SL	ND	U	0.0152	0.162	mg/kg	1	6/12/23 18:57
Benzaldehyde	ND	U	0.0497	0.162	mg/kg	1	6/12/23 18:57

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20 230531** Collected: **5/31/2023 11:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(a)anthracene		**4.71**		**0.0163**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Benzo(a)pyrene		**5.85**		**0.0282**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Benzo(b)fluoranthene		**6.00**		**0.0227**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Benzo(g,h,i)perylene		**8.96**		**0.0131**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Benzo(k)fluoranthene		**2.69**		**0.0186**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Biphenyl	J, RC:3H	**0.285**		**0.0142**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
bis(2-chloroethoxy)methane		ND	U	0.0223	0.162	mg/kg	1	6/12/23 18:57
bis(2-chloroethyl)ether		ND	U	0.0177	0.162	mg/kg	1	6/12/23 18:57
bis(2-chloroisopropyl)ether		ND	U	0.0582	0.162	mg/kg	1	6/12/23 18:57
bis(2-ethylhexyl)phthalate	J, RC:SH	**1.43**		**0.0323**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Butylbenzylphthalate		ND	U	0.0147	0.162	mg/kg	1	6/12/23 18:57
Caprolactam		ND	U	0.0209	0.162	mg/kg	1	6/12/23 18:57
Carbazole		**0.630**		**0.0311**	**0.404**	**mg/kg**	**1**	**6/12/23 18:57**
Chrysene		**5.50**		**0.0111**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Dibenzo(a,h)anthracene		**1.27**		**0.0160**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Dibenzofuran		**0.830**		**0.00963**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Diethylphthalate		ND	U	0.0313	0.162	mg/kg	1	6/12/23 18:57
Dimethylphthalate		ND	U	0.0100	0.162	mg/kg	1	6/12/23 18:57
Di-n-butylphthalate		ND	U	0.0661	0.162	mg/kg	1	6/12/23 18:57
Di-n-octylphthalate		ND	U	0.0332	0.162	mg/kg	1	6/12/23 18:57
Fluoranthene		**7.66**		**0.0152**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Fluorene		**1.33**		**0.0135**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Hexachlorobenzene		ND	U	0.0211	0.162	mg/kg	1	6/12/23 18:57
Hexachlorobutadiene		ND	U	0.0776	0.162	mg/kg	1	6/12/23 18:57
Hexachlorocyclopentadiene	UJ, RC:SL	ND	U	0.0674	0.404	mg/kg	1	6/12/23 18:57
Hexachloroethane	UJ, RC:SL	ND	U	0.0177	0.162	mg/kg	1	6/12/23 18:57
Indeno(1,2,3-cd)pyrene		**4.45**		**0.0174**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Isophorone		ND	U	0.0106	0.162	mg/kg	1	6/12/23 18:57
Naphthalene		**1.93**		**0.0120**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Nitrobenzene		ND	U	0.0274	0.162	mg/kg	1	6/12/23 18:57
n-Nitroso-di-n-propylamine		ND	U	0.00866	0.162	mg/kg	1	6/12/23 18:57
n-Nitrosodiphenylamine		ND	U	0.0345	0.162	mg/kg	1	6/12/23 18:57
Pentachlorophenol		ND	U	0.0222	0.404	mg/kg	1	6/12/23 18:57
Phenanthrene		**6.61**		**0.0213**	**0.162**	**mg/kg**	**1**	**6/12/23 18:57**
Phenol		ND	U	0.0131	0.162	mg/kg	1	6/12/23 18:57
Pyrene		**10.8**	D	**0.119**	**1.62**	**mg/kg**	**10**	**6/13/23 20:04**

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20 230531** Collected: **5/31/2023 11:10:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 2-propenyl-	1.53	5.80	J	mg/kg	1	6/12/23 18:57
Benzocycloheptatriene	1.18	8.05	J	mg/kg	1	6/12/23 18:57
Hexadecanoic acid, 1,1-dimethylethyl est	R, RC:2 ~~2.18~~	11.84	~~B, J~~	mg/kg	1	6/12/23 18:57
Tetradecane, 2,6,10-trimethyl-	0.853	9.36	J	mg/kg	1	6/12/23 18:57
unknown (01)	0.916	5.67	J	mg/kg	1	6/12/23 18:57
unknown (02)	0.996	5.77	J	mg/kg	1	6/12/23 18:57
unknown (03)	0.841	6.80	J	mg/kg	1	6/12/23 18:57
unknown (04)	0.847	6.98	J	mg/kg	1	6/12/23 18:57
unknown (05)	0.920	7.50	J	mg/kg	1	6/12/23 18:57
unknown (06)	1.00	8.20	J	mg/kg	1	6/12/23 18:57
unknown (07)	1.41	8.66	J	mg/kg	1	6/12/23 18:57
unknown (08)	1.15	9.41	J	mg/kg	1	6/12/23 18:57
unknown (09)	0.964	10.07	J	mg/kg	1	6/12/23 18:57
unknown (10)	1.67	11.90	J	mg/kg	1	6/12/23 18:57
unknown (11)	2.53	15.43	J	mg/kg	1	6/12/23 18:57
TIC Total	~~19.0~~ 16.82					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000322	0.00221	mg/kg	1	6/12/23 14:30
1,1,2,2-Tetrachloroethane	ND	U	0.000305	0.00221	mg/kg	1	6/12/23 14:30
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000945	0.00221	mg/kg	1	6/12/23 14:30
1,1,2-Trichloroethane	ND	U	0.000372	0.00221	mg/kg	1	6/12/23 14:30
1,1-Dichloroethane	ND	U	0.000322	0.00221	mg/kg	1	6/12/23 14:30
1,1-Dichloroethene	ND	U	0.000409	0.00221	mg/kg	1	6/12/23 14:30
1,2,3-Trichlorobenzene UJ, RC:4L	ND	U	0.000477	0.00221	mg/kg	1	6/12/23 14:30
1,2,4-Trichlorobenzene UJ, RC:4L	ND	U	0.000588	0.00221	mg/kg	1	6/12/23 14:30
1,2,4-Trimethylbenzene	ND	U	0.000305	0.00221	mg/kg	1	6/12/23 14:30
1,2-Dibromo-3-chloropropane	ND	U	0.000539	0.00221	mg/kg	1	6/12/23 14:30
1,2-Dibromoethane	ND	U	0.000278	0.00221	mg/kg	1	6/12/23 14:30
1,2-Dichlorobenzene UJ, RC:4L	ND	U	0.000390	0.00221	mg/kg	1	6/12/23 14:30
1,2-Dichloroethane	ND	U	0.000311	0.00221	mg/kg	1	6/12/23 14:30
1,2-Dichloropropane	ND	U	0.000362	0.00221	mg/kg	1	6/12/23 14:30
1,3-Dichlorobenzene	ND	U	0.000162	0.00221	mg/kg	1	6/12/23 14:30
1,4-Dichlorobenzene UJ, RC:4L	ND	U	0.000318	0.00221	mg/kg	1	6/12/23 14:30
2-Butanone	ND	U	0.000360	0.00552	mg/kg	1	6/12/23 14:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-03 (Soil) Sample Name: **OH-SB-12A-5.0-6.0-20 230531** Collected: **5/31/2023 11:10:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Hexanone		ND	U	0.000206	0.00221	mg/kg	1	6/12/23 14:30
4-Methyl-2-pentanone		ND	U	0.000276	0.00221	mg/kg	1	6/12/23 14:30
Acetone		ND	U	0.000669	0.00552	mg/kg	1	6/12/23 14:30
Benzene		ND	U	0.000201	0.00221	mg/kg	1	6/12/23 14:30
Bromochloromethane	UJ, RC:Q	ND	U	0.000407	0.00221	mg/kg	1	6/12/23 14:30
Bromodichloromethane		ND	U	0.000277	0.00221	mg/kg	1	6/12/23 14:30
Bromoform		ND	U	0.000388	0.00221	mg/kg	1	6/12/23 14:30
Bromomethane		ND	U	0.000637	0.00221	mg/kg	1	6/12/23 14:30
Carbon disulfide		ND	U	0.000317	0.00221	mg/kg	1	6/12/23 14:30
Carbon Tetrachloride		ND	U	0.000332	0.00221	mg/kg	1	6/12/23 14:30
Chlorobenzene		ND	U	0.000320	0.00221	mg/kg	1	6/12/23 14:30
Chlorodibromomethane		ND	U	0.000272	0.00221	mg/kg	1	6/12/23 14:30
Chloroethane		ND	U	0.000377	0.00221	mg/kg	1	6/12/23 14:30
Chloroform		ND	U	0.000371	0.00221	mg/kg	1	6/12/23 14:30
Chloromethane		ND	U	0.000850	0.00221	mg/kg	1	6/12/23 14:30
cis-1,2-Dichloroethene		ND	U	0.000107	0.00221	mg/kg	1	6/12/23 14:30
cis-1,3-Dichloropropene		ND	U	0.000279	0.00221	mg/kg	1	6/12/23 14:30
Cyclohexane		ND	U	0.000489	0.00221	mg/kg	1	6/12/23 14:30
Dichlorodifluoromethane		ND	U	0.000745	0.00221	mg/kg	1	6/12/23 14:30
EthylBenzene		ND	U	0.000299	0.00221	mg/kg	1	6/12/23 14:30
Isopropylbenzene		ND	U	0.000347	0.00221	mg/kg	1	6/12/23 14:30
m+p-Xylenes		ND	U	0.000558	0.00442	mg/kg	1	6/12/23 14:30
Methyl Acetate		ND	U	0.000293	0.00221	mg/kg	1	6/12/23 14:30
Methyl tert-Butyl Ether		ND	U	0.000373	0.00221	mg/kg	1	6/12/23 14:30
Methylcyclohexane		ND	U	0.000356	0.00221	mg/kg	1	6/12/23 14:30
Methylene Chloride		ND	U	0.000664	0.00221	mg/kg	1	6/12/23 14:30
o-Xylene		ND	U	0.000284	0.00221	mg/kg	1	6/12/23 14:30
Styrene		ND	U	0.000316	0.00221	mg/kg	1	6/12/23 14:30
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00464	0.0221	mg/kg	1	6/12/23 14:30
Tetrachloroethene		ND	U	0.000219	0.00221	mg/kg	1	6/12/23 14:30
Toluene		ND	U	0.000178	0.00221	mg/kg	1	6/12/23 14:30
Total Xylenes		ND	U	0.000284	0.00221	mg/kg	1	6/12/23 14:30
trans-1,2-Dichloroethene		ND	U	0.000299	0.00221	mg/kg	1	6/12/23 14:30
trans-1,3-Dichloropropene		ND	U	0.000422	0.00221	mg/kg	1	6/12/23 14:30
Trichloroethene		ND	U	0.000325	0.00221	mg/kg	1	6/12/23 14:30
Trichlorofluoromethane		ND	U	0.000254	0.00221	mg/kg	1	6/12/23 14:30
Vinyl chloride		ND	U	0.000420	0.00221	mg/kg	1	6/12/23 14:30

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-03 (Soil) Sample Name: OH-SB-12A-5.0-6.0-20230531 Collected: 5/31/2023 11:10:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Propanone	0.00736	4.54	J	mg/kg	1	6/12/23 14:30
3,4-Octadiene, 7-methyl-	0.00587	21.38	J	mg/kg	1	6/12/23 14:30
Decane, 3,4-dimethyl-	0.0120	23.30	J	mg/kg	1	6/12/23 14:30
Hydrazine, 1,1-dimethyl-	0.0108	3.10	J	mg/kg	1	6/12/23 14:30
Lab Contamination	0.0106	5.33	J	mg/kg	1	6/12/23 14:30
Propanoyl chloride	0.0136	2.97	J	mg/kg	1	6/12/23 14:30
TIC Total	**0.060**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.3**				**%**	**1**	**6/1/23 10:54**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.395**		**0.00868**	**0.0729**	**mg/kg**	**1**	**6/7/23 17:34**

23E1405-04 (Ground Water) Sample Name: FB-20230531 Collected: 5/31/2023 12:35:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/9/23 21:55
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/9/23 21:55
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/9/23 21:55
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/9/23 21:55
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/9/23 21:55
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/9/23 21:55
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/9/23 21:55
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/9/23 21:55
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/9/23 21:55
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/9/23 21:55

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 20:14
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 20:14
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 20:14

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-04 (Ground Water) Sample Name: **FB-20230531** Collected: **5/31/2023 12:35:00PM**

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/5/23 15:05

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/13/23 10:45
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/13/23 10:45
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/13/23 10:45
Barium	ND	U	0.000558	0.0200	mg/L	1	6/13/23 10:45
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/13/23 10:45
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/13/23 10:45
Calcium	ND	U	0.256	1.00	mg/L	1	6/13/23 10:45
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/13/23 10:45
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/13/23 10:45
Copper	ND	U	0.00177	0.0100	mg/L	1	6/13/23 10:45
Iron	**0.281**		**0.0580**	**0.200**	**mg/L**	**1**	**6/13/23 10:45**
Lead	ND	U	0.00510	0.0500	mg/L	1	6/13/23 10:45
Magnesium	ND	U	0.681	2.00	mg/L	1	6/13/23 10:45
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/13/23 10:45
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/13/23 10:45
Potassium	ND	U	2.41	4.00	mg/L	1	6/13/23 10:45
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/13/23 10:45
Silver UJ, RC:6L	ND	U	0.00465	0.0200	mg/L	1	6/13/23 10:45
Sodium	**7.02**		**0.205**	**2.00**	**mg/L**	**1**	**6/13/23 10:45**
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/13/23 10:45
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/13/23 10:45
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/13/23 10:45

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 0:07
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 0:07
4,4'-DDT UJ, RC:Q	ND	U	0.000319	0.0200	ug/L	1	6/13/23 0:07
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 0:07
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 0:07
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 0:07
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 0:07
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 0:07
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 0:07
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 0:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-04 (Ground Water) Sample Name: **FB-20230531** Collected: **5/31/2023 12:35:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 0:07
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 0:07
Endrin UJ, RC:6L	ND	U	0.000229	0.0200	ug/L	1	6/13/23 0:07
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 0:07
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 0:07
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 0:07
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 0:07
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 0:07
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 0:07
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 0:07

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/1/23 14:28
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/1/23 14:28
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/1/23 14:28
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/1/23 14:28
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/1/23 14:28
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/1/23 14:28
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/1/23 14:28
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/1/23 14:28
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/1/23 14:28
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/1/23 14:28
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/1/23 14:28
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/1/23 14:28
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/1/23 14:28
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/1/23 14:28
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/1/23 14:28
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/1/23 14:28
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/1/23 14:28
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/1/23 14:28
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/1/23 14:28
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/1/23 14:28
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/1/23 14:28
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/1/23 14:28
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/1/23 14:28
4-Nitrophenol UJ, RC:SL	ND	U	0.168	2.00	ug/L	1	6/1/23 14:28
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/1/23 14:28
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/1/23 14:28

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-04 (Ground Water) Sample Name: **FB-20230531** Collected: **5/31/2023 12:35:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/1/23 14:28
Anthracene	ND	U	0.121	2.00	ug/L	1	6/1/23 14:28
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/1/23 14:28
Benzaldehyde UJ, RC:Q,SL	ND	U	0.134	2.00	ug/L	1	6/1/23 14:28
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/1/23 14:28
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/1/23 14:28
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/1/23 14:28
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/1/23 14:28
bis(2-chloroisopropyl)ether UJ, RC:SL	ND	U	0.132	2.00	ug/L	1	6/1/23 14:28
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/1/23 14:28
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/1/23 14:28
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/1/23 14:28
Carbazole	ND	U	0.188	2.00	ug/L	1	6/1/23 14:28
Chrysene	ND	U	0.129	2.00	ug/L	1	6/1/23 14:28
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/1/23 14:28
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/1/23 14:28
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/1/23 14:28
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/1/23 14:28
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/1/23 14:28
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/1/23 14:28
Fluorene	ND	U	0.109	2.00	ug/L	1	6/1/23 14:28
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/1/23 14:28
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/1/23 14:28
Isophorone	ND	U	0.111	2.00	ug/L	1	6/1/23 14:28
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/1/23 14:28
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/1/23 14:28
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/1/23 14:28
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/1/23 14:28
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/1/23 14:28
Phenol	ND	U	0.0973	2.00	ug/L	1	6/1/23 14:28
Pyrene	ND	U	0.115	2.00	ug/L	1	6/1/23 14:28

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-04 (Ground Water) Sample Name: **FB-20230531** Collected: **5/31/2023 12:35:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane		ND	U	0.216	1.00	ug/L	1	6/8/23 15:14
1,1,2,2-Tetrachloroethane	UJ, RC:6L	ND	U	0.218	1.00	ug/L	1	6/8/23 15:14
1,1,2-Trichloro-1,2,2 Trifluoroethane		ND	U	0.546	1.00	ug/L	1	6/8/23 15:14
1,1,2-Trichloroethane		ND	U	0.476	1.00	ug/L	1	6/8/23 15:14
1,1-Dichloroethane		ND	U	0.393	1.00	ug/L	1	6/8/23 15:14
1,1-Dichloroethene		ND	U	0.149	1.00	ug/L	1	6/8/23 15:14
1,2,3-Trichlorobenzene	UJ, RC:Q	ND	U	0.488	1.00	ug/L	1	6/8/23 15:14
1,2,4-Trichlorobenzene		ND	U	0.437	1.00	ug/L	1	6/8/23 15:14
1,2,4-Trimethylbenzene		ND	U	0.155	1.00	ug/L	1	6/8/23 15:14
1,2-Dibromo-3-chloropropane		ND	U	1.09	2.00	ug/L	1	6/8/23 15:14
1,2-Dibromoethane		ND	U	0.320	1.00	ug/L	1	6/8/23 15:14
1,2-Dichlorobenzene		ND	U	0.210	1.00	ug/L	1	6/8/23 15:14
1,2-Dichloroethane		ND	U	0.306	1.00	ug/L	1	6/8/23 15:14
1,2-Dichloropropane		ND	U	0.267	1.00	ug/L	1	6/8/23 15:14
1,3-Dichlorobenzene		ND	U	0.287	1.00	ug/L	1	6/8/23 15:14
1,4-Dichlorobenzene		ND	U	0.238	1.00	ug/L	1	6/8/23 15:14
2-Butanone		ND	U	10.0	10.0	ug/L	1	6/8/23 15:14
2-Hexanone		ND	U	0.635	2.00	ug/L	1	6/8/23 15:14
4-Methyl-2-pentanone	UJ, RC:SL	ND	U	0.638	2.00	ug/L	1	6/8/23 15:14
Acetone		ND	U	10.0	10.0	ug/L	1	6/8/23 15:14
Benzene		ND	U	0.129	1.00	ug/L	1	6/8/23 15:14
Bromochloromethane		ND	U	0.307	1.00	ug/L	1	6/8/23 15:14
Bromodichloromethane		ND	U	0.258	1.00	ug/L	1	6/8/23 15:14
Bromoform		ND	U	0.421	1.00	ug/L	1	6/8/23 15:14
Bromomethane	UJ, RC:6L,SL	ND	U	0.702	10.0	ug/L	1	6/8/23 15:14
Carbon disulfide		ND	U	0.477	1.00	ug/L	1	6/8/23 15:14
Carbon Tetrachloride		ND	U	0.372	1.00	ug/L	1	6/8/23 15:14
Chlorobenzene		ND	U	0.300	1.00	ug/L	1	6/8/23 15:14
Chlorodibromomethane		ND	U	0.504	1.00	ug/L	1	6/8/23 15:14
Chloroethane		ND	U	0.299	2.00	ug/L	1	6/8/23 15:14
Chloroform		ND	U	0.365	1.00	ug/L	1	6/8/23 15:14
Chloromethane		ND	U	0.758	1.00	ug/L	1	6/8/23 15:14
cis-1,2-Dichloroethene		ND	U	0.352	1.00	ug/L	1	6/8/23 15:14
cis-1,3-Dichloropropene		ND	U	0.294	1.00	ug/L	1	6/8/23 15:14
Cyclohexane		ND	U	0.298	2.00	ug/L	1	6/8/23 15:14
Dichlorodifluoromethane		ND	U	0.328	2.00	ug/L	1	6/8/23 15:14
EthylBenzene		ND	U	0.244	1.00	ug/L	1	6/8/23 15:14
Isopropylbenzene		ND	U	0.275	1.00	ug/L	1	6/8/23 15:14

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates **Work Order:** 23E1405
Project: Owls Head Phase 2 **Date to Lab:** 5/31/2023 2:15:00PM

23E1405-04 (Ground Water) Sample Name: **FB-20230531** Collected: **5/31/2023 12:35:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes		ND	U	0.461	2.00	ug/L	1	6/8/23 15:14
Methyl Acetate	UJ, RC:SL	ND	U	0.373	1.00	ug/L	1	6/8/23 15:14
Methyl tert-Butyl Ether		ND	U	0.596	1.00	ug/L	1	6/8/23 15:14
Methylcyclohexane		ND	U	0.222	1.00	ug/L	1	6/8/23 15:14
Methylene Chloride		ND	U	3.00	3.00	ug/L	1	6/8/23 15:14
o-Xylene		ND	U	0.244	1.00	ug/L	1	6/8/23 15:14
Styrene		ND	U	0.176	1.00	ug/L	1	6/8/23 15:14
tert-Butyl alcohol	UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	6/8/23 15:14
Tetrachloroethene		ND	U	0.466	1.00	ug/L	1	6/8/23 15:14
Toluene		ND	U	0.205	1.00	ug/L	1	6/8/23 15:14
Total Xylenes		ND	U	0.244	1.00	ug/L	1	6/8/23 15:14
trans-1,2-Dichloroethene		ND	U	0.241	1.00	ug/L	1	6/8/23 15:14
trans-1,3-Dichloropropene		ND	U	0.279	1.00	ug/L	1	6/8/23 15:14
Trichloroethene		ND	U	0.146	1.00	ug/L	1	6/8/23 15:14
Trichlorofluoromethane		ND	U	0.413	1.00	ug/L	1	6/8/23 15:14
Vinyl chloride		ND	U	0.157	1.00	ug/L	1	6/8/23 15:14

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/7/23 15:56

23E1405-05 (Soil) Sample Name: **DUP-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8082A - PCBs

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	UJ, RC:3L,6L	ND	U	0.00468	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1221		ND	U	0.00920	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1232		ND	U	0.0117	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1242		ND	U	0.00685	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1248		ND	U	0.00717	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1254		ND	U	0.00563	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1260 [2C]	J, RC:3L,6L	**0.139**		**0.00716**	**0.0349**	**mg/kg**	**1**	**6/13/23 1:12**
Aroclor-1262	UJ, RC:3L,6L	ND	U	0.00939	0.0349	mg/kg	1	6/13/23 1:12
Aroclor-1268	UJ, RC:3L,6L	ND	U	0.00422	0.0349	mg/kg	1	6/13/23 1:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-05 (Soil) Sample Name: **DUP-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total PCBs	J, RC:3L,6L **0.139**		**0.00326**	**0.0349**	**mg/kg**	**1**	**6/13/23 1:12**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0104	0.106	mg/kg	1	6/14/23 1:27
2,4-D	ND	U	0.0175	0.106	mg/kg	1	6/14/23 1:27

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.141**		**0.00528**	**0.0211**	**mg/kg**	**1**	**6/12/23 14:50**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2950**		**0.156**	**2.63**	**mg/kg**	**1**	**6/14/23 11:20**
Antimony	ND	U	0.143	1.31	mg/kg	1	6/14/23 11:20
Arsenic	**2.27**		**0.0938**	**1.31**	**mg/kg**	**1**	**6/14/23 11:20**
Barium	**21.8**		**0.0398**	**0.526**	**mg/kg**	**1**	**6/14/23 11:20**
Beryllium	**0.211**		**0.00304**	**0.0263**	**mg/kg**	**1**	**6/14/23 11:20**
Cadmium	ND	U	0.0513	0.263	mg/kg	1	6/14/23 11:20
Calcium	**68100**	D	**29.6**	**263**	**mg/kg**	**10**	**6/14/23 13:20**
Chromium	J, RC:8 **12.9**		**0.0297**	**0.263**	**mg/kg**	**1**	**6/14/23 11:20**
Cobalt	**3.39**		**0.0269**	**0.210**	**mg/kg**	**1**	**6/14/23 11:20**
Copper	J, RC:8 **63.1**		**0.0736**	**0.263**	**mg/kg**	**1**	**6/14/23 11:20**
Iron	J, RC:8 **18000**		**0.745**	**5.26**	**mg/kg**	**1**	**6/14/23 11:20**
Lead	**25.7**		**0.110**	**1.31**	**mg/kg**	**1**	**6/14/23 11:20**
Magnesium	J, RC:8 **19000**		**9.29**	**52.6**	**mg/kg**	**1**	**6/14/23 11:20**
Manganese	**189**		**0.0327**	**0.263**	**mg/kg**	**1**	**6/14/23 11:20**
Nickel	J, RC:8 **13.7**		**0.0231**	**0.131**	**mg/kg**	**1**	**6/14/23 11:20**
Potassium	ND	U	31.3	105	mg/kg	1	6/14/23 11:20
Selenium	ND	U	0.252	1.31	mg/kg	1	6/14/23 11:20
Silver	ND	U	0.0447	0.158	mg/kg	1	6/14/23 11:20
Sodium	**202**		**5.01**	**52.6**	**mg/kg**	**1**	**6/14/23 11:20**
Thallium	ND	U	0.0885	1.31	mg/kg	1	6/14/23 11:20
Vanadium	**33.4**		**0.0605**	**0.526**	**mg/kg**	**1**	**6/14/23 11:20**
Zinc	**25.9**		**0.0803**	**0.789**	**mg/kg**	**1**	**6/14/23 11:20**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-05 (Soil) Sample Name: **DUP-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	J, RC:3L	**0.00334**		**0.000629**	**0.00137**	**mg/kg**	**1**	**6/13/23 21:42**
4,4'-DDE	J, RC:3L,6L,8	**0.00371**		**0.000751**	**0.00137**	**mg/kg**	**1**	**6/13/23 21:42**
4,4'-DDT	J, RC:3L	**0.0135**		**0.000970**	**0.00137**	**mg/kg**	**1**	**6/13/23 21:42**
Aldrin	UJ, RC:3L	ND	U	0.000651	0.00137	mg/kg	1	6/13/23 21:42
alpha-BHC	UJ, RC:3L	ND	U	0.000409	0.00137	mg/kg	1	6/13/23 21:42
beta-BHC	UJ, RC:3L	ND	U	0.000656	0.00137	mg/kg	1	6/13/23 21:42
Chlordane	J, RC:3L	**0.00292**		**0.000611**	**0.00137**	**mg/kg**	**1**	**6/13/23 21:42**
delta-BHC	UJ, RC:3L	ND	U	0.000638	0.00137	mg/kg	1	6/13/23 21:42
Dieldrin	UJ, RC:3L	ND	U	0.000719	0.00137	mg/kg	1	6/13/23 21:42
Endosulfan I	UJ, RC:3L	ND	U	0.000649	0.00137	mg/kg	1	6/13/23 21:42
Endosulfan II	UJ, RC:3L,6L	ND	U	0.000625	0.00137	mg/kg	1	6/13/23 21:42
Endosulfan sulfate	UJ, RC:3L	ND	U	0.000517	0.00137	mg/kg	1	6/13/23 21:42
Endosulfans, Total (alpha and beta)	UJ, RC:3L	ND	U	0.000625	0.00137	mg/kg	1	6/13/23 21:42
Endrin	UJ, RC:3L	ND	U	0.000475	0.00137	mg/kg	1	6/13/23 21:42
Endrin aldehyde	UJ, RC:3L	ND	U	0.000547	0.00137	mg/kg	1	6/13/23 21:42
Endrin ketone	UJ, RC:3L	ND	U	0.000484	0.00137	mg/kg	1	6/13/23 21:42
gamma-BHC (Lindane)	UJ, RC:3L	ND	U	0.000435	0.00137	mg/kg	1	6/13/23 21:42
Heptachlor	UJ, RC:3L	ND	U	0.000368	0.00137	mg/kg	1	6/13/23 21:42
Heptachlor Epoxide	UJ, RC:3L	ND	U	0.000693	0.00137	mg/kg	1	6/13/23 21:42
Methoxychlor	UJ, RC:3L	ND	U	0.000403	0.00137	mg/kg	1	6/13/23 21:42
Toxaphene	UJ, RC:3L	ND	U	0.0662	0.0698	mg/kg	1	6/13/23 21:42

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	UJ, RC:Q	ND	U	0.0397	0.352	mg/kg	1	6/12/23 19:29
2,3,4,6-Tetrachlorophenol		ND	U	0.217	1.41	mg/kg	1	6/12/23 19:29
2,4,5-Trichlorophenol		ND	U	0.191	1.41	mg/kg	1	6/12/23 19:29
2,4,6-Trichlorophenol		ND	U	0.0880	1.41	mg/kg	1	6/12/23 19:29
2,4-Dichlorophenol		ND	U	0.142	1.41	mg/kg	1	6/12/23 19:29
2,4-Dimethylphenol		ND	U	0.138	1.41	mg/kg	1	6/12/23 19:29
2,4-Dinitrophenol		ND	U	0.203	7.05	mg/kg	1	6/12/23 19:29
2,4-Dinitrotoluene	UJ, RC:Q	ND	U	0.150	1.41	mg/kg	1	6/12/23 19:29
2,6-Dinitrotoluene		ND	U	0.336	1.41	mg/kg	1	6/12/23 19:29
2-Chloronaphthalene		ND	U	0.162	1.41	mg/kg	1	6/12/23 19:29
2-Chlorophenol		ND	U	0.186	1.41	mg/kg	1	6/12/23 19:29
2-Methylnaphthalene		ND	U	0.337	2.11	mg/kg	1	6/12/23 19:29
2-Methylphenol		ND	U	0.278	1.41	mg/kg	1	6/12/23 19:29
2-Nitroaniline		ND	U	0.113	1.41	mg/kg	1	6/12/23 19:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-05 (Soil) Sample Name: **DUP-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Nitrophenol	UJ, RC:Q ND	U	0.156	1.41	mg/kg	1	6/12/23 19:29
3,3'-Dichlorobenzidine	ND	U	0.148	1.41	mg/kg	1	6/12/23 19:29
3+4-Methylphenol	ND	U	0.258	1.41	mg/kg	1	6/12/23 19:29
3-Nitroaniline	ND	U	0.261	1.41	mg/kg	1	6/12/23 19:29
4,6-Dinitro-2-methylphenol	UJ, RC:Q ND	U	0.265	3.52	mg/kg	1	6/12/23 19:29
4-Bromophenyl-phenyl ether	ND	U	0.201	1.41	mg/kg	1	6/12/23 19:29
4-Chloro-3-methylphenol	ND	U	0.222	1.41	mg/kg	1	6/12/23 19:29
4-Chloroaniline	ND	U	0.0493	1.41	mg/kg	1	6/12/23 19:29
4-Chlorophenyl phenyl ether	ND	U	0.0760	1.41	mg/kg	1	6/12/23 19:29
4-Nitroaniline	ND	U	0.704	1.41	mg/kg	1	6/12/23 19:29
4-Nitrophenol	ND	U	0.0900	1.41	mg/kg	1	6/12/23 19:29
Acenaphthene	ND	U	0.0802	1.41	mg/kg	1	6/12/23 19:29
Acenaphthylene	ND	U	0.0489	1.41	mg/kg	1	6/12/23 19:29
Acetophenone	ND	U	0.140	1.41	mg/kg	1	6/12/23 19:29
Anthracene	ND	U	0.204	1.41	mg/kg	1	6/12/23 19:29
Atrazine	UJ, RC:SL ND	U	0.132	1.41	mg/kg	1	6/12/23 19:29
Benzaldehyde	ND	U	0.432	1.41	mg/kg	1	6/12/23 19:29
Benzo(a)anthracene	ND	U	0.142	1.41	mg/kg	1	6/12/23 19:29
Benzo(a)pyrene	ND	U	0.245	1.41	mg/kg	1	6/12/23 19:29
Benzo(b)fluoranthene	ND	U	0.198	1.41	mg/kg	1	6/12/23 19:29
Benzo(g,h,i)perylene	ND	U	0.114	1.41	mg/kg	1	6/12/23 19:29
Benzo(k)fluoranthene	ND	U	0.162	1.41	mg/kg	1	6/12/23 19:29
Biphenyl	ND	U	0.124	1.41	mg/kg	1	6/12/23 19:29
bis(2-chloroethoxy)methane	ND	U	0.194	1.41	mg/kg	1	6/12/23 19:29
bis(2-chloroethyl)ether	ND	U	0.154	1.41	mg/kg	1	6/12/23 19:29
bis(2-chloroisopropyl)ether	ND	U	0.506	1.41	mg/kg	1	6/12/23 19:29
bis(2-ethylhexyl)phthalate	ND	U	0.281	1.41	mg/kg	1	6/12/23 19:29
Butylbenzylphthalate	ND	U	0.128	1.41	mg/kg	1	6/12/23 19:29
Caprolactam	ND	U	0.182	1.41	mg/kg	1	6/12/23 19:29
Carbazole	ND	U	0.271	3.52	mg/kg	1	6/12/23 19:29
Chrysene	ND	U	0.0964	1.41	mg/kg	1	6/12/23 19:29
Dibenzo(a,h)anthracene	ND	U	0.140	1.41	mg/kg	1	6/12/23 19:29
Dibenzofuran	ND	U	0.0838	1.41	mg/kg	1	6/12/23 19:29
Diethylphthalate	ND	U	0.273	1.41	mg/kg	1	6/12/23 19:29
Dimethylphthalate	ND	U	0.0873	1.41	mg/kg	1	6/12/23 19:29
Di-n-butylphthalate	ND	U	0.575	1.41	mg/kg	1	6/12/23 19:29
Di-n-octylphthalate	ND	U	0.289	1.41	mg/kg	1	6/12/23 19:29
Fluoranthene	ND	U	0.132	1.41	mg/kg	1	6/12/23 19:29
Fluorene	ND	U	0.117	1.41	mg/kg	1	6/12/23 19:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-05 (Soil) Sample Name: **DUP-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorobenzene		ND	U	0.184	1.41	mg/kg	1	6/12/23 19:29
Hexachlorobutadiene		ND	U	0.675	1.41	mg/kg	1	6/12/23 19:29
Hexachlorocyclopentadiene	UJ, RC:SL	ND	U	0.587	3.52	mg/kg	1	6/12/23 19:29
Hexachloroethane	UJ, RC:SL	ND	U	0.154	1.41	mg/kg	1	6/12/23 19:29
Indeno(1,2,3-cd)pyrene		ND	U	0.151	1.41	mg/kg	1	6/12/23 19:29
Isophorone		ND	U	0.0922	1.41	mg/kg	1	6/12/23 19:29
Naphthalene		ND	U	0.104	1.41	mg/kg	1	6/12/23 19:29
Nitrobenzene		ND	U	0.239	1.41	mg/kg	1	6/12/23 19:29
n-Nitroso-di-n-propylamine		ND	U	0.0754	1.41	mg/kg	1	6/12/23 19:29
n-Nitrosodiphenylamine		ND	U	0.300	1.41	mg/kg	1	6/12/23 19:29
Pentachlorophenol		ND	U	0.193	3.52	mg/kg	1	6/12/23 19:29
Phenanthrene		ND	U	0.185	1.41	mg/kg	1	6/12/23 19:29
Phenol		ND	U	0.114	1.41	mg/kg	1	6/12/23 19:29
Pyrene		ND	U	0.103	1.41	mg/kg	1	6/12/23 19:29

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000351	0.00240	mg/kg	1	6/12/23 15:02
1,1,2,2-Tetrachloroethane	ND	U	0.000331	0.00240	mg/kg	1	6/12/23 15:02
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00103	0.00240	mg/kg	1	6/12/23 15:02
1,1,2-Trichloroethane	ND	U	0.000405	0.00240	mg/kg	1	6/12/23 15:02
1,1-Dichloroethane	ND	U	0.000351	0.00240	mg/kg	1	6/12/23 15:02
1,1-Dichloroethene	ND	U	0.000444	0.00240	mg/kg	1	6/12/23 15:02
1,2,3-Trichlorobenzene	ND	U	0.000519	0.00240	mg/kg	1	6/12/23 15:02
1,2,4-Trichlorobenzene	ND	U	0.000640	0.00240	mg/kg	1	6/12/23 15:02
1,2,4-Trimethylbenzene	ND	U	0.000331	0.00240	mg/kg	1	6/12/23 15:02
1,2-Dibromo-3-chloropropane	ND	U	0.000586	0.00240	mg/kg	1	6/12/23 15:02
1,2-Dibromoethane	ND	U	0.000303	0.00240	mg/kg	1	6/12/23 15:02
1,2-Dichlorobenzene	ND	U	0.000424	0.00240	mg/kg	1	6/12/23 15:02
1,2-Dichloroethane	ND	U	0.000339	0.00240	mg/kg	1	6/12/23 15:02
1,2-Dichloropropane	ND	U	0.000394	0.00240	mg/kg	1	6/12/23 15:02
1,3-Dichlorobenzene	ND	U	0.000177	0.00240	mg/kg	1	6/12/23 15:02
1,4-Dichlorobenzene	ND	U	0.000346	0.00240	mg/kg	1	6/12/23 15:02
2-Butanone	ND	U	0.000392	0.00601	mg/kg	1	6/12/23 15:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-05 (Soil) Sample Name: **DUP-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Hexanone		ND	U	0.000225	0.00240	mg/kg	1	6/12/23 15:02
4-Methyl-2-pentanone		ND	U	0.000300	0.00240	mg/kg	1	6/12/23 15:02
Acetone		ND	U	0.000728	0.00601	mg/kg	1	6/12/23 15:02
Benzene		ND	U	0.000219	0.00240	mg/kg	1	6/12/23 15:02
Bromochloromethane	UJ, RC:Q	ND	U	0.000443	0.00240	mg/kg	1	6/12/23 15:02
Bromodichloromethane		ND	U	0.000301	0.00240	mg/kg	1	6/12/23 15:02
Bromoform		ND	U	0.000422	0.00240	mg/kg	1	6/12/23 15:02
Bromomethane		ND	U	0.000693	0.00240	mg/kg	1	6/12/23 15:02
Carbon disulfide		ND	U	0.000345	0.00240	mg/kg	1	6/12/23 15:02
Carbon Tetrachloride		ND	U	0.000362	0.00240	mg/kg	1	6/12/23 15:02
Chlorobenzene		ND	U	0.000348	0.00240	mg/kg	1	6/12/23 15:02
Chlorodibromomethane		ND	U	0.000295	0.00240	mg/kg	1	6/12/23 15:02
Chloroethane		ND	U	0.000410	0.00240	mg/kg	1	6/12/23 15:02
Chloroform		ND	U	0.000404	0.00240	mg/kg	1	6/12/23 15:02
Chloromethane		ND	U	0.000925	0.00240	mg/kg	1	6/12/23 15:02
cis-1,2-Dichloroethene		ND	U	0.000116	0.00240	mg/kg	1	6/12/23 15:02
cis-1,3-Dichloropropene		ND	U	0.000304	0.00240	mg/kg	1	6/12/23 15:02
Cyclohexane		ND	U	0.000532	0.00240	mg/kg	1	6/12/23 15:02
Dichlorodifluoromethane		ND	U	0.000811	0.00240	mg/kg	1	6/12/23 15:02
EthylBenzene		ND	U	0.000325	0.00240	mg/kg	1	6/12/23 15:02
Isopropylbenzene		ND	U	0.000377	0.00240	mg/kg	1	6/12/23 15:02
m+p-Xylenes		ND	U	0.000607	0.00480	mg/kg	1	6/12/23 15:02
Methyl Acetate		ND	U	0.000318	0.00240	mg/kg	1	6/12/23 15:02
Methyl tert-Butyl Ether		ND	U	0.000406	0.00240	mg/kg	1	6/12/23 15:02
Methylcyclohexane		ND	U	0.000387	0.00240	mg/kg	1	6/12/23 15:02
Methylene Chloride		ND	U	0.000722	0.00240	mg/kg	1	6/12/23 15:02
o-Xylene		ND	U	0.000309	0.00240	mg/kg	1	6/12/23 15:02
Styrene		ND	U	0.000343	0.00240	mg/kg	1	6/12/23 15:02
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00504	0.0240	mg/kg	1	6/12/23 15:02
Tetrachloroethene		ND	U	0.000238	0.00240	mg/kg	1	6/12/23 15:02
Toluene		ND	U	0.000193	0.00240	mg/kg	1	6/12/23 15:02
Total Xylenes		ND	U	0.000309	0.00240	mg/kg	1	6/12/23 15:02
trans-1,2-Dichloroethene		ND	U	0.000325	0.00240	mg/kg	1	6/12/23 15:02
trans-1,3-Dichloropropene		ND	U	0.000459	0.00240	mg/kg	1	6/12/23 15:02
Trichloroethene		ND	U	0.000353	0.00240	mg/kg	1	6/12/23 15:02
Trichlorofluoromethane		ND	U	0.000276	0.00240	mg/kg	1	6/12/23 15:02
Vinyl chloride		ND	U	0.000456	0.00240	mg/kg	1	6/12/23 15:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-05 (Soil) Sample Name: DUP-20230531 Collected: 5/31/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclododecanol	0.0175	21.42	J	mg/kg	1	6/12/23 15:02
Cyclopentaneacetaldehyde, 2-formyl-3-met (01)	0.0230	20.07	J	mg/kg	1	6/12/23 15:02
Cyclopentaneacetaldehyde, 2-formyl-3-met (02)	0.0266	21.71	J	mg/kg	1	6/12/23 15:02
TIC Total	**0.067**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**94.6**				**%**	**1**	**6/1/23 10:54**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00698	0.0585	mg/kg	1	6/7/23 17:34

23E1405-06 (Ground Water) Sample Name: TB-20230531 Collected: 5/31/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane		ND	U	0.216	1.00	ug/L	1	6/8/23 16:05
1,1,2,2-Tetrachloroethane	UJ, RC:6L	ND	U	0.218	1.00	ug/L	1	6/8/23 16:05
1,1,2-Trichloro-1,2,2 Trifluoroethane		ND	U	0.546	1.00	ug/L	1	6/8/23 16:05
1,1,2-Trichloroethane		ND	U	0.476	1.00	ug/L	1	6/8/23 16:05
1,1-Dichloroethane		ND	U	0.393	1.00	ug/L	1	6/8/23 16:05
1,1-Dichloroethene		ND	U	0.149	1.00	ug/L	1	6/8/23 16:05
1,2,3-Trichlorobenzene	UJ, RC:Q	ND	U	0.488	1.00	ug/L	1	6/8/23 16:05
1,2,4-Trichlorobenzene		ND	U	0.437	1.00	ug/L	1	6/8/23 16:05
1,2,4-Trimethylbenzene		ND	U	0.155	1.00	ug/L	1	6/8/23 16:05
1,2-Dibromo-3-chloropropane		ND	U	1.09	2.00	ug/L	1	6/8/23 16:05
1,2-Dibromoethane		ND	U	0.320	1.00	ug/L	1	6/8/23 16:05
1,2-Dichlorobenzene		ND	U	0.210	1.00	ug/L	1	6/8/23 16:05
1,2-Dichloroethane		ND	U	0.306	1.00	ug/L	1	6/8/23 16:05
1,2-Dichloropropane		ND	U	0.267	1.00	ug/L	1	6/8/23 16:05
1,3-Dichlorobenzene		ND	U	0.287	1.00	ug/L	1	6/8/23 16:05
1,4-Dichlorobenzene		ND	U	0.238	1.00	ug/L	1	6/8/23 16:05
2-Butanone		ND	U	10.0	10.0	ug/L	1	6/8/23 16:05
2-Hexanone		ND	U	0.635	2.00	ug/L	1	6/8/23 16:05
4-Methyl-2-pentanone	UJ, RC:SL	ND	U	0.638	2.00	ug/L	1	6/8/23 16:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1405
Date to Lab: 5/31/2023 2:15:00PM

23E1405-06 (Ground Water) Sample Name: **TB-20230531** Collected: **5/31/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetone	ND	U	10.0	10.0	ug/L	1	6/8/23 16:05
Benzene	ND	U	0.129	1.00	ug/L	1	6/8/23 16:05
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/8/23 16:05
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/8/23 16:05
Bromoform	ND	U	0.421	1.00	ug/L	1	6/8/23 16:05
Bromomethane	UJ, RC:6L,SL ND	U	0.702	10.0	ug/L	1	6/8/23 16:05
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/8/23 16:05
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/8/23 16:05
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/8/23 16:05
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/8/23 16:05
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/8/23 16:05
Chloroform	ND	U	0.365	1.00	ug/L	1	6/8/23 16:05
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/8/23 16:05
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/8/23 16:05
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/8/23 16:05
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/8/23 16:05
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/8/23 16:05
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/8/23 16:05
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/8/23 16:05
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/8/23 16:05
Methyl Acetate	UJ, RC:SL ND	U	0.373	1.00	ug/L	1	6/8/23 16:05
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/8/23 16:05
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/8/23 16:05
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/8/23 16:05
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/8/23 16:05
Styrene	ND	U	0.176	1.00	ug/L	1	6/8/23 16:05
tert-Butyl alcohol	UJ, RC:Q ND	U	8.17	10.0	ug/L	1	6/8/23 16:05
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/8/23 16:05
Toluene	ND	U	0.205	1.00	ug/L	1	6/8/23 16:05
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/8/23 16:05
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/8/23 16:05
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/8/23 16:05
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/8/23 16:05
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/8/23 16:05
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/8/23 16:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2330357

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Project Name:	23E1405	**Lab Number:**	L2330357
Project Number:	23E1405	**Report Date:**	10/24/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2330357-01	OH-SB-12-0.5-1.5-20230531	SOIL	Not Specified	05/31/23 08:31	05/31/23
L2330357-02	OH-SB-12A-1.5-2.5-20230531	SOIL	Not Specified	05/31/23 10:15	05/31/23
L2330357-03	OH-SB-12A-5.0-6.9-20230531	SOIL	Not Specified	05/31/23 11:10	05/31/23
L2330357-04	DUP-20230531	SOIL	Not Specified	05/31/23 00:00	05/31/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Revision

October 24, 2023: The Client IDs were amended on L2330357-01, -02, -03, and -04.

Report Submission

June 28, 2023: This final report includes the results of all requested analyses.

June 12, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 10/24/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2330357

Account Name : Aqua Pro-Tech Laboratories
Project Number : 23E1405
Project Name : 23E1405

Received : 31-MAY-2023
Reviewer : Caitlin Cronin

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	2.9	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-01	**Date Collected**	: 05/31/23 08:31
Client ID	: OH-SB-12-0.5-1.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 07:35
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206232317	**Analyst**	: CNC
Sample Amount	: 1.87 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	ND	75.8	21.8	U
91-20-3C1	C1-Naphthalenes	30.6	75.8	21.8	J
91-20-3C2	C2-Naphthalenes	56.0	75.8	21.8	J
91-20-3C3	C3-Naphthalenes	50.6	75.8	21.8	J
91-20-3C4	C4-Naphthalenes	ND	75.8	21.8	U
208-96-8	Acenaphthylene	81.1	75.8	14.5	
83-32-9	Acenaphthene	22.6	75.8	13.4	J
86-73-7	Fluorene	21.8	75.8	20.2	J
86-73-7C1	C1-Fluorenes	ND	75.8	20.2	U
86-73-7C2	C2-Fluorenes	ND	75.8	20.2	U
86-73-7C3	C3-Fluorenes	ND	75.8	20.2	U
85-01-8	Phenanthrene	186	75.8	25.1	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	110	75.8	25.1	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	72.8	75.8	25.1	J
PHENANTHC3	C3-Phenanthrenes/Anthracenes	73.9	75.8	25.1	J
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	75.8	25.1	U
120-12-7	Anthracene	64.4	75.8	15.6	J
206-44-0	Fluoranthene	294	75.8	24.1	
129-00-0	Pyrene	278	75.8	19.9	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	192	75.8	19.9	
56-55-3	Benz(a)anthracene	201	75.8	15.5	
218-01-9	Chrysene	232	75.8	15.3	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-01	**Date Collected**	: 05/31/23 08:31
Client ID	: OH-SB-12-0.5-1.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 07:35
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206232317	**Analyst**	: CNC
Sample Amount	: 1.87 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 94
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	224	75.8	15.3	
218-01-9C2	C2-Chrysenes BS	490	75.8	15.3	
218-01-9C3	C3-Chrysenes	1640	75.8	15.3	
218-01-9C4	C4-Chrysenes	1670	75.8	15.3	
205-99-2	Benzo(b)fluoranthene	212	75.8	19.7	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	191	75.8	15.0	
192-97-2	Benzo(e)pyrene	292	75.8	15.6	
50-32-8	Benzo(a)pyrene	240	75.8	21.6	
198-55-0	Perylene	146	75.8	14.6	
193-39-5	Indeno(1,2,3-cd)pyrene	216	75.8	20.6	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	84.1	75.8	20.5	
191-24-2	Benzo(g,h,i)perylene	321	75.8	20.2	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-02	**Date Collected**	: 05/31/23 10:15
Client ID	: OH-SB-12A-1.5-2.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/20/23 11:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192319	**Analyst**	: MJS
Sample Amount	: 2.73 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 93
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1550	67.9	19.5	
91-20-3C1	C1-Naphthalenes	1460	67.9	19.5	
91-20-3C2	C2-Naphthalenes	2730	67.9	19.5	
91-20-3C3	C3-Naphthalenes	3200	67.9	19.5	
91-20-3C4	C4-Naphthalenes	2260	67.9	19.5	
208-96-8	Acenaphthylene	1860	67.9	13.0	
83-32-9	Acenaphthene	3940	67.9	12.0	
86-73-7	Fluorene	4850	67.9	18.1	
86-73-7C1	C1-Fluorenes	1920	67.9	18.1	
86-73-7C2	C2-Fluorenes	2550	67.9	18.1	
86-73-7C3	C3-Fluorenes	2990	67.9	18.1	
85-01-8	Phenanthrene	29000	67.9	22.5	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	10200	67.9	22.5	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	7510	67.9	22.5	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	3770	67.9	22.5	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	2260	67.9	22.5	
120-12-7	Anthracene	9890	67.9	14.0	
206-44-0	Fluoranthene	49700	67.9	21.6	
129-00-0	Pyrene	47200	67.9	17.8	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	19200	67.9	17.8	
56-55-3	Benz(a)anthracene	24800	67.9	13.8	
218-01-9	Chrysene	21800	67.9	13.7	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-02	**Date Collected**	: 05/31/23 10:15
Client ID	: OH-SB-12A-1.5-2.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/20/23 11:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192319	**Analyst**	: MJS
Sample Amount	: 2.73 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 93
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	10100	67.9	13.7	
218-01-9C2	C2-Chrysenes BS	5880	67.9	13.7	
218-01-9C3	C3-Chrysenes	5380	67.9	13.7	
218-01-9C4	C4-Chrysenes	2500	67.9	13.7	
205-99-2	Benzo(b)fluoranthene	17400	67.9	17.6	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	17500	67.9	13.5	
192-97-2	Benzo(e)pyrene	11900	67.9	14.0	
50-32-8	Benzo(a)pyrene	19400	67.9	19.4	
198-55-0	Perylene	4610	67.9	13.1	
193-39-5	Indeno(1,2,3-cd)pyrene	11200	67.9	18.4	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	3280	67.9	18.3	
191-24-2	Benzo(g,h,i)perylene	10000	67.9	18.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-03	**Date Collected**	: 05/31/23 11:10
Client ID	: OH-SB-12A-5.0-6.9-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/20/23 12:42
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192320	**Analyst**	: MJS
Sample Amount	: 10.35 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1070	3.47	0.996	
91-20-3C1	C1-Naphthalenes	314	3.47	0.996	
91-20-3C2	C2-Naphthalenes	476	3.47	0.996	
91-20-3C3	C3-Naphthalenes	583	3.47	0.996	
91-20-3C4	C4-Naphthalenes	520	3.47	0.996	
208-96-8	Acenaphthylene	147	3.47	0.662	
83-32-9	Acenaphthene	306	3.47	0.611	
86-73-7	Fluorene	254	3.47	0.925	
86-73-7C1	C1-Fluorenes	153	3.47	0.925	
86-73-7C2	C2-Fluorenes	267	3.47	0.925	
86-73-7C3	C3-Fluorenes	273	3.47	0.925	
85-01-8	Phenanthrene	1300	3.47	1.15	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	652	3.47	1.15	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	563	3.47	1.15	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	306	3.47	1.15	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	173	3.47	1.15	
120-12-7	Anthracene	469	3.47	0.715	
206-44-0	Fluoranthene	2160	3.47	1.10	
129-00-0	Pyrene	2010	3.47	0.912	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1140	3.47	0.912	
56-55-3	Benz(a)anthracene	1710	3.47	0.707	
218-01-9	Chrysene	1520	3.47	0.701	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-03	**Date Collected**	: 05/31/23 11:10
Client ID	: OH-SB-12A-5.0-6.9-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/20/23 12:42
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192320	**Analyst**	: MJS
Sample Amount	: 10.35 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	860	3.47	0.701	
218-01-9C2	C2-Chrysenes BS	542	3.47	0.701	
218-01-9C3	C3-Chrysenes	463	3.47	0.701	
218-01-9C4	C4-Chrysenes	225	3.47	0.701	
205-99-2	Benzo(b)fluoranthene	1530	3.47	0.902	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1270	3.47	0.688	
192-97-2	Benzo(e)pyrene	1070	3.47	0.715	
50-32-8	Benzo(a)pyrene	1760	3.47	0.990	
198-55-0	Perylene	440	3.47	0.669	
193-39-5	Indeno(1,2,3-cd)pyrene	1140	3.47	0.941	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	367	3.47	0.936	
191-24-2	Benzo(g,h,i)perylene	1050	3.47	0.921	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-04	**Date Collected**	: 05/31/23 00:00
Client ID	: DUP-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 08:59
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206232318	**Analyst**	: CNC
Sample Amount	: 1.15 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 95
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	73.4	92.0	26.4	J
91-20-3C1	C1-Naphthalenes	56.5	92.0	26.4	J
91-20-3C2	C2-Naphthalenes	74.9	92.0	26.4	J
91-20-3C3	C3-Naphthalenes	78.8	92.0	26.4	J
91-20-3C4	C4-Naphthalenes	60.2	92.0	26.4	J
208-96-8	Acenaphthylene	96.0	92.0	17.6	
83-32-9	Acenaphthene	27.1	92.0	16.2	J
86-73-7	Fluorene	31.8	92.0	24.5	J
86-73-7C1	C1-Fluorenes	36.4	92.0	24.5	J
86-73-7C2	C2-Fluorenes	84.7	92.0	24.5	J
86-73-7C3	C3-Fluorenes	ND	92.0	24.5	U
85-01-8	Phenanthrene	182	92.0	30.5	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	167	92.0	30.5	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	118	92.0	30.5	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	105	92.0	30.5	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	92.0	30.5	U
120-12-7	Anthracene	87.2	92.0	19.0	J
206-44-0	Fluoranthene	224	92.0	29.2	
129-00-0	Pyrene	273	92.0	24.2	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	240	92.0	24.2	
56-55-3	Benz(a)anthracene	175	92.0	18.8	
218-01-9	Chrysene	222	92.0	18.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-04	**Date Collected**	: 05/31/23 00:00
Client ID	: DUP-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 08:59
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206232318	**Analyst**	: CNC
Sample Amount	: 1.15 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 95
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	274	92.0	18.6	
218-01-9C2	C2-Chrysenes BS	697	92.0	18.6	
218-01-9C3	C3-Chrysenes	2240	92.0	18.6	
218-01-9C4	C4-Chrysenes	2400	92.0	18.6	
205-99-2	Benzo(b)fluoranthene	198	92.0	23.9	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	171	92.0	18.3	
192-97-2	Benzo(e)pyrene	354	92.0	19.0	
50-32-8	Benzo(a)pyrene	238	92.0	26.3	
198-55-0	Perylene	195	92.0	17.8	
193-39-5	Indeno(1,2,3-cd)pyrene	255	92.0	25.0	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	103	92.0	24.8	
191-24-2	Benzo(g,h,i)perylene	401	92.0	24.4	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: WG1788210-1	**Date Collected**	: NA
Client ID	: WG1788210-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/21/23 16:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206212306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	0.314	1.00	0.287	J
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	0.285	1.00	0.263	J
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: WG1788210-1	**Date Collected**	: NA
Client ID	: WG1788210-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/21/23 16:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206212306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-01	**Date Collected**	: 05/31/23 08:31
Client ID	: OH-SB-12-0.5-1.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 94
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-02	**Date Collected**	: 05/31/23 10:15
Client ID	: OH-SB-12A-1.5-2.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 93
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-03	**Date Collected**	: 05/31/23 11:10
Client ID	: OH-SB-12A-5.0-6.9-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-04	**Date Collected**	: 05/31/23 00:00
Client ID	: DUP-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 95
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: WG1788010-1	**Date Collected**	: NA
Client ID	: WG1788010-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: WG1788010-3	**Date Collected**	: 06/02/23 12:35
Client ID	: WG1788010-3 DUP	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 91
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-01	**Date Collected**	: 05/31/23 08:31
Client ID	: OH-SB-12-0.5-1.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787611.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 94
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**94.0**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-02	**Date Collected**	: 05/31/23 10:15
Client ID	: OH-SB-12A-1.5-2.5-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787611.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 93
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**92.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-03	**Date Collected**	: 05/31/23 11:10
Client ID	: OH-SB-12A-5.0-6.9-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787611.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

CAS NO.	Parameter	% Results	RL	MDL	Qualifier
NONE	Solids, Total	83.6	0.100	NA	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: L2330357-04	**Date Collected**	: 05/31/23 00:00
Client ID	: DUP-20230531	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787611.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 95
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**94.5**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330357
Project Name	: 23E1405	**Project Number**	: 23E1405
Lab ID	: WG1787611-1	**Date Collected**	: 05/23/23 08:40
Client ID	: WG1787611-1 DUP	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:07
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787611.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 78
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**77.4**	**0.100**	**NA**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2330491 and 23E1291
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: April 4, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-24-2.5-3.5-20230526	23E1291-01	5/26/2023	Soil
OH-SB-24-5.5-6.5-20230526	23E1291-02	5/26/2023	Soil
FB-20230526	23E1291-03	5/26/2023	Water
OH-SB-24-34.5-35.5-20230526	23E1291-04	5/26/2023	Soil
TB-20230526	23E1291-05	5/26/2023	Water

Data validation was performed on the analytical data for four (5) samples collected May 26 by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Certain volatiles associated with sample OH-SB-24-34.5-35.5-20230526 was qualified as rejected due to low internal standard recoveries. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples, surrogates, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs was listed on the COC for FB-20230526 but this analysis was not reported by Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	4-Bromofluorobenzene	%R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	OH-SB-24-2.5-3.5-20230526 [23E1291-01] OH-SB-24-34.5-35.5-20230526 [23E1291-04]	1,1-Dichloroethane 1,2-Dichloropropane Benzene Chloroform Cis-1,2-Dichloroethene Cyclohexane Toluene Trichloroethene	%R > CL	J (Detects) No Action (NDs)	6H
	OH-SB-24-5.5-6.5-20230526 [23E1291-02]	1,2-Dichlorobenzene 1,4-Dichlorobenzene Chlorobenzene Cyclohexane Isopropylbenzene o-Xylene	%R > CL	J (Detects) No Action (NDs)	6H
	OH-SB-24-34.5-35.5-20230526 [23E1291-04RE]	1,2,4-Trichlorobenzene	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code	Affected Analytes
8260D	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	1,4-Dichlorobenzene-d4 (DCB-D4)	Area < CL & Area < 20%	J (Detects) R (NDs)	X	1,4-Dichlorobenzene 1,2,-Dichlorobenzene 1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except those listed in the table below.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230526 [23E1291-03] TB-20230526 [23E1291-05]	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (ND)	Q
		1,2,3-Trichlorobenzene	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q
	OH-SB-24-2.5-3.5-20230526 [23E1291-01] OH-SB-24-5.5-6.5-20230526 [23E1291-02] OH-SB-24-34.5-35.5-20230526 [23E1291-04]	Tert-Butyl Alcohol	RRF < 0.05	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-SB-24-2.5-3.5-20230526 [23E1291-01] OH-SB-24-34.5-35.5-20230526 [23E1291-04]	1,1-Dichloroethane 2-Hexanone Acetone Benzene Carbon Disulfide Cyclohexane Methyl Acetate	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	FB-20230526 [23E1291-03] TB-20230526 [23E1291-05]	Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		2-Hexanone 4-Methyl-2-pentanone Bromomethane	CCV %D > 20% (decrease in response)	J (Detects) UJ (NDs)	SL
	OH-SB-24-5.5-6.5-20230526 [23E1291-02]	1,1,2,2-Tetrachloroethane 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dichlorobenzene 1,4-Dichlorobenzene Chlorobenzene Cyclohexane Ethylbenzene Isopropylbenzene o-Xylene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester (5.18), Octadecanoic acid, butyl ester (3.17), 4-hydroxy-4-methyl-2-Pentanone (19.2) and unknown (0.345). TICs identified in the associated samples and qualified by the lab with a 'B' qualifier are qualified based on the following: TIC detections less than five times the method blank detection are qualified as rejected, reason code 2. The following TICs were qualified in this SDG:

Sample	TIC
OH-SB-24-2.5-3.5-20230526 [23E1291-01]	Hexadecanoic acid, butyl ester
OH-SB-24-5.5-6.5-20230526 [23E1291-02]	Hexadecanoic acid, butyl ester Octadecanoic acid, butyl ester 4-hydroxy-4-methyl-2-Pentanone UNKNOWN
OH-SB-24-34.5-35.5-20230526 [23E1291-04]	4-hydroxy-4-methyl-2-Pentanone

- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

Method	Sample	Surrogate	Exceedance	Affected Analytes	Qualification	Reason Code
8270E	OH-SB-24-2.5-3.5-20230526 [23E1291-01]	2-Fluorophenol (2FP) Phenol-d6 (PHN-D6)	%R>CL	Acid Extractables	J (Detects) No Action (NDs)	3H
	23E1291-04	2,4,6-Tribromophenol	%R>CL	Acid Extractables	None; Qualification not warranted as only one of the six surrogates was outside control limits.	---

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	All Soil Samples	4-Nitroaniline	%R > CL	J (Detects) No Action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.

- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230526 [23E1291-03]	Benzaldehyde	%RSD >20% & correlation coefficient <0.99	J (Detects) UJ (ND)	Q
	0H-SB-24-5.5-6.5-20230526 [23E1291-02] 0H-SB-24-34.5-35.5-20230526 [23E1291-04]	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol	RRF < 0.05	J (Detects) UJ (ND)	Q
	0H-SB-24-2.5-3.5-20230526 [23E1291-01 & -01RE] 0H-SB-24-34.5-35.5-20230526 [23E1291-04RE]	2-Chlorophenol 2,4-Dinitrophenol	RRF < 0.05	J (Detects) UJ (ND)	Q
		2-Nitrophenol	%RSD >20% & correlation coefficient <0.99	J (Detects) UJ (ND)	Q
		1,4-Dioxane	%RSD >20% & supporting information not provided to verify correlation coefficient >0.99	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230526 [23E1291-03]	4-Nitrophenol Benzaldehyde Bis(2-chloroisopropyl)ether	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	0H-SB-24-2.5-3.5-20230526 [23E1291-01]	4-Chloro-3-methylphenol 4-Nitrophenol Bis(2-chloroisopropyl)ether Hexachloroethane Nitrobenzene n-Nitroso-di-n-propylamine	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	0H-SB-24-5.5-6.5-20230526 [23E1291-02] 0H-SB-24-34.5-35.5-20230526 [23E1291-04]	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-24-2.5-3.5-20230526 [23E1291-01]	DCB (Column 2)	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-24-5.5-6.5-20230526 [23E1291-02]	DCB (Column 2)	%R < CL	J (Detects) UJ (NDs)	3L
	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	TCMX (Column 2) DCB (Column 2)	%R > CL	J (Detects) No action (NDs)	3H
8151A	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	DCAA (Column 1 & 2)	%R > CL	J (Detects) No action (NDs)	3H
8081B	OH-SB-24-2.5-3.5-20230526 [23E1291-01]	DCB (Column 1)	%R < CL	J (Detects) UJ (NDs)	3L
		DCB (Column 2)	%R > CL	J (Detects) No action (NDs)	3H
	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	DCB (Column 1 & 2) TCMX (Column 2)	%R > CL	J (Detects) No action (NDs)	3H

- Where primary and/or secondary column surrogate recoveries were within control limits and sample results are non-detect, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230526 [23E1291-03]	Endosulfan sulfate Endrin	%R < CL	J (Detects) UJ (NDs)	6L
		Endrin aldehyde Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H
	All Soil Samples [23E1291-01, -02, -04]	Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L
		Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	All Soil Samples [23E1291-01,02,04]	4,4'-DDT (Column 1 & 2) Dieldrin (Column 2)	%RSD > 20% & incorrect calibration curve used	J (Detects) UJ (ND)	Q
8151A	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	DCAA (Column 2) 2,4-D (Column 2)	%RSD > 20% & incorrect calibration curve used	J (Detects) UJ (ND)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151B	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	2,4-D (Column 1)	CCV %D > 20% (increase in response)	J (detects) No Action (non-detects)	SH
NJEPH	OH-SB-24-2.5-3.5-20230526 [23E1291-01] OH-SB-24-5.5-6.5-20230526 [23E1291-02] OH-SB-24-34.5-35.5-20230526 [23E1291-04RE1]	Total EPH	CCV %D > 20% (increase in response)	J (detects) No Action (non-detects)	SH
8081B	FB-20230526 [23E1291-03]	Delta-BHC (Column 2)	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	OH-SB-24-2.5-3.5-20230526 [23E1291-01] OH-SB-24-5.5-6.5-20230526 [23E1291-02]	Methoxychlor (C1 & C2) 4,4'-DDD (C2) 4,4'-DDT (C2) Endosulfan sulfate (C2)	CCV %D > 20% (increase in response)	J (detects) No Action (non-detects)	SH
	OH-SB-24-34.5-35.5-20230526 [23E1291-04]	Methoxychlor (C1 & C2) 4,4'-DDD (C2) 4,4'-DDT (C2) Endosulfan sulfate (C2)	CCV %D > 20% (increase in response)	J (detects) No Action (non-detects)	SH

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
200.7	FB-20230526 [23E1291-03]	Antimony	20% < %R < CL	J (Detects) UJ (NDs)	6L
		Selenium Thallium	%R > CL	J (Detects) No Action (NDs)	6H
	OH-SB-24-2.5-3.5-20230526 [23E1291-01] OH-SB-24-5.5-6.5-20230526 [23E1291-02] OH-SB-24-34.5-35.5-20230526 [23E1291-04]	Selenium	20% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed: Benjamin Long
Validator
Brown and Caldwell

Dated: April 4, 2024

Peer Review: JLD

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23E1291

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 24, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23E1291

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-24-2.5-3.5-20230526	23E1291-01	Soil	05/26/2023 07:40	05/26/2023 13:55
OH-SB-24-5.5-6.5-20230526	23E1291-02	Soil	05/26/2023 08:05	05/26/2023 13:55
FB-20230526	23E1291-03	Ground Water	05/26/2023 09:05	05/26/2023 13:55
OH-SB-24-34.5-35.5-20230526	23E1291-04	Soil	05/26/2023 11:05	05/26/2023 13:55
TB-20230526	23E1291-05	Ground Water	05/26/2023 00:00	05/26/2023 13:55

PN: 23E1291

APL 23E1291

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CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: Y&A Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive Ste 1	ADDRESS: " "
Moor Elmwood Park NJ 07407	
PHONE: 201-773-9621	PHONE: " "
E-MAIL: SWang@Y&A-associates.com	FAX:
PROJECT NAME: Gowanus OU-GOS	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: MHM

TURN-AROUND TIME

- ☐ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required ___
  - ☐ 48 hr. date & time required ___
  - ☐ 72 hr. date & time required ___
  - ☐ 1 week

REPORT FORMAT

- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP#___

PWSID#___

NY STALC Category B

CONTAMINATION LEVEL

☐ HIGH ☐ MEDIUM ☐ LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23E1291 -01	OU-SB-24-25-35-20230526	05/26/23	0740	✓			5		VOC, SVOC, PCBs, Pest, Acid, TAL Metals TCN, FCN, Alkylated PAHs by 8270
-02	OU-SB-24-55-65-20230526		0805	✓			5		" "
-03	FB-20230526		0905	✓			~~5~~ 10		" "
-04	OU-SB-24-315-355-20230526		1105	✓			5		" "
-05	TB-20230526		LAB	✓			2		VOCs

RELINQUISHED BY (Print) MATTHEW O'ROURKE	DATE 05/26/23	RECEIVED BY (Print) VITO DI ROSA	
Signature	Time 12:00	Signature	
RELINQUISHED BY (Print) VITO DI ROSA	DATE 5/26	RECEIVED BY (Print) Rose Nay	5/26/23
Signature	Time 1375	Signature	1355
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.0°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Selenium was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.7
The percent recovery for Antimony was outside of the QC limits for the blank spike (slightly low).

Methods 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23E1291-04 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: PCBs [8082A]
Samples 23E1291-01, -02 and -04 have surrogates outside of the QC limits (high and low), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23E1291-01 and -04 have surrogates outside of the QC limits (low and high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Sample 23E1291-04 has one surrogate (4-Bromofluorobenzene) and one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for 3,3'-Dichlorobenzidine was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Samples 23E1291-01, -01RE1 and -04 have surrogates outside of the QC limits (low and high), due to matrix interferences.
Sample 23E1291-04RE1 has surrogates diluted outside of the QC limits.

Reviewed By: _____ (SK) 8/24/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-20230526**

NJDEP-EPH-CAT2 - Extractable Petroleum Hydrocarbons Category 2

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total EPH	1690		11.8	23.7	mg/kg dry	1	6/8/23 3:34

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	2.74		0.00591	0.0237	mg/kg dry	1	6/8/23 11:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6910		0.174	2.93	mg/kg dry	1	6/12/23 9:30
Arsenic	5.39		0.104	1.46	mg/kg dry	1	6/12/23 9:30
Barium	72.2		0.0443	0.586	mg/kg dry	1	6/12/23 9:30
Beryllium	0.531		0.00339	0.0293	mg/kg dry	1	6/12/23 9:30
Calcium	24400		3.29	29.3	mg/kg dry	1	6/12/23 9:30
Chromium	36.6		0.0331	0.293	mg/kg dry	1	6/12/23 9:30
Cobalt	6.68		0.0299	0.234	mg/kg dry	1	6/12/23 9:30
Copper	46.8		0.0819	0.293	mg/kg dry	1	6/12/23 9:30
Iron	14100		0.829	5.86	mg/kg dry	1	6/12/23 9:30
Lead	142		0.122	1.46	mg/kg dry	1	6/12/23 9:30
Magnesium	2650		10.3	58.6	mg/kg dry	1	6/12/23 9:30
Manganese	109		0.0364	0.293	mg/kg dry	1	6/12/23 9:30
Nickel	22.5		0.0257	0.146	mg/kg dry	1	6/12/23 9:30
Potassium	1340		34.8	117	mg/kg dry	1	6/12/23 9:30
Sodium	531		5.58	58.6	mg/kg dry	1	6/12/23 9:30
Vanadium	24.2		0.0673	0.586	mg/kg dry	1	6/12/23 9:30
Zinc	122		0.0894	0.878	mg/kg dry	1	6/12/23 9:30

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	0.00211		0.000704	0.00154	mg/kg dry	1	6/10/23 18:32
4,4'-DDE [2C]	0.00262		0.000841	0.00154	mg/kg dry	1	6/10/23 18:32
4,4'-DDT [2C]	0.00546		0.00109	0.00154	mg/kg dry	1	6/10/23 18:32

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1.88		0.0377	0.237	mg/kg dry	1	6/6/23 21:39
3+4-Methylphenol	0.582		0.0289	0.157	mg/kg dry	1	6/6/23 21:39
Acenaphthene	8.84		0.00898	0.157	mg/kg dry	1	6/6/23 21:39
Acenaphthylene	0.967		0.00548	0.157	mg/kg dry	1	6/6/23 21:39
Anthracene	6.92		0.0228	0.157	mg/kg dry	1	6/6/23 21:39
Benzo(a)anthracene	8.18		0.0158	0.157	mg/kg dry	1	6/6/23 21:39
Benzo(a)pyrene	10.8	D	0.274	1.57	mg/kg dry	10	6/7/23 19:47

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-20230526**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(b)fluoranthene	10.7	D	0.221	1.57	mg/kg dry	10	6/7/23 19:47
Benzo(g,h,i)perylene	6.69		0.0128	0.157	mg/kg dry	1	6/6/23 21:39
Benzo(k)fluoranthene	3.89		0.0181	0.157	mg/kg dry	1	6/6/23 21:39
Biphenyl	0.320		0.0138	0.157	mg/kg dry	1	6/6/23 21:39
Carbazole	1.84		0.0303	0.394	mg/kg dry	1	6/6/23 21:39
Chrysene	8.46		0.0108	0.157	mg/kg dry	1	6/6/23 21:39
Dibenzo(a,h)anthracene	0.515		0.0156	0.157	mg/kg dry	1	6/6/23 21:39
Dibenzofuran	5.92		0.00938	0.157	mg/kg dry	1	6/6/23 21:39
Fluoranthene	20.1	D	0.148	1.57	mg/kg dry	10	6/7/23 19:47
Fluorene	6.25		0.0131	0.157	mg/kg dry	1	6/6/23 21:39
Indeno(1,2,3-cd)pyrene	5.43		0.0169	0.157	mg/kg dry	1	6/6/23 21:39
Naphthalene	2.97		0.0117	0.157	mg/kg dry	1	6/6/23 21:39
Phenanthrene	21.3	D	0.207	1.57	mg/kg dry	10	6/7/23 19:47
Pyrene	18.2	D	0.116	1.57	mg/kg dry	10	6/7/23 19:47
TIC_Benzocycloheptatriene	2.96	J			mg/kg dry	1	6/6/23 21:39
TIC_Dibenzothiophene	2.41	J			mg/kg dry	1	6/6/23 21:39
TIC_Dodecane, 2,6,11-trimethyl-	3.29	J			mg/kg dry	1	6/6/23 21:39
TIC_Hexadecane, 2,6,10,14-tetramethyl-	5.06	J			mg/kg dry	1	6/6/23 21:39
TIC_Hexadecanoic acid, butyl ester	4.82	B, J			mg/kg dry	1	6/6/23 21:39
TIC_Naphthalene, 1,7-dimethyl-	7.05	J			mg/kg dry	1	6/6/23 21:39
TIC_Naphthalene, 2,6-dimethyl-	4.18	J			mg/kg dry	1	6/6/23 21:39
TIC_Naphthalene, 2,7-dimethyl-	2.66	J			mg/kg dry	1	6/6/23 21:39
TIC_Octane, 3,6-dimethyl-	2.97	J			mg/kg dry	1	6/6/23 21:39
TIC_unknown (01)	3.47	J			mg/kg dry	1	6/6/23 21:39
TIC_unknown (02)	5.85	J			mg/kg dry	1	6/6/23 21:39
TIC_unknown (03)	2.56	J			mg/kg dry	1	6/6/23 21:39
TIC_unknown (04)	2.37	J			mg/kg dry	1	6/6/23 21:39
TIC_unknown (05)	9.55	J			mg/kg dry	1	6/6/23 21:39
TIC_unknown (06)	2.93	J			mg/kg dry	1	6/6/23 21:39

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00732		0.000441	0.00320	mg/kg dry	1	6/2/23 21:12
Methylcyclohexane	0.0759		0.000515	0.00320	mg/kg dry	1	6/2/23 21:12
TIC_1,1-Bicyclopropyl, 2,2,2,2-tetramethy	0.601	J			mg/kg dry	1	6/2/23 21:12
TIC_1-Dotriacontanol	0.936	J			mg/kg dry	1	6/2/23 21:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-20230526**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1H-Indene, 2,3-dihydro-	0.973	J			mg/kg dry	1	6/2/23 21:12
TIC_2-Undecene, 9-methyl-, (Z)-	0.762	J			mg/kg dry	1	6/2/23 21:12
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	0.653	J			mg/kg dry	1	6/2/23 21:12
TIC_Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimet	1.52	J			mg/kg dry	1	6/2/23 21:12
TIC_Cyclohexane, 1-ethyl-4-methyl-, cis-	0.963	J			mg/kg dry	1	6/2/23 21:12
TIC_Cyclohexane, butyl-	1.26	J			mg/kg dry	1	6/2/23 21:12
TIC_Cyclohexane, propyl-	1.14	J			mg/kg dry	1	6/2/23 21:12
TIC_Cyclohexanol, 5-methyl-2-(1-methylethyl)	0.606	J			mg/kg dry	1	6/2/23 21:12
TIC_Cyclohexene, 1-ethyl-	0.633	J			mg/kg dry	1	6/2/23 21:12
TIC_m-Menthane, (1S,3R)-(+)-	0.595	J			mg/kg dry	1	6/2/23 21:12
TIC_Naphthalene, decahydro-, cis-	1.05	J			mg/kg dry	1	6/2/23 21:12
TIC_Nonane, 3-methyl-	0.722	J			mg/kg dry	1	6/2/23 21:12
TIC_Undecane, 5,6-dimethyl-	1.03	J			mg/kg dry	1	6/2/23 21:12

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.221		0.00902	0.0757	mg/kg dry	1	6/7/23 17:34

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-20230526**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	2780		0.181	3.05	mg/kg dry	1	6/12/23 9:32
Arsenic	3.28		0.109	1.52	mg/kg dry	1	6/12/23 9:32
Barium	97.4		0.0461	0.610	mg/kg dry	1	6/12/23 9:32
Beryllium	0.228		0.00353	0.0305	mg/kg dry	1	6/12/23 9:32
Calcium	25100		3.43	30.5	mg/kg dry	1	6/12/23 9:32
Chromium	7.38		0.0344	0.305	mg/kg dry	1	6/12/23 9:32
Cobalt	2.95		0.0312	0.244	mg/kg dry	1	6/12/23 9:32
Copper	2.96		0.0853	0.305	mg/kg dry	1	6/12/23 9:32
Iron	7500		0.864	6.10	mg/kg dry	1	6/12/23 9:32
Lead	7.71		0.127	1.52	mg/kg dry	1	6/12/23 9:32
Magnesium	3590		10.8	61.0	mg/kg dry	1	6/12/23 9:32
Manganese	193		0.0379	0.305	mg/kg dry	1	6/12/23 9:32
Nickel	5.67		0.0268	0.152	mg/kg dry	1	6/12/23 9:32
Potassium	452		36.3	122	mg/kg dry	1	6/12/23 9:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1291-02 (Soil) Sample Name: OH-SB-24-5.5-6.5-20230526

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Sodium	978		5.81	61.0	mg/kg dry	1	6/12/23 9:32
Vanadium	15.9		0.0701	0.610	mg/kg dry	1	6/12/23 9:32
Zinc	22.0		0.0931	0.915	mg/kg dry	1	6/12/23 9:32

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.109	J	0.0408	0.256	mg/kg dry	1	6/7/23 19:10
Acenaphthene	0.574		0.00972	0.170	mg/kg dry	1	6/7/23 19:10
Benzo(b)fluoranthene	0.0305	J	0.0239	0.170	mg/kg dry	1	6/7/23 19:10
Fluoranthene	0.0440	J	0.0160	0.170	mg/kg dry	1	6/7/23 19:10
Naphthalene	0.204		0.0126	0.170	mg/kg dry	1	6/7/23 19:10
Phenanthrene	0.0530	J	0.0224	0.170	mg/kg dry	1	6/7/23 19:10
Pyrene	0.0442	J	0.0125	0.170	mg/kg dry	1	6/7/23 19:10
TIC_2-Pentanone, 4-hydroxy-4-methyl-	25.0	J, B			mg/kg dry	1	6/7/23 19:10
TIC_Ethanol, 2-butoxy-	0.567	J			mg/kg dry	1	6/7/23 19:10
TIC_Hexadecanoic acid, butyl ester	4.80	B, J			mg/kg dry	1	6/7/23 19:10
TIC_Octadecanoic acid, butyl ester	2.66	J, B			mg/kg dry	1	6/7/23 19:10
TIC_unknown	0.412	J, B			mg/kg dry	1	6/7/23 19:10

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1,3-Benzodioxole, 5-(2-propenyl)-	0.213	J			mg/kg dry	1	6/7/23 21:53

23E1291-03 (Ground Water) Sample Name: FB-20230526

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexasiloxane, dodecamethyl-	5.30	J			ug/L	1	6/1/23 13:58

23E1291-04 (Soil) Sample Name: OH-SB-24-34.5-35.5-20230526

NJDEP-EPH-CAT2 - Extractable Petroleum Hydrocarbons Category 2

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total EPH	9660	D	114	228	mg/kg dry	10	6/10/23 5:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-20230526**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	4370		0.162	2.73	mg/kg dry	1	6/12/23 9:34
Barium	33.9		0.0413	0.546	mg/kg dry	1	6/12/23 9:34
Beryllium	0.314		0.00316	0.0273	mg/kg dry	1	6/12/23 9:34
Calcium	2630		3.07	27.3	mg/kg dry	1	6/12/23 9:34
Chromium	11.8		0.0309	0.273	mg/kg dry	1	6/12/23 9:34
Cobalt	3.74		0.0279	0.219	mg/kg dry	1	6/12/23 9:34
Copper	8.25		0.0764	0.273	mg/kg dry	1	6/12/23 9:34
Iron	7350		0.774	5.46	mg/kg dry	1	6/12/23 9:34
Lead	2.75		0.114	1.37	mg/kg dry	1	6/12/23 9:34
Magnesium	3810		9.65	54.6	mg/kg dry	1	6/12/23 9:34
Manganese	84.0		0.0340	0.273	mg/kg dry	1	6/12/23 9:34
Nickel	19.0		0.0240	0.137	mg/kg dry	1	6/12/23 9:34
Potassium	1100		32.5	109	mg/kg dry	1	6/12/23 9:34
Sodium	452		5.21	54.6	mg/kg dry	1	6/12/23 9:34
Vanadium	11.9		0.0628	0.546	mg/kg dry	1	6/12/23 9:34
Zinc	16.9		0.0835	0.820	mg/kg dry	1	6/12/23 9:34

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.115		0.00105	0.00148	mg/kg dry	1	6/12/23 20:04
Chlordane	0.192		0.000660	0.00148	mg/kg dry	1	6/12/23 20:04
Heptachlor	0.00666		0.000397	0.00148	mg/kg dry	1	6/12/23 20:04

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	280	D	3.64	22.8	mg/kg dry	100	6/9/23 1:26
Acenaphthene	44.3	D	0.867	15.2	mg/kg dry	100	6/9/23 1:26
Acenaphthylene	143	D	0.529	15.2	mg/kg dry	100	6/9/23 1:26
Anthracene	66.4	D	2.20	15.2	mg/kg dry	100	6/9/23 1:26
Benzo(a)anthracene	38.9	D	1.53	15.2	mg/kg dry	100	6/9/23 1:26
Benzo(a)pyrene	25.6	D	2.65	15.2	mg/kg dry	100	6/9/23 1:26
Benzo(b)fluoranthene	17.6	D	2.14	15.2	mg/kg dry	100	6/9/23 1:26
Benzo(g,h,i)perylene	10.4	J, D	1.23	15.2	mg/kg dry	100	6/9/23 1:26
Benzo(k)fluoranthene	8.98		0.0175	0.152	mg/kg dry	1	6/7/23 19:42
Biphenyl	28.7	D	1.34	15.2	mg/kg dry	100	6/9/23 1:26
Carbazole	2.16		0.0292	0.380	mg/kg dry	1	6/7/23 19:42
Chrysene	34.3	D	1.04	15.2	mg/kg dry	100	6/9/23 1:26
Dibenzo(a,h)anthracene	1.19		0.0151	0.152	mg/kg dry	1	6/7/23 19:42
Dibenzofuran	9.05		0.00906	0.152	mg/kg dry	1	6/7/23 19:42
Fluoranthene	69.9	D	1.43	15.2	mg/kg dry	100	6/9/23 1:26

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-20230526**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	118	D	1.27	15.2	mg/kg dry	100	6/9/23 1:26
Indeno(1,2,3-cd)pyrene	8.73		0.0163	0.152	mg/kg dry	1	6/7/23 19:42
Naphthalene	481	D	1.13	15.2	mg/kg dry	100	6/9/23 1:26
Phenanthrene	223	D	2.00	15.2	mg/kg dry	100	6/9/23 1:26
Pyrene	105	D	1.12	15.2	mg/kg dry	100	6/9/23 1:26
TIC_2-Methylindene	19.1	J			mg/kg dry	1	6/7/23 19:42
TIC_2-Pentanone, 4-hydroxy-4-methyl-	8.02	J, B			mg/kg dry	1	6/7/23 19:42
TIC_Benzocycloheptatriene	36.2	J			mg/kg dry	1	6/7/23 19:42
TIC_Indene	17.7	J			mg/kg dry	1	6/7/23 19:42
TIC_Naphthalene, 1,3-dimethyl-	12.3	J			mg/kg dry	1	6/7/23 19:42
TIC_Naphthalene, 1,5-dimethyl-	9.16	J			mg/kg dry	1	6/7/23 19:42
TIC_Naphthalene, 1,6-dimethyl-	17.3	J			mg/kg dry	1	6/7/23 19:42
TIC_Naphthalene, 1-ethyl-	9.22	J			mg/kg dry	1	6/7/23 19:42
TIC_Naphthalene, 2,3,6-trimethyl-	7.88	J			mg/kg dry	1	6/7/23 19:42
TIC_Naphthalene, 2,6-dimethyl-	16.5	J			mg/kg dry	1	6/7/23 19:42
TIC_unknown (01)	12.7	J			mg/kg dry	1	6/7/23 19:42
TIC_unknown (02)	15.1	J			mg/kg dry	1	6/7/23 19:42
TIC_unknown (03)	8.75	J			mg/kg dry	1	6/7/23 19:42
TIC_unknown (04)	9.25	J			mg/kg dry	1	6/7/23 19:42
TIC_unknown (05)	8.42	J			mg/kg dry	1	6/7/23 19:42

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	368	D	0.852	6.17	mg/kg dry	2325	6/7/23 4:51
Benzene	27.2	D	0.562	6.17	mg/kg dry	2325	6/7/23 4:51
EthylBenzene	205	D	0.837	6.17	mg/kg dry	2325	6/7/23 4:51
Isopropylbenzene	9.51	D	0.969	6.17	mg/kg dry	2325	6/7/23 4:51
m+p-Xylenes	324	D	1.56	12.3	mg/kg dry	2325	6/7/23 4:51
Methylcyclohexane	0.0803		0.000368	0.00228	mg/kg dry	1	6/2/23 22:16
o-Xylene	163	D	0.793	6.17	mg/kg dry	2325	6/7/23 4:51
Styrene	186	D	0.883	6.17	mg/kg dry	2325	6/7/23 4:51
Toluene	103	D	0.497	6.17	mg/kg dry	2325	6/7/23 4:51
Total Xylenes	487	D	0.793	6.17	mg/kg dry	2325	6/7/23 4:51
TIC_Benzene, (1-methylethenyl)-	0.296	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, 1,2,3-trimethyl-	0.954	J			mg/kg dry	1	6/2/23 22:16

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-20230526**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1-ethenyl-2-methyl-	0.126	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, 1-ethenyl-3-methyl-	0.205	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, 1-ethyl-2-methyl-	0.478	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, 1-ethyl-3-methyl-	0.191	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, 1-ethyl-4-methyl-	0.560	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, 1-propynyl-	1.18	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, ethenylmethyl-	0.952	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, methyl(1-methylethyl)-	0.0956	J			mg/kg dry	1	6/2/23 22:16
TIC_Benzene, propyl-	0.122	J			mg/kg dry	1	6/2/23 22:16
TIC_Cyclohexane, methyl-	0.0612	J			mg/kg dry	1	6/2/23 22:16
TIC_Octane	0.0737	J			mg/kg dry	1	6/2/23 22:16
TIC_Octane, 3-methyl-	0.0571	J			mg/kg dry	1	6/2/23 22:16
TIC_TIC:Naphthalene	0.185	J			mg/kg dry	1	6/2/23 22:16

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.385		0.00817	0.0685	mg/kg dry	1	6/7/23 17:34

ND - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-202 30526** Collected: **5/26/2023 7:40:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00524	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1221	ND	U	0.0103	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1232	ND	U	0.0131	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1242	ND	U	0.00767	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1248	ND	U	0.00802	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1254	ND	U	0.00630	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1260	ND	U	0.00489	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1262	ND	U	0.0105	0.0390	mg/kg	1	6/10/23 14:37
Aroclor-1268	ND	U	0.00472	0.0390	mg/kg	1	6/10/23 14:37
Total PCBs	ND	U	0.00364	0.0390	mg/kg	1	6/10/23 14:37

NJDEP-EPH-CAT2 - Extractable Petroleum Hydrocarbons Category 2

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total EPH	J, RC:SH **1690**		**11.8**	**23.7**	**mg/kg**	**1**	**6/8/23 3:34**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0116	0.118	mg/kg	1	6/13/23 23:28
2,4-D	ND	U	0.0196	0.118	mg/kg	1	6/13/23 23:28

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**2.74**		**0.00591**	**0.0237**	**mg/kg**	**1**	**6/8/23 11:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6910**		**0.174**	**2.93**	**mg/kg**	**1**	**6/12/23 9:30**
Antimony	ND	U	0.160	1.46	mg/kg	1	6/12/23 9:30
Arsenic	**5.39**		**0.104**	**1.46**	**mg/kg**	**1**	**6/12/23 9:30**
Barium	**72.2**		**0.0443**	**0.586**	**mg/kg**	**1**	**6/12/23 9:30**
Beryllium	**0.531**		**0.00339**	**0.0293**	**mg/kg**	**1**	**6/12/23 9:30**
Cadmium	ND	U	0.0571	0.293	mg/kg	1	6/12/23 9:30
Calcium	**24400**		**3.29**	**29.3**	**mg/kg**	**1**	**6/12/23 9:30**
Chromium	**36.6**		**0.0331**	**0.293**	**mg/kg**	**1**	**6/12/23 9:30**
Cobalt	**6.68**		**0.0299**	**0.234**	**mg/kg**	**1**	**6/12/23 9:30**
Copper	**46.8**		**0.0819**	**0.293**	**mg/kg**	**1**	**6/12/23 9:30**
Iron	**14100**		**0.829**	**5.86**	**mg/kg**	**1**	**6/12/23 9:30**
Lead	**142**		**0.122**	**1.46**	**mg/kg**	**1**	**6/12/23 9:30**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-202 30526** Collected: **5/26/2023 7:40:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Magnesium	**2650**		**10.3**	**58.6**	**mg/kg**	**1**	**6/12/23 9:30**
Manganese	**109**		**0.0364**	**0.293**	**mg/kg**	**1**	**6/12/23 9:30**
Nickel	**22.5**		**0.0257**	**0.146**	**mg/kg**	**1**	**6/12/23 9:30**
Potassium	**1340**		**34.8**	**117**	**mg/kg**	**1**	**6/12/23 9:30**
Selenium	ND	U	0.281	1.46	mg/kg	1	6/12/23 9:30
Silver	ND	U	0.0498	0.176	mg/kg	1	6/12/23 9:30
Sodium	**531**		**5.58**	**58.6**	**mg/kg**	**1**	**6/12/23 9:30**
Thallium	ND	U	0.0985	1.46	mg/kg	1	6/12/23 9:30
Vanadium	**24.2**		**0.0673**	**0.586**	**mg/kg**	**1**	**6/12/23 9:30**
Zinc	**122**		**0.0894**	**0.878**	**mg/kg**	**1**	**6/12/23 9:30**

SW 846 8081B - Pesticides

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD [2C]	J, RC:3H,SH	**0.00211**		**0.000704**	**0.00154**	**mg/kg**	**1**	**6/10/23 18:32**
4,4'-DDE [2C]	J, RC:3H	**0.00262**		**0.000841**	**0.00154**	**mg/kg**	**1**	**6/10/23 18:32**
4,4'-DDT [2C]	J, RC:3H,Q,SH	**0.00546**		**0.00109**	**0.00154**	**mg/kg**	**1**	**6/10/23 18:32**
Aldrin	UJ, RC:3L	ND	U	0.000729	0.00154	mg/kg	1	6/10/23 18:32
alpha-BHC	UJ, RC:3L	ND	U	0.000458	0.00154	mg/kg	1	6/10/23 18:32
beta-BHC	UJ, RC:3L	ND	U	0.000735	0.00154	mg/kg	1	6/10/23 18:32
Chlordane	UJ, RC:3L	ND	U	0.000684	0.00154	mg/kg	1	6/10/23 18:32
delta-BHC	UJ, RC:3L	ND	U	0.000714	0.00154	mg/kg	1	6/10/23 18:32
Dieldrin	UJ, RC:3L	ND	U	0.000804	0.00154	mg/kg	1	6/10/23 18:32
Endosulfan I	UJ, RC:3L	ND	U	0.000726	0.00154	mg/kg	1	6/10/23 18:32
Endosulfan II	UJ, RC:3L	ND	U	0.000699	0.00154	mg/kg	1	6/10/23 18:32
Endosulfan sulfate	UJ, RC:3L	ND	U	0.000578	0.00154	mg/kg	1	6/10/23 18:32
Endosulfans, Total (alpha and beta)	UJ, RC:3L	ND	U	0.000699	0.00154	mg/kg	1	6/10/23 18:32
Endrin	UJ, RC:3L	ND	U	0.000531	0.00154	mg/kg	1	6/10/23 18:32
Endrin aldehyde	UJ, RC:3L	ND	U	0.000613	0.00154	mg/kg	1	6/10/23 18:32
Endrin ketone	UJ, RC:3L	ND	U	0.000542	0.00154	mg/kg	1	6/10/23 18:32
gamma-BHC (Lindane)	UJ, RC:3L	ND	U	0.000487	0.00154	mg/kg	1	6/10/23 18:32
Heptachlor	UJ, RC:3L	ND	U	0.000412	0.00154	mg/kg	1	6/10/23 18:32
Heptachlor Epoxide	UJ, RC:3L	ND	U	0.000776	0.00154	mg/kg	1	6/10/23 18:32
Methoxychlor	UJ, RC:3L	ND	U	0.000451	0.00154	mg/kg	1	6/10/23 18:32
Toxaphene	UJ, RC:3L	ND	U	0.0741	0.0781	mg/kg	1	6/10/23 18:32

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-202 30526** Collected: **5/26/2023 7:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	UJ, RC:Q ND	U	0.00445	0.0394	mg/kg	1	6/6/23 21:39
2,3,4,6-Tetrachlorophenol	ND	U	0.0242	0.157	mg/kg	1	6/6/23 21:39
2,4,5-Trichlorophenol	ND	U	0.0214	0.157	mg/kg	1	6/6/23 21:39
2,4,6-Trichlorophenol	ND	U	0.00985	0.157	mg/kg	1	6/6/23 21:39
2,4-Dichlorophenol	ND	U	0.0158	0.157	mg/kg	1	6/6/23 21:39
2,4-Dimethylphenol	ND	U	0.0155	0.157	mg/kg	1	6/6/23 21:39
2,4-Dinitrophenol	UJ, RC:Q ND	U	0.0227	0.789	mg/kg	1	6/6/23 21:39
2,4-Dinitrotoluene	ND	U	0.0168	0.157	mg/kg	1	6/6/23 21:39
2,6-Dinitrotoluene	ND	U	0.0376	0.157	mg/kg	1	6/6/23 21:39
2-Chloronaphthalene	ND	U	0.0181	0.157	mg/kg	1	6/6/23 21:39
2-Chlorophenol	UJ, RC:Q ND	U	0.0208	0.157	mg/kg	1	6/6/23 21:39
2-Methylnaphthalene	**1.88**		**0.0377**	**0.237**	**mg/kg**	**1**	**6/6/23 21:39**
2-Methylphenol	ND	U	0.0311	0.157	mg/kg	1	6/6/23 21:39
2-Nitroaniline	ND	U	0.0127	0.157	mg/kg	1	6/6/23 21:39
2-Nitrophenol	UJ, RC:Q ND	U	0.0175	0.157	mg/kg	1	6/6/23 21:39
3,3'-Dichlorobenzidine	ND	U	0.0166	0.157	mg/kg	1	6/6/23 21:39
3+4-Methylphenol	J, RC:3H,SH **0.582**		**0.0289**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
3-Nitroaniline	ND	U	0.0292	0.157	mg/kg	1	6/6/23 21:39
4,6-Dinitro-2-methylphenol	ND	U	0.0297	0.394	mg/kg	1	6/6/23 21:39
4-Bromophenyl-phenyl ether	ND	U	0.0225	0.157	mg/kg	1	6/6/23 21:39
4-Chloro-3-methylphenol	ND	U	0.0248	0.157	mg/kg	1	6/6/23 21:39
4-Chloroaniline	ND	U	0.00551	0.157	mg/kg	1	6/6/23 21:39
4-Chlorophenyl phenyl ether	ND	U	0.00850	0.157	mg/kg	1	6/6/23 21:39
4-Nitroaniline	ND	U	0.0788	0.157	mg/kg	1	6/6/23 21:39
4-Nitrophenol	ND	U	0.0101	0.157	mg/kg	1	6/6/23 21:39
Acenaphthene	**8.84**		**0.00898**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Acenaphthylene	**0.967**		**0.00548**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Acetophenone	ND	U	0.0156	0.157	mg/kg	1	6/6/23 21:39
Anthracene	**6.92**		**0.0228**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Atrazine	UJ, RC:SL ND	U	0.0148	0.157	mg/kg	1	6/6/23 21:39
Benzaldehyde	ND	U	0.0484	0.157	mg/kg	1	6/6/23 21:39
Benzo(a)anthracene	**8.18**		**0.0158**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Benzo(a)pyrene	**10.8**	D	**0.274**	**1.57**	**mg/kg**	**10**	**6/7/23 19:47**
Benzo(b)fluoranthene	**10.7**	D	**0.221**	**1.57**	**mg/kg**	**10**	**6/7/23 19:47**
Benzo(g,h,i)perylene	**6.69**		**0.0128**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Benzo(k)fluoranthene	**3.89**		**0.0181**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Biphenyl	**0.320**		**0.0138**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
bis(2-chloroethoxy)methane	ND	U	0.0218	0.157	mg/kg	1	6/6/23 21:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-202 30526** Collected: **5/26/2023 7:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0173	0.157	mg/kg	1	6/6/23 21:39
bis(2-chloroisopropyl)ether	ND	U	0.0567	0.157	mg/kg	1	6/6/23 21:39
bis(2-ethylhexyl)phthalate	ND	U	0.0315	0.157	mg/kg	1	6/6/23 21:39
Butylbenzylphthalate	ND	U	0.0143	0.157	mg/kg	1	6/6/23 21:39
Caprolactam	ND	U	0.0203	0.157	mg/kg	1	6/6/23 21:39
Carbazole	**1.84**		**0.0303**	**0.394**	**mg/kg**	**1**	**6/6/23 21:39**
Chrysene	**8.46**		**0.0108**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Dibenzo(a,h)anthracene	**0.515**		**0.0156**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Dibenzofuran	**5.92**		**0.00938**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Diethylphthalate	ND	U	0.0305	0.157	mg/kg	1	6/6/23 21:39
Dimethylphthalate	ND	U	0.00977	0.157	mg/kg	1	6/6/23 21:39
Di-n-butylphthalate	ND	U	0.0643	0.157	mg/kg	1	6/6/23 21:39
Di-n-octylphthalate	ND	U	0.0323	0.157	mg/kg	1	6/6/23 21:39
Fluoranthene	**20.1**	D	**0.148**	**1.57**	**mg/kg**	**10**	**6/7/23 19:47**
Fluorene	**6.25**		**0.0131**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Hexachlorobenzene	ND	U	0.0206	0.157	mg/kg	1	6/6/23 21:39
Hexachlorobutadiene	ND	U	0.0756	0.157	mg/kg	1	6/6/23 21:39
Hexachlorocyclopentadiene	ND	U	0.0656	0.394	mg/kg	1	6/6/23 21:39
Hexachloroethane	ND	U	0.0173	0.157	mg/kg	1	6/6/23 21:39
Indeno(1,2,3-cd)pyrene	**5.43**		**0.0169**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Isophorone	ND	U	0.0103	0.157	mg/kg	1	6/6/23 21:39
Naphthalene	**2.97**		**0.0117**	**0.157**	**mg/kg**	**1**	**6/6/23 21:39**
Nitrobenzene	ND	U	0.0267	0.157	mg/kg	1	6/6/23 21:39
n-Nitroso-di-n-propylamine	ND	U	0.00843	0.157	mg/kg	1	6/6/23 21:39
n-Nitrosodiphenylamine	ND	U	0.0336	0.157	mg/kg	1	6/6/23 21:39
Pentachlorophenol	ND	U	0.0216	0.394	mg/kg	1	6/6/23 21:39
Phenanthrene	**21.3**	D	**0.207**	**1.57**	**mg/kg**	**10**	**6/7/23 19:47**
Phenol	ND	U	0.0128	0.157	mg/kg	1	6/6/23 21:39
Pyrene	**18.2**	D	**0.116**	**1.57**	**mg/kg**	**10**	**6/7/23 19:47**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound		Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzocycloheptatriene		2.96	8.05	J	mg/kg	1	6/6/23 21:39
Dibenzothiophene		2.41	10.41	J	mg/kg	1	6/6/23 21:39
Dodecane, 2,6,11-trimethyl-		3.29	8.20	J	mg/kg	1	6/6/23 21:39
Hexadecane, 2,6,10,14-tetramethyl-		5.06	10.31	J	mg/kg	1	6/6/23 21:39
Hexadecanoic acid, butyl ester	R, RC:2	~~4.82~~	11.83	~~B, J~~	mg/kg	1	6/6/23 21:39
Naphthalene, 1,7-dimethyl-		7.05	8.65	J	mg/kg	1	6/6/23 21:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-20230526** Collected: **5/26/2023 7:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 2,6-dimethyl-	4.18	8.58	J	mg/kg	1	6/6/23 21:39
Naphthalene, 2,7-dimethyl-	2.66	8.77	J	mg/kg	1	6/6/23 21:39
Octane, 3,6-dimethyl-	2.97	7.60	J	mg/kg	1	6/6/23 21:39
unknown (01)	3.47	11.04	J	mg/kg	1	6/6/23 21:39
unknown (02)	5.85	11.13	J	mg/kg	1	6/6/23 21:39
unknown (03)	2.56	11.30	J	mg/kg	1	6/6/23 21:39
unknown (04)	2.37	15.09	J	mg/kg	1	6/6/23 21:39
unknown (05)	9.55	15.40	J	mg/kg	1	6/6/23 21:39
unknown (06)	2.93	18.25	J	mg/kg	1	6/6/23 21:39
TIC Total	~~62.1~~ 57.28					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000467	0.00320	mg/kg	1	6/2/23 21:12
1,1,2,2-Tetrachloroethane	ND	U	0.000441	0.00320	mg/kg	1	6/2/23 21:12
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00137	0.00320	mg/kg	1	6/2/23 21:12
1,1,2-Trichloroethane	ND	U	0.000539	0.00320	mg/kg	1	6/2/23 21:12
1,1-Dichloroethane	ND	U	0.000467	0.00320	mg/kg	1	6/2/23 21:12
1,1-Dichloroethene	ND	U	0.000591	0.00320	mg/kg	1	6/2/23 21:12
1,2,3-Trichlorobenzene	ND	U	0.000691	0.00320	mg/kg	1	6/2/23 21:12
1,2,4-Trichlorobenzene	ND	U	0.000852	0.00320	mg/kg	1	6/2/23 21:12
1,2,4-Trimethylbenzene	**0.00732**		**0.000441**	**0.00320**	**mg/kg**	**1**	**6/2/23 21:12**
1,2-Dibromo-3-chloropropane	ND	U	0.000780	0.00320	mg/kg	1	6/2/23 21:12
1,2-Dibromoethane	ND	U	0.000403	0.00320	mg/kg	1	6/2/23 21:12
1,2-Dichlorobenzene	ND	U	0.000564	0.00320	mg/kg	1	6/2/23 21:12
1,2-Dichloroethane	ND	U	0.000451	0.00320	mg/kg	1	6/2/23 21:12
1,2-Dichloropropane	ND	U	0.000524	0.00320	mg/kg	1	6/2/23 21:12
1,3-Dichlorobenzene	ND	U	0.000235	0.00320	mg/kg	1	6/2/23 21:12
1,4-Dichlorobenzene	ND	U	0.000460	0.00320	mg/kg	1	6/2/23 21:12
2-Butanone	ND	U	0.000521	0.00799	mg/kg	1	6/2/23 21:12
2-Hexanone	ND	U	0.000299	0.00320	mg/kg	1	6/2/23 21:12
4-Methyl-2-pentanone	ND	U	0.000400	0.00320	mg/kg	1	6/2/23 21:12
Acetone	ND	U	0.000969	0.00799	mg/kg	1	6/2/23 21:12
Benzene	ND	U	0.000291	0.00320	mg/kg	1	6/2/23 21:12
Bromochloromethane	ND	U	0.000590	0.00320	mg/kg	1	6/2/23 21:12
Bromodichloromethane	ND	U	0.000401	0.00320	mg/kg	1	6/2/23 21:12
Bromoform	ND	U	0.000561	0.00320	mg/kg	1	6/2/23 21:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: **OH-SB-24-2.5-3.5-202 30526** Collected: **5/26/2023 7:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromomethane	ND	U	0.000922	0.00320	mg/kg	1	6/2/23 21:12
Carbon disulfide	ND	U	0.000459	0.00320	mg/kg	1	6/2/23 21:12
Carbon Tetrachloride	ND	U	0.000481	0.00320	mg/kg	1	6/2/23 21:12
Chlorobenzene	ND	U	0.000464	0.00320	mg/kg	1	6/2/23 21:12
Chlorodibromomethane	ND	U	0.000393	0.00320	mg/kg	1	6/2/23 21:12
Chloroethane	ND	U	0.000545	0.00320	mg/kg	1	6/2/23 21:12
Chloroform	ND	U	0.000537	0.00320	mg/kg	1	6/2/23 21:12
Chloromethane	ND	U	0.00123	0.00320	mg/kg	1	6/2/23 21:12
cis-1,2-Dichloroethene	ND	U	0.000155	0.00320	mg/kg	1	6/2/23 21:12
cis-1,3-Dichloropropene	ND	U	0.000404	0.00320	mg/kg	1	6/2/23 21:12
Cyclohexane	ND	U	0.000708	0.00320	mg/kg	1	6/2/23 21:12
Dichlorodifluoromethane	ND	U	0.00108	0.00320	mg/kg	1	6/2/23 21:12
EthylBenzene	ND	U	0.000433	0.00320	mg/kg	1	6/2/23 21:12
Isopropylbenzene	ND	U	0.000502	0.00320	mg/kg	1	6/2/23 21:12
m+p-Xylenes	ND	U	0.000807	0.00639	mg/kg	1	6/2/23 21:12
Methyl Acetate	ND	U	0.000424	0.00320	mg/kg	1	6/2/23 21:12
Methyl tert-Butyl Ether	ND	U	0.000540	0.00320	mg/kg	1	6/2/23 21:12
Methylcyclohexane	**0.0759**		**0.000515**	**0.00320**	**mg/kg**	**1**	**6/2/23 21:12**
Methylene Chloride	ND	U	0.000961	0.00320	mg/kg	1	6/2/23 21:12
o-Xylene	ND	U	0.000411	0.00320	mg/kg	1	6/2/23 21:12
Styrene	ND	U	0.000457	0.00320	mg/kg	1	6/2/23 21:12
tert-Butyl alcohol UJ, RC:Q	ND	U	0.00671	0.0320	mg/kg	1	6/2/23 21:12
Tetrachloroethene	ND	U	0.000316	0.00320	mg/kg	1	6/2/23 21:12
Toluene	ND	U	0.000257	0.00320	mg/kg	1	6/2/23 21:12
Total Xylenes	ND	U	0.000411	0.00320	mg/kg	1	6/2/23 21:12
trans-1,2-Dichloroethene	ND	U	0.000433	0.00320	mg/kg	1	6/2/23 21:12
trans-1,3-Dichloropropene	ND	U	0.000611	0.00320	mg/kg	1	6/2/23 21:12
Trichloroethene	ND	U	0.000470	0.00320	mg/kg	1	6/2/23 21:12
Trichlorofluoromethane	ND	U	0.000368	0.00320	mg/kg	1	6/2/23 21:12
Vinyl chloride	ND	U	0.000607	0.00320	mg/kg	1	6/2/23 21:12

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,1-Bicyclopropyl, 2,2,2,2-tetramethy	0.601	21.66	J	mg/kg	1	6/2/23 21:12
1-Dotriacontanol	0.936	19.20	J	mg/kg	1	6/2/23 21:12
1H-Indene, 2,3-dihydro-	0.973	19.97	J	mg/kg	1	6/2/23 21:12
2-Undecene, 9-methyl-, (Z)-	0.762	17.92	J	mg/kg	1	6/2/23 21:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-01 (Soil) Sample Name: OH-SB-24-2.5-3.5-20230526 Collected: 5/26/2023 7:40:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-methyl-3-(1-methylethyl)-	0.653	20.74	J	mg/kg	1	6/2/23 21:12
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimet	1.52	21.34	J	mg/kg	1	6/2/23 21:12
Cyclohexane, 1-ethyl-4-methyl-, cis-	0.963	16.59	J	mg/kg	1	6/2/23 21:12
Cyclohexane, butyl-	1.26	19.37	J	mg/kg	1	6/2/23 21:12
Cyclohexane, propyl-	1.14	17.10	J	mg/kg	1	6/2/23 21:12
Cyclohexanol, 5-methyl-2-(1-methylethyl)	0.606	18.94	J	mg/kg	1	6/2/23 21:12
Cyclohexene, 1-ethyl-	0.633	18.10	J	mg/kg	1	6/2/23 21:12
m-Menthane, (1S,3R)-(+)-	0.595	18.39	J	mg/kg	1	6/2/23 21:12
Naphthalene, decahydro-, cis-	1.05	20.24	J	mg/kg	1	6/2/23 21:12
Nonane, 3-methyl-	0.722	16.88	J	mg/kg	1	6/2/23 21:12
Undecane, 5,6-dimethyl-	1.03	17.38	J	mg/kg	1	6/2/23 21:12
TIC Total	**13.5**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.5**				**%**	**1**	**5/30/23 12:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.221**		**0.00902**	**0.0757**	**mg/kg**	**1**	**6/7/23 17:34**

23E1291-02 (Soil) Sample Name: OH-SB-24-5.5-6.5-20230526 Collected: 5/26/2023 8:05:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00567	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1221	ND	U	0.0111	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1232	ND	U	0.0142	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1242	ND	U	0.00830	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1248	ND	U	0.00869	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1254	ND	U	0.00682	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1260	ND	U	0.00529	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1262	ND	U	0.0114	0.0423	mg/kg	1	6/10/23 14:59
Aroclor-1268	ND	U	0.00511	0.0423	mg/kg	1	6/10/23 14:59

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-202 30526** Collected: **5/26/2023 8:05:00AM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total PCBs	ND	U	0.00395	0.0423	mg/kg	1	6/10/23 14:59

NJDEP-EPH-CAT2 - Extractable Petroleum Hydrocarbons Category 2

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total EPH	ND	U	12.8	25.6	mg/kg	1	6/8/23 3:59

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0125	0.128	mg/kg	1	6/13/23 23:52
2,4-D	ND	U	0.0213	0.128	mg/kg	1	6/13/23 23:52

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00640	0.0256	mg/kg	1	6/8/23 12:00

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**2780**		**0.181**	**3.05**	**mg/kg**	**1**	**6/12/23 9:32**
Antimony	ND	U	0.166	1.52	mg/kg	1	6/12/23 9:32
Arsenic	**3.28**		**0.109**	**1.52**	**mg/kg**	**1**	**6/12/23 9:32**
Barium	**97.4**		**0.0461**	**0.610**	**mg/kg**	**1**	**6/12/23 9:32**
Beryllium	**0.228**		**0.00353**	**0.0305**	**mg/kg**	**1**	**6/12/23 9:32**
Cadmium	ND	U	0.0594	0.305	mg/kg	1	6/12/23 9:32
Calcium	**25100**		**3.43**	**30.5**	**mg/kg**	**1**	**6/12/23 9:32**
Chromium	**7.38**		**0.0344**	**0.305**	**mg/kg**	**1**	**6/12/23 9:32**
Cobalt	**2.95**		**0.0312**	**0.244**	**mg/kg**	**1**	**6/12/23 9:32**
Copper	**2.96**		**0.0853**	**0.305**	**mg/kg**	**1**	**6/12/23 9:32**
Iron	**7500**		**0.864**	**6.10**	**mg/kg**	**1**	**6/12/23 9:32**
Lead	**7.71**		**0.127**	**1.52**	**mg/kg**	**1**	**6/12/23 9:32**
Magnesium	**3590**		**10.8**	**61.0**	**mg/kg**	**1**	**6/12/23 9:32**
Manganese	**193**		**0.0379**	**0.305**	**mg/kg**	**1**	**6/12/23 9:32**
Nickel	**5.67**		**0.0268**	**0.152**	**mg/kg**	**1**	**6/12/23 9:32**
Potassium	**452**		**36.3**	**122**	**mg/kg**	**1**	**6/12/23 9:32**
Selenium	ND	U	0.293	1.52	mg/kg	1	6/12/23 9:32
Silver	ND	U	0.0519	0.183	mg/kg	1	6/12/23 9:32
Sodium	**978**		**5.81**	**61.0**	**mg/kg**	**1**	**6/12/23 9:32**
Thallium	ND	U	0.103	1.52	mg/kg	1	6/12/23 9:32
Vanadium	**15.9**		**0.0701**	**0.610**	**mg/kg**	**1**	**6/12/23 9:32**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-20230526** Collected: **5/26/2023 8:05:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Zinc	**22.0**		**0.0931**	**0.915**	**mg/kg**	**1**	**6/12/23 9:32**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000762	0.00166	mg/kg	1	6/10/23 18:54
4,4'-DDE	ND	U	0.000910	0.00166	mg/kg	1	6/10/23 18:54
4,4'-DDT UJ, RC:Q	ND	U	0.00118	0.00166	mg/kg	1	6/10/23 18:54
Aldrin	ND	U	0.000789	0.00166	mg/kg	1	6/10/23 18:54
alpha-BHC	ND	U	0.000496	0.00166	mg/kg	1	6/10/23 18:54
beta-BHC	ND	U	0.000795	0.00166	mg/kg	1	6/10/23 18:54
Chlordane	ND	U	0.000740	0.00166	mg/kg	1	6/10/23 18:54
delta-BHC	ND	U	0.000773	0.00166	mg/kg	1	6/10/23 18:54
Dieldrin	ND	U	0.000871	0.00166	mg/kg	1	6/10/23 18:54
Endosulfan I	ND	U	0.000786	0.00166	mg/kg	1	6/10/23 18:54
Endosulfan II	ND	U	0.000757	0.00166	mg/kg	1	6/10/23 18:54
Endosulfan sulfate	ND	U	0.000626	0.00166	mg/kg	1	6/10/23 18:54
Endosulfans, Total (alpha and beta)	ND	U	0.000757	0.00166	mg/kg	1	6/10/23 18:54
Endrin	ND	U	0.000575	0.00166	mg/kg	1	6/10/23 18:54
Endrin aldehyde	ND	U	0.000663	0.00166	mg/kg	1	6/10/23 18:54
Endrin ketone	ND	U	0.000586	0.00166	mg/kg	1	6/10/23 18:54
gamma-BHC (Lindane)	ND	U	0.000528	0.00166	mg/kg	1	6/10/23 18:54
Heptachlor	ND	U	0.000446	0.00166	mg/kg	1	6/10/23 18:54
Heptachlor Epoxide	ND	U	0.000840	0.00166	mg/kg	1	6/10/23 18:54
Methoxychlor	ND	U	0.000488	0.00166	mg/kg	1	6/10/23 18:54
Toxaphene	ND	U	0.0802	0.0845	mg/kg	1	6/10/23 18:54

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00481	0.0426	mg/kg	1	6/7/23 19:10
2,3,4,6-Tetrachlorophenol	ND	U	0.0262	0.170	mg/kg	1	6/7/23 19:10
2,4,5-Trichlorophenol	ND	U	0.0232	0.170	mg/kg	1	6/7/23 19:10
2,4,6-Trichlorophenol	ND	U	0.0107	0.170	mg/kg	1	6/7/23 19:10
2,4-Dichlorophenol	ND	U	0.0172	0.170	mg/kg	1	6/7/23 19:10
2,4-Dimethylphenol	ND	U	0.0168	0.170	mg/kg	1	6/7/23 19:10
2,4-Dinitrophenol UJ, RC:Q	ND	U	0.0246	0.854	mg/kg	1	6/7/23 19:10
2,4-Dinitrotoluene	ND	U	0.0182	0.170	mg/kg	1	6/7/23 19:10
2,6-Dinitrotoluene	ND	U	0.0407	0.170	mg/kg	1	6/7/23 19:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-20230526** Collected: **5/26/2023 8:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Chloronaphthalene		ND	U	0.0196	0.170	mg/kg	1	6/7/23 19:10
2-Chlorophenol		ND	U	0.0225	0.170	mg/kg	1	6/7/23 19:10
2-Methylnaphthalene		**0.109**	J	**0.0408**	**0.256**	**mg/kg**	**1**	**6/7/23 19:10**
2-Methylphenol		ND	U	0.0337	0.170	mg/kg	1	6/7/23 19:10
2-Nitroaniline		ND	U	0.0137	0.170	mg/kg	1	6/7/23 19:10
2-Nitrophenol		ND	U	0.0190	0.170	mg/kg	1	6/7/23 19:10
3,3'-Dichlorobenzidine		ND	U	0.0179	0.170	mg/kg	1	6/7/23 19:10
3+4-Methylphenol		ND	U	0.0312	0.170	mg/kg	1	6/7/23 19:10
3-Nitroaniline		ND	U	0.0316	0.170	mg/kg	1	6/7/23 19:10
4,6-Dinitro-2-methylphenol	UJ, RC:Q	ND	U	0.0321	0.426	mg/kg	1	6/7/23 19:10
4-Bromophenyl-phenyl ether		ND	U	0.0243	0.170	mg/kg	1	6/7/23 19:10
4-Chloro-3-methylphenol		ND	U	0.0269	0.170	mg/kg	1	6/7/23 19:10
4-Chloroaniline		ND	U	0.00597	0.170	mg/kg	1	6/7/23 19:10
4-Chlorophenyl phenyl ether		ND	U	0.00921	0.170	mg/kg	1	6/7/23 19:10
4-Nitroaniline		ND	U	0.0853	0.170	mg/kg	1	6/7/23 19:10
4-Nitrophenol		ND	U	0.0109	0.170	mg/kg	1	6/7/23 19:10
Acenaphthene		**0.574**		**0.00972**	**0.170**	**mg/kg**	**1**	**6/7/23 19:10**
Acenaphthylene		ND	U	0.00593	0.170	mg/kg	1	6/7/23 19:10
Acetophenone		ND	U	0.0169	0.170	mg/kg	1	6/7/23 19:10
Anthracene		ND	U	0.0247	0.170	mg/kg	1	6/7/23 19:10
Atrazine	UJ, RC:SL	ND	U	0.0160	0.170	mg/kg	1	6/7/23 19:10
Benzaldehyde		ND	U	0.0524	0.170	mg/kg	1	6/7/23 19:10
Benzo(a)anthracene		ND	U	0.0172	0.170	mg/kg	1	6/7/23 19:10
Benzo(a)pyrene		ND	U	0.0297	0.170	mg/kg	1	6/7/23 19:10
Benzo(b)fluoranthene		**0.0305**	J	**0.0239**	**0.170**	**mg/kg**	**1**	**6/7/23 19:10**
Benzo(g,h,i)perylene		ND	U	0.0138	0.170	mg/kg	1	6/7/23 19:10
Benzo(k)fluoranthene		ND	U	0.0196	0.170	mg/kg	1	6/7/23 19:10
Biphenyl		ND	U	0.0150	0.170	mg/kg	1	6/7/23 19:10
bis(2-chloroethoxy)methane		ND	U	0.0236	0.170	mg/kg	1	6/7/23 19:10
bis(2-chloroethyl)ether		ND	U	0.0187	0.170	mg/kg	1	6/7/23 19:10
bis(2-chloroisopropyl)ether		ND	U	0.0613	0.170	mg/kg	1	6/7/23 19:10
bis(2-ethylhexyl)phthalate		ND	U	0.0341	0.170	mg/kg	1	6/7/23 19:10
Butylbenzylphthalate		ND	U	0.0155	0.170	mg/kg	1	6/7/23 19:10
Caprolactam		ND	U	0.0220	0.170	mg/kg	1	6/7/23 19:10
Carbazole		ND	U	0.0328	0.426	mg/kg	1	6/7/23 19:10
Chrysene		ND	U	0.0117	0.170	mg/kg	1	6/7/23 19:10
Dibenzo(a,h)anthracene		ND	U	0.0169	0.170	mg/kg	1	6/7/23 19:10
Dibenzofuran		ND	U	0.0102	0.170	mg/kg	1	6/7/23 19:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-20230526** Collected: **5/26/2023 8:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Diethylphthalate	ND	U	0.0330	0.170	mg/kg	1	6/7/23 19:10
Dimethylphthalate	ND	U	0.0106	0.170	mg/kg	1	6/7/23 19:10
Di-n-butylphthalate	ND	U	0.0697	0.170	mg/kg	1	6/7/23 19:10
Di-n-octylphthalate	ND	U	0.0350	0.170	mg/kg	1	6/7/23 19:10
Fluoranthene	**0.0440**	J	**0.0160**	**0.170**	**mg/kg**	**1**	**6/7/23 19:10**
Fluorene	ND	U	0.0142	0.170	mg/kg	1	6/7/23 19:10
Hexachlorobenzene	ND	U	0.0223	0.170	mg/kg	1	6/7/23 19:10
Hexachlorobutadiene	ND	U	0.0818	0.170	mg/kg	1	6/7/23 19:10
Hexachlorocyclopentadiene	ND	U	0.0711	0.426	mg/kg	1	6/7/23 19:10
Hexachloroethane	ND	U	0.0187	0.170	mg/kg	1	6/7/23 19:10
Indeno(1,2,3-cd)pyrene	ND	U	0.0183	0.170	mg/kg	1	6/7/23 19:10
Isophorone	ND	U	0.0112	0.170	mg/kg	1	6/7/23 19:10
Naphthalene	**0.204**		**0.0126**	**0.170**	**mg/kg**	**1**	**6/7/23 19:10**
Nitrobenzene	ND	U	0.0289	0.170	mg/kg	1	6/7/23 19:10
n-Nitroso-di-n-propylamine	ND	U	0.00913	0.170	mg/kg	1	6/7/23 19:10
n-Nitrosodiphenylamine	ND	U	0.0364	0.170	mg/kg	1	6/7/23 19:10
Pentachlorophenol	ND	U	0.0234	0.426	mg/kg	1	6/7/23 19:10
Phenanthrene	**0.0530**	J	**0.0224**	**0.170**	**mg/kg**	**1**	**6/7/23 19:10**
Phenol	ND	U	0.0138	0.170	mg/kg	1	6/7/23 19:10
Pyrene	**0.0442**	J	**0.0125**	**0.170**	**mg/kg**	**1**	**6/7/23 19:10**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	R, RC:2 ~~25.0~~	5.21	~~J, B~~	mg/kg	1	6/7/23 19:10
Ethanol, 2-butoxy-	0.567	5.86	J	mg/kg	1	6/7/23 19:10
Hexadecanoic acid, butyl ester	R, RC:2 ~~4.80~~	12.83	~~B, J~~	mg/kg	1	6/7/23 19:10
Octadecanoic acid, butyl ester	R, RC:2 ~~2.66~~	13.64	~~J, B~~	mg/kg	1	6/7/23 19:10
unknown	R, RC:2 ~~0.412~~	5.97	~~J, B~~	mg/kg	1	6/7/23 19:10
TIC Total	~~33.4~~ 0.567					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000297	0.00203	mg/kg	1	6/7/23 21:53
1,1,2,2-Tetrachloroethane	ND	U	0.000280	0.00203	mg/kg	1	6/7/23 21:53
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000870	0.00203	mg/kg	1	6/7/23 21:53
1,1,2-Trichloroethane	ND	U	0.000342	0.00203	mg/kg	1	6/7/23 21:53
1,1-Dichloroethane	ND	U	0.000297	0.00203	mg/kg	1	6/7/23 21:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-20230526** Collected: **5/26/2023 8:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1-Dichloroethene	ND	U	0.000376	0.00203	mg/kg	1	6/7/23 21:53
1,2,3-Trichlorobenzene	ND	U	0.000439	0.00203	mg/kg	1	6/7/23 21:53
1,2,4-Trichlorobenzene	ND	U	0.000542	0.00203	mg/kg	1	6/7/23 21:53
1,2,4-Trimethylbenzene	ND	U	0.000280	0.00203	mg/kg	1	6/7/23 21:53
1,2-Dibromo-3-chloropropane	ND	U	0.000496	0.00203	mg/kg	1	6/7/23 21:53
1,2-Dibromoethane	ND	U	0.000256	0.00203	mg/kg	1	6/7/23 21:53
1,2-Dichlorobenzene	ND	U	0.000359	0.00203	mg/kg	1	6/7/23 21:53
1,2-Dichloroethane	ND	U	0.000287	0.00203	mg/kg	1	6/7/23 21:53
1,2-Dichloropropane	ND	U	0.000333	0.00203	mg/kg	1	6/7/23 21:53
1,3-Dichlorobenzene	ND	U	0.000149	0.00203	mg/kg	1	6/7/23 21:53
1,4-Dichlorobenzene	ND	U	0.000293	0.00203	mg/kg	1	6/7/23 21:53
2-Butanone	ND	U	0.000331	0.00508	mg/kg	1	6/7/23 21:53
2-Hexanone	ND	U	0.000190	0.00203	mg/kg	1	6/7/23 21:53
4-Methyl-2-pentanone	ND	U	0.000254	0.00203	mg/kg	1	6/7/23 21:53
Acetone	ND	U	0.000616	0.00508	mg/kg	1	6/7/23 21:53
Benzene	ND	U	0.000185	0.00203	mg/kg	1	6/7/23 21:53
Bromochloromethane	ND	U	0.000375	0.00203	mg/kg	1	6/7/23 21:53
Bromodichloromethane	ND	U	0.000255	0.00203	mg/kg	1	6/7/23 21:53
Bromoform	ND	U	0.000357	0.00203	mg/kg	1	6/7/23 21:53
Bromomethane	ND	U	0.000586	0.00203	mg/kg	1	6/7/23 21:53
Carbon disulfide	ND	U	0.000292	0.00203	mg/kg	1	6/7/23 21:53
Carbon Tetrachloride	ND	U	0.000306	0.00203	mg/kg	1	6/7/23 21:53
Chlorobenzene	ND	U	0.000295	0.00203	mg/kg	1	6/7/23 21:53
Chlorodibromomethane	ND	U	0.000250	0.00203	mg/kg	1	6/7/23 21:53
Chloroethane	ND	U	0.000347	0.00203	mg/kg	1	6/7/23 21:53
Chloroform	ND	U	0.000341	0.00203	mg/kg	1	6/7/23 21:53
Chloromethane	ND	U	0.000782	0.00203	mg/kg	1	6/7/23 21:53
cis-1,2-Dichloroethene	ND	U	0.0000983	0.00203	mg/kg	1	6/7/23 21:53
cis-1,3-Dichloropropene	ND	U	0.000257	0.00203	mg/kg	1	6/7/23 21:53
Cyclohexane	ND	U	0.000450	0.00203	mg/kg	1	6/7/23 21:53
Dichlorodifluoromethane	ND	U	0.000686	0.00203	mg/kg	1	6/7/23 21:53
EthylBenzene	ND	U	0.000275	0.00203	mg/kg	1	6/7/23 21:53
Isopropylbenzene	ND	U	0.000319	0.00203	mg/kg	1	6/7/23 21:53
m+p-Xylenes	ND	U	0.000513	0.00406	mg/kg	1	6/7/23 21:53
Methyl Acetate	ND	U	0.000269	0.00203	mg/kg	1	6/7/23 21:53
Methyl tert-Butyl Ether	ND	U	0.000343	0.00203	mg/kg	1	6/7/23 21:53
Methylcyclohexane	ND	U	0.000327	0.00203	mg/kg	1	6/7/23 21:53
Methylene Chloride	ND	U	0.000611	0.00203	mg/kg	1	6/7/23 21:53

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-02 (Soil) Sample Name: **OH-SB-24-5.5-6.5-20230526** Collected: **5/26/2023 8:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene		ND	U	0.000261	0.00203	mg/kg	1	6/7/23 21:53
Styrene		ND	U	0.000291	0.00203	mg/kg	1	6/7/23 21:53
tert-Butyl alcohol	UJ, RC:Q	ND	U	0.00427	0.0203	mg/kg	1	6/7/23 21:53
Tetrachloroethene		ND	U	0.000201	0.00203	mg/kg	1	6/7/23 21:53
Toluene		ND	U	0.000164	0.00203	mg/kg	1	6/7/23 21:53
Total Xylenes		ND	U	0.000261	0.00203	mg/kg	1	6/7/23 21:53
trans-1,2-Dichloroethene		ND	U	0.000275	0.00203	mg/kg	1	6/7/23 21:53
trans-1,3-Dichloropropene		ND	U	0.000388	0.00203	mg/kg	1	6/7/23 21:53
Trichloroethene		ND	U	0.000299	0.00203	mg/kg	1	6/7/23 21:53
Trichlorofluoromethane		ND	U	0.000234	0.00203	mg/kg	1	6/7/23 21:53
Vinyl chloride		ND	U	0.000386	0.00203	mg/kg	1	6/7/23 21:53

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3-Benzodioxole, 5-(2-propenyl)-	0.213	24.46	J	mg/kg	1	6/7/23 21:53
TIC Total	**0.213**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**78.1**				**%**	**1**	**5/30/23 12:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00955	0.0802	mg/kg	1	6/7/23 17:34

23E1291-03 (Ground Water) Sample Name: **FB-20230526** Collected: **5/26/2023 9:05:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/1/23 7:43
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/1/23 7:43
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/1/23 7:43
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/1/23 7:43
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/1/23 7:43
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/1/23 7:43
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/1/23 7:43
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/1/23 7:43
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/1/23 7:43

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-03 (Ground Water) Sample Name: **FB-20230526** Collected: **5/26/2023 9:05:00AM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/1/23 7:43

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 19:02
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 19:02
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 19:02

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/5/23 14:49

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/11/23 9:21
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/11/23 9:21
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/11/23 9:21
Barium	ND	U	0.000558	0.0200	mg/L	1	6/11/23 9:21
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/11/23 9:21
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/11/23 9:21
Calcium	ND	U	0.256	1.00	mg/L	1	6/11/23 9:21
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/11/23 9:21
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/11/23 9:21
Copper	ND	U	0.00177	0.0100	mg/L	1	6/11/23 9:21
Iron	ND	U	0.0580	0.200	mg/L	1	6/11/23 9:21
Lead	ND	U	0.00510	0.0500	mg/L	1	6/11/23 9:21
Magnesium	ND	U	0.681	2.00	mg/L	1	6/11/23 9:21
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/11/23 9:21
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/11/23 9:21
Potassium	ND	U	2.41	4.00	mg/L	1	6/11/23 9:21
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/11/23 9:21
Silver	ND	U	0.00465	0.0200	mg/L	1	6/11/23 9:21
Sodium	ND	U	0.205	2.00	mg/L	1	6/11/23 9:21
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/11/23 9:21
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/11/23 9:21
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/11/23 9:21

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-03 (Ground Water) Sample Name: **FB-20230526** Collected: **5/26/2023 9:05:00AM**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/1/23 23:10
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/1/23 23:10
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/1/23 23:10
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/1/23 23:10
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/1/23 23:10
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/1/23 23:10
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/1/23 23:10
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/1/23 23:10
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/1/23 23:10
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/1/23 23:10
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/1/23 23:10
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/1/23 23:10
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/1/23 23:10
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/1/23 23:10
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/1/23 23:10
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/1/23 23:10
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/1/23 23:10
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/1/23 23:10
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/1/23 23:10
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/1/23 23:10

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/1/23 13:58
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/1/23 13:58
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/1/23 13:58
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/1/23 13:58
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/1/23 13:58
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/1/23 13:58
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/1/23 13:58
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/1/23 13:58
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/1/23 13:58
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/1/23 13:58
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/1/23 13:58
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/1/23 13:58
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/1/23 13:58
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/1/23 13:58
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/1/23 13:58
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/1/23 13:58

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-03 (Ground Water) Sample Name: **FB-20230526** Collected: **5/26/2023 9:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/1/23 13:58
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/1/23 13:58
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/1/23 13:58
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/1/23 13:58
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/1/23 13:58
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/1/23 13:58
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/1/23 13:58
4-Nitrophenol UJ, RC:SL	ND	U	0.168	2.00	ug/L	1	6/1/23 13:58
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/1/23 13:58
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/1/23 13:58
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/1/23 13:58
Anthracene	ND	U	0.121	2.00	ug/L	1	6/1/23 13:58
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/1/23 13:58
Benzaldehyde UJ, RC:Q,SL	ND	U	0.134	2.00	ug/L	1	6/1/23 13:58
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/1/23 13:58
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/1/23 13:58
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/1/23 13:58
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/1/23 13:58
bis(2-chloroisopropyl)ether UJ, RC:SL	ND	U	0.132	2.00	ug/L	1	6/1/23 13:58
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/1/23 13:58
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/1/23 13:58
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/1/23 13:58
Carbazole	ND	U	0.188	2.00	ug/L	1	6/1/23 13:58
Chrysene	ND	U	0.129	2.00	ug/L	1	6/1/23 13:58
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/1/23 13:58
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/1/23 13:58
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/1/23 13:58
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/1/23 13:58
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/1/23 13:58
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/1/23 13:58
Fluorene	ND	U	0.109	2.00	ug/L	1	6/1/23 13:58
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/1/23 13:58
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/1/23 13:58
Isophorone	ND	U	0.111	2.00	ug/L	1	6/1/23 13:58
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/1/23 13:58
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/1/23 13:58
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/1/23 13:58
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/1/23 13:58
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/1/23 13:58

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-03 (Ground Water) Sample Name: **FB-20230526** Collected: **5/26/2023 9:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenol	ND	U	0.0973	2.00	ug/L	1	6/1/23 13:58
Pyrene	ND	U	0.115	2.00	ug/L	1	6/1/23 13:58

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexasiloxane, dodecamethyl-	5.30	7.77	J	ug/L	1	6/1/23 13:58
TIC Total	**5.30**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/6/23 17:54
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/6/23 17:54
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/6/23 17:54
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/6/23 17:54
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/6/23 17:54
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/6/23 17:54
1,2,3-Trichlorobenzene UJ, RC:Q	ND	U	0.488	1.00	ug/L	1	6/6/23 17:54
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/6/23 17:54
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/6/23 17:54
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/6/23 17:54
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/6/23 17:54
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/6/23 17:54
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/6/23 17:54
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/6/23 17:54
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/6/23 17:54
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/6/23 17:54
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/6/23 17:54
2-Hexanone UJ, RC:SL	ND	U	0.635	2.00	ug/L	1	6/6/23 17:54
4-Methyl-2-pentanone UJ, RC:SL	ND	U	0.638	2.00	ug/L	1	6/6/23 17:54
Acetone	ND	U	10.0	10.0	ug/L	1	6/6/23 17:54
Benzene	ND	U	0.129	1.00	ug/L	1	6/6/23 17:54
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/6/23 17:54
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/6/23 17:54
Bromoform	ND	U	0.421	1.00	ug/L	1	6/6/23 17:54
Bromomethane UJ, RC:SL	ND	U	0.702	10.0	ug/L	1	6/6/23 17:54
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/6/23 17:54
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/6/23 17:54
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/6/23 17:54

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23E1291
Project: Owls Head Phase 2 **Date to Lab:** 5/26/2023 1:55:00PM

23E1291-03 (Ground Water) Sample Name: **FB-20230526** Collected: **5/26/2023 9:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/6/23 17:54
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/6/23 17:54
Chloroform	ND	U	0.365	1.00	ug/L	1	6/6/23 17:54
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/6/23 17:54
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/6/23 17:54
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/6/23 17:54
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/6/23 17:54
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/6/23 17:54
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/6/23 17:54
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/6/23 17:54
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/6/23 17:54
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/6/23 17:54
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/6/23 17:54
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/6/23 17:54
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/6/23 17:54
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/6/23 17:54
Styrene	ND	U	0.176	1.00	ug/L	1	6/6/23 17:54
tert-Butyl alcohol UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	6/6/23 17:54
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/6/23 17:54
Toluene	ND	U	0.205	1.00	ug/L	1	6/6/23 17:54
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/6/23 17:54
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/6/23 17:54
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/6/23 17:54
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/6/23 17:54
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/6/23 17:54
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/6/23 17:54

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/6/23 17:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00505	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1221	ND	U	0.00994	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1232	ND	U	0.0126	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1242	ND	U	0.00741	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1248	ND	U	0.00775	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1254	ND	U	0.00608	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1260	ND	U	0.00472	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1262	ND	U	0.0101	0.0377	mg/kg	1	6/10/23 15:21
Aroclor-1268	ND	U	0.00456	0.0377	mg/kg	1	6/10/23 15:21
Total PCBs	ND	U	0.00352	0.0377	mg/kg	1	6/10/23 15:21

NJDEP-EPH-CAT2 - Extractable Petroleum Hydrocarbons Category 2

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total EPH	J, RC:SH **9660**	D	**114**	**228**	**mg/kg**	**10**	**6/10/23 5:13**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0112	0.114	mg/kg	1	6/28/23 13:32
2,4-D	ND	U	0.0190	0.114	mg/kg	1	6/28/23 13:32

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00571	0.0228	mg/kg	1	6/8/23 12:00

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**4370**		**0.162**	**2.73**	**mg/kg**	**1**	**6/12/23 9:34**
Antimony	ND	U	0.149	1.37	mg/kg	1	6/12/23 9:34
Arsenic	ND	U	0.0975	1.37	mg/kg	1	6/12/23 9:34
Barium	**33.9**		**0.0413**	**0.546**	**mg/kg**	**1**	**6/12/23 9:34**
Beryllium	**0.314**		**0.00316**	**0.0273**	**mg/kg**	**1**	**6/12/23 9:34**
Cadmium	ND	U	0.0533	0.273	mg/kg	1	6/12/23 9:34
Calcium	**2630**		**3.07**	**27.3**	**mg/kg**	**1**	**6/12/23 9:34**
Chromium	**11.8**		**0.0309**	**0.273**	**mg/kg**	**1**	**6/12/23 9:34**
Cobalt	**3.74**		**0.0279**	**0.219**	**mg/kg**	**1**	**6/12/23 9:34**
Copper	**8.25**		**0.0764**	**0.273**	**mg/kg**	**1**	**6/12/23 9:34**
Iron	**7350**		**0.774**	**5.46**	**mg/kg**	**1**	**6/12/23 9:34**
Lead	**2.75**		**0.114**	**1.37**	**mg/kg**	**1**	**6/12/23 9:34**

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Magnesium	**3810**		**9.65**	**54.6**	**mg/kg**	**1**	**6/12/23 9:34**
Manganese	**84.0**		**0.0340**	**0.273**	**mg/kg**	**1**	**6/12/23 9:34**
Nickel	**19.0**		**0.0240**	**0.137**	**mg/kg**	**1**	**6/12/23 9:34**
Potassium	**1100**		**32.5**	**109**	**mg/kg**	**1**	**6/12/23 9:34**
Selenium	ND	U	0.262	1.37	mg/kg	1	6/12/23 9:34
Silver	ND	U	0.0465	0.164	mg/kg	1	6/12/23 9:34
Sodium	**452**		**5.21**	**54.6**	**mg/kg**	**1**	**6/12/23 9:34**
Thallium	ND	U	0.0919	1.37	mg/kg	1	6/12/23 9:34
Vanadium	**11.9**		**0.0628**	**0.546**	**mg/kg**	**1**	**6/12/23 9:34**
Zinc	**16.9**		**0.0835**	**0.820**	**mg/kg**	**1**	**6/12/23 9:34**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000679	0.00148	mg/kg	1	6/12/23 20:04
4,4'-DDE	ND	U	0.000812	0.00148	mg/kg	1	6/12/23 20:04
4,4'-DDT	J, RC:3H,Q **0.115**		**0.00105**	**0.00148**	**mg/kg**	**1**	**6/12/23 20:04**
Aldrin	ND	U	0.000703	0.00148	mg/kg	1	6/12/23 20:04
alpha-BHC	ND	U	0.000442	0.00148	mg/kg	1	6/12/23 20:04
beta-BHC	ND	U	0.000709	0.00148	mg/kg	1	6/12/23 20:04
Chlordane	J, RC:3H **0.192**		**0.000660**	**0.00148**	**mg/kg**	**1**	**6/12/23 20:04**
delta-BHC	ND	U	0.000690	0.00148	mg/kg	1	6/12/23 20:04
Dieldrin	ND	U	0.000777	0.00148	mg/kg	1	6/12/23 20:04
Endosulfan I	ND	U	0.000701	0.00148	mg/kg	1	6/12/23 20:04
Endosulfan II	ND	U	0.000675	0.00148	mg/kg	1	6/12/23 20:04
Endosulfan sulfate	ND	U	0.000558	0.00148	mg/kg	1	6/12/23 20:04
Endosulfans, Total (alpha and beta)	ND	U	0.000675	0.00148	mg/kg	1	6/12/23 20:04
Endrin	ND	U	0.000513	0.00148	mg/kg	1	6/12/23 20:04
Endrin aldehyde	ND	U	0.000592	0.00148	mg/kg	1	6/12/23 20:04
Endrin ketone	ND	U	0.000523	0.00148	mg/kg	1	6/12/23 20:04
gamma-BHC (Lindane)	ND	U	0.000471	0.00148	mg/kg	1	6/12/23 20:04
Heptachlor	J, RC:3H **0.00666**		**0.000397**	**0.00148**	**mg/kg**	**1**	**6/12/23 20:04**
Heptachlor Epoxide	ND	U	0.000749	0.00148	mg/kg	1	6/12/23 20:04
Methoxychlor	ND	U	0.000435	0.00148	mg/kg	1	6/12/23 20:04
Toxaphene	ND	U	0.0715	0.0754	mg/kg	1	6/12/23 20:04

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte		Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane		ND	U	0.00429	0.0380	mg/kg	1	6/7/23 19:42
2,3,4,6-Tetrachlorophenol		ND	U	0.0234	0.152	mg/kg	1	6/7/23 19:42
2,4,5-Trichlorophenol		ND	U	0.0207	0.152	mg/kg	1	6/7/23 19:42
2,4,6-Trichlorophenol		ND	U	0.00951	0.152	mg/kg	1	6/7/23 19:42
2,4-Dichlorophenol		ND	U	0.0153	0.152	mg/kg	1	6/7/23 19:42
2,4-Dimethylphenol		ND	U	0.0150	0.152	mg/kg	1	6/7/23 19:42
2,4-Dinitrophenol	UJ, RC:Q	ND	U	0.0219	0.762	mg/kg	1	6/7/23 19:42
2,4-Dinitrotoluene		ND	U	0.0162	0.152	mg/kg	1	6/7/23 19:42
2,6-Dinitrotoluene		ND	U	0.0363	0.152	mg/kg	1	6/7/23 19:42
2-Chloronaphthalene		ND	U	0.0175	0.152	mg/kg	1	6/7/23 19:42
2-Chlorophenol		ND	U	0.0201	0.152	mg/kg	1	6/7/23 19:42
2-Methylnaphthalene		**280**	D	**3.64**	**22.8**	**mg/kg**	**100**	**6/9/23 1:26**
2-Methylphenol		ND	U	0.0300	0.152	mg/kg	1	6/7/23 19:42
2-Nitroaniline		ND	U	0.0122	0.152	mg/kg	1	6/7/23 19:42
2-Nitrophenol		ND	U	0.0169	0.152	mg/kg	1	6/7/23 19:42
3,3'-Dichlorobenzidine		ND	U	0.0160	0.152	mg/kg	1	6/7/23 19:42
3+4-Methylphenol		ND	U	0.0279	0.152	mg/kg	1	6/7/23 19:42
3-Nitroaniline		ND	U	0.0282	0.152	mg/kg	1	6/7/23 19:42
4,6-Dinitro-2-methylphenol	UJ, RC:Q	ND	U	0.0287	0.380	mg/kg	1	6/7/23 19:42
4-Bromophenyl-phenyl ether		ND	U	0.0217	0.152	mg/kg	1	6/7/23 19:42
4-Chloro-3-methylphenol		ND	U	0.0240	0.152	mg/kg	1	6/7/23 19:42
4-Chloroaniline		ND	U	0.00532	0.152	mg/kg	1	6/7/23 19:42
4-Chlorophenyl phenyl ether		ND	U	0.00821	0.152	mg/kg	1	6/7/23 19:42
4-Nitroaniline		ND	U	0.0761	0.152	mg/kg	1	6/7/23 19:42
4-Nitrophenol		ND	U	0.00973	0.152	mg/kg	1	6/7/23 19:42
Acenaphthene		**44.3**	D	**0.867**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Acenaphthylene		**143**	D	**0.529**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Acetophenone		ND	U	0.0151	0.152	mg/kg	1	6/7/23 19:42
Anthracene		**66.4**	D	**2.20**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Atrazine	UJ, RC:SL	ND	U	0.0143	0.152	mg/kg	1	6/7/23 19:42
Benzaldehyde		ND	U	0.0467	0.152	mg/kg	1	6/7/23 19:42
Benzo(a)anthracene		**38.9**	D	**1.53**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Benzo(a)pyrene		**25.6**	D	**2.65**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Benzo(b)fluoranthene		**17.6**	D	**2.14**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Benzo(g,h,i)perylene		**10.4**	J, D	**1.23**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Benzo(k)fluoranthene		**8.98**		**0.0175**	**0.152**	**mg/kg**	**1**	**6/7/23 19:42**
Biphenyl		**28.7**	D	**1.34**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
bis(2-chloroethoxy)methane		ND	U	0.0210	0.152	mg/kg	1	6/7/23 19:42

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0167	0.152	mg/kg	1	6/7/23 19:42
bis(2-chloroisopropyl)ether	ND	U	0.0547	0.152	mg/kg	1	6/7/23 19:42
bis(2-ethylhexyl)phthalate	ND	U	0.0304	0.152	mg/kg	1	6/7/23 19:42
Butylbenzylphthalate	ND	U	0.0138	0.152	mg/kg	1	6/7/23 19:42
Caprolactam	ND	U	0.0196	0.152	mg/kg	1	6/7/23 19:42
Carbazole	**2.16**		**0.0292**	**0.380**	**mg/kg**	**1**	**6/7/23 19:42**
Chrysene	**34.3**	D	**1.04**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Dibenzo(a,h)anthracene J, RC:SH	**1.19**		**0.0151**	**0.152**	**mg/kg**	**1**	**6/7/23 19:42**
Dibenzofuran	**9.05**		**0.00906**	**0.152**	**mg/kg**	**1**	**6/7/23 19:42**
Diethylphthalate	ND	U	0.0295	0.152	mg/kg	1	6/7/23 19:42
Dimethylphthalate	ND	U	0.00943	0.152	mg/kg	1	6/7/23 19:42
Di-n-butylphthalate	ND	U	0.0621	0.152	mg/kg	1	6/7/23 19:42
Di-n-octylphthalate	ND	U	0.0312	0.152	mg/kg	1	6/7/23 19:42
Fluoranthene	**69.9**	D	**1.43**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Fluorene	**118**	D	**1.27**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Hexachlorobenzene	ND	U	0.0199	0.152	mg/kg	1	6/7/23 19:42
Hexachlorobutadiene	ND	U	0.0730	0.152	mg/kg	1	6/7/23 19:42
Hexachlorocyclopentadiene	ND	U	0.0634	0.380	mg/kg	1	6/7/23 19:42
Hexachloroethane	ND	U	0.0167	0.152	mg/kg	1	6/7/23 19:42
Indeno(1,2,3-cd)pyrene J, RC:SH	**8.73**		**0.0163**	**0.152**	**mg/kg**	**1**	**6/7/23 19:42**
Isophorone	ND	U	0.00996	0.152	mg/kg	1	6/7/23 19:42
Naphthalene	**481**	D	**1.13**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Nitrobenzene	ND	U	0.0258	0.152	mg/kg	1	6/7/23 19:42
n-Nitroso-di-n-propylamine	ND	U	0.00814	0.152	mg/kg	1	6/7/23 19:42
n-Nitrosodiphenylamine	ND	U	0.0324	0.152	mg/kg	1	6/7/23 19:42
Pentachlorophenol	ND	U	0.0209	0.380	mg/kg	1	6/7/23 19:42
Phenanthrene	**223**	D	**2.00**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**
Phenol	ND	U	0.0123	0.152	mg/kg	1	6/7/23 19:42
Pyrene	**105**	D	**1.12**	**15.2**	**mg/kg**	**100**	**6/9/23 1:26**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Methylindene	19.1	7.95	J	mg/kg	1	6/7/23 19:42
2-Pentanone, 4-hydroxy-4-methyl- R, RC:2	~~8.02~~	5.20	~~J, B~~	mg/kg	1	6/7/23 19:42
Benzocycloheptatriene	36.2	9.06	J	mg/kg	1	6/7/23 19:42
Indene	17.7	7.19	J	mg/kg	1	6/7/23 19:42
Naphthalene, 1,3-dimethyl-	12.3	9.77	J	mg/kg	1	6/7/23 19:42
Naphthalene, 1,5-dimethyl-	9.16	9.67	J	mg/kg	1	6/7/23 19:42

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1,6-dimethyl-	17.3	9.65	J	mg/kg	1	6/7/23 19:42
Naphthalene, 1-ethyl-	9.22	9.49	J	mg/kg	1	6/7/23 19:42
Naphthalene, 2,3,6-trimethyl-	7.88	10.33	J	mg/kg	1	6/7/23 19:42
Naphthalene, 2,6-dimethyl-	16.5	9.57	J	mg/kg	1	6/7/23 19:42
unknown (01)	12.7	6.74	J	mg/kg	1	6/7/23 19:42
unknown (02)	15.1	7.99	J	mg/kg	1	6/7/23 19:42
unknown (03)	8.75	9.71	J	mg/kg	1	6/7/23 19:42
unknown (04)	9.25	10.29	J	mg/kg	1	6/7/23 19:42
unknown (05)	8.42	10.46	J	mg/kg	1	6/7/23 19:42
TIC Total	~~288~~ 199.98					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	UJ, RC:3L ND	U	0.000333	0.00228	mg/kg	1	6/2/23 22:16
1,1,2,2-Tetrachloroethane	UJ, RC:3L ND	U	0.000315	0.00228	mg/kg	1	6/2/23 22:16
1,1,2-Trichloro-1,2,2 Trifluoroethane	UJ, RC:3L ND	U	0.000978	0.00228	mg/kg	1	6/2/23 22:16
1,1,2-Trichloroethane	UJ, RC:3L ND	U	0.000385	0.00228	mg/kg	1	6/2/23 22:16
1,1-Dichloroethane	UJ, RC:3L ND	U	0.000333	0.00228	mg/kg	1	6/2/23 22:16
1,1-Dichloroethene	UJ, RC:3L ND	U	0.000423	0.00228	mg/kg	1	6/2/23 22:16
1,2,3-Trichlorobenzene	R, RC:XH ND	U	0.000493	0.00228	mg/kg	1	6/2/23 22:16
1,2,4-Trichlorobenzene	R, RC:XH ND	U	0.000609	0.00228	mg/kg	1	6/2/23 22:16
1,2,4-Trimethylbenzene	J, RC:3L,6L **368**	D	**0.852**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
1,2-Dibromo-3-chloropropane	R, RC:XH ND	U	0.000557	0.00228	mg/kg	1	6/2/23 22:16
1,2-Dibromoethane	UJ, RC:3L ND	U	0.000288	0.00228	mg/kg	1	6/2/23 22:16
1,2-Dichlorobenzene	R, RC:XH ND	U	0.000403	0.00228	mg/kg	1	6/2/23 22:16
1,2-Dichloroethane	UJ, RC:3L ND	U	0.000322	0.00228	mg/kg	1	6/2/23 22:16
1,2-Dichloropropane	UJ, RC:3L ND	U	0.000375	0.00228	mg/kg	1	6/2/23 22:16
1,3-Dichlorobenzene	UJ, RC:3L ND	U	0.000168	0.00228	mg/kg	1	6/2/23 22:16
1,4-Dichlorobenzene	R, RC:XH ND	U	0.000329	0.00228	mg/kg	1	6/2/23 22:16
2-Butanone	UJ, RC:3L ND	U	0.000372	0.00571	mg/kg	1	6/2/23 22:16
2-Hexanone	UJ, RC:3L ND	U	0.000214	0.00228	mg/kg	1	6/2/23 22:16
4-Methyl-2-pentanone	UJ, RC:3L ND	U	0.000286	0.00228	mg/kg	1	6/2/23 22:16
Acetone	UJ, RC:3L ND	U	0.000692	0.00571	mg/kg	1	6/2/23 22:16
Benzene	J, RC:3L,6H,SH **27.2**	D	**0.562**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
Bromochloromethane	UJ, RC:3L ND	U	0.000421	0.00228	mg/kg	1	6/2/23 22:16
Bromodichloromethane	UJ, RC:3L ND	U	0.000287	0.00228	mg/kg	1	6/2/23 22:16
Bromoform	UJ, RC:3L ND	U	0.000401	0.00228	mg/kg	1	6/2/23 22:16

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromomethane	UJ, RC:3L ND	U	0.000659	0.00228	mg/kg	1	6/2/23 22:16
Carbon disulfide	UJ, RC:3L ND	U	0.000328	0.00228	mg/kg	1	6/2/23 22:16
Carbon Tetrachloride	UJ, RC:3L ND	U	0.000344	0.00228	mg/kg	1	6/2/23 22:16
Chlorobenzene	UJ, RC:3L ND	U	0.000331	0.00228	mg/kg	1	6/2/23 22:16
Chlorodibromomethane	UJ, RC:3L ND	U	0.000281	0.00228	mg/kg	1	6/2/23 22:16
Chloroethane	UJ, RC:3L ND	U	0.000389	0.00228	mg/kg	1	6/2/23 22:16
Chloroform	UJ, RC:3L ND	U	0.000384	0.00228	mg/kg	1	6/2/23 22:16
Chloromethane	UJ, RC:3L ND	U	0.000879	0.00228	mg/kg	1	6/2/23 22:16
cis-1,2-Dichloroethene	UJ, RC:3L ND	U	0.000110	0.00228	mg/kg	1	6/2/23 22:16
cis-1,3-Dichloropropene	UJ, RC:3L ND	U	0.000289	0.00228	mg/kg	1	6/2/23 22:16
Cyclohexane	UJ, RC:3L ND	U	0.000506	0.00228	mg/kg	1	6/2/23 22:16
Dichlorodifluoromethane	UJ, RC:3L ND	U	0.000771	0.00228	mg/kg	1	6/2/23 22:16
EthylBenzene	J, RC:3L **205**	D	**0.837**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
Isopropylbenzene	J, RC:3L **9.51**	D	**0.969**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
m+p-Xylenes	J, RC:3L **324**	D	**1.56**	**12.3**	**mg/kg**	**2325**	**6/7/23 4:51**
Methyl Acetate	UJ, RC:3L ND	U	0.000303	0.00228	mg/kg	1	6/2/23 22:16
Methyl tert-Butyl Ether	UJ, RC:3L ND	U	0.000386	0.00228	mg/kg	1	6/2/23 22:16
Methylcyclohexane	J, RC:3L **0.0803**		**0.000368**	**0.00228**	**mg/kg**	**1**	**6/2/23 22:16**
Methylene Chloride	UJ, RC:3L ND	U	0.000686	0.00228	mg/kg	1	6/2/23 22:16
o-Xylene	J, RC:3L **163**	D	**0.793**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
Styrene	J, RC:3L **186**	D	**0.883**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
tert-Butyl alcohol	UJ, RC:3L,Q ND	U	0.00480	0.0228	mg/kg	1	6/2/23 22:16
Tetrachloroethene	UJ, RC:3L ND	U	0.000226	0.00228	mg/kg	1	6/2/23 22:16
Toluene	J, RC:3L,6H **103**	D	**0.497**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
Total Xylenes	J, RC:3L **487**	D	**0.793**	**6.17**	**mg/kg**	**2325**	**6/7/23 4:51**
trans-1,2-Dichloroethene	UJ, RC:3L ND	U	0.000309	0.00228	mg/kg	1	6/2/23 22:16
trans-1,3-Dichloropropene	UJ, RC:3L ND	U	0.000436	0.00228	mg/kg	1	6/2/23 22:16
Trichloroethene	UJ, RC:3L ND	U	0.000336	0.00228	mg/kg	1	6/2/23 22:16
Trichlorofluoromethane	UJ, RC:3L ND	U	0.000263	0.00228	mg/kg	1	6/2/23 22:16
Vinyl chloride	UJ, RC:3L ND	U	0.000434	0.00228	mg/kg	1	6/2/23 22:16

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (1-methylethenyl)-	0.296	18.65	J	mg/kg	1	6/2/23 22:16
Benzene, 1,2,3-trimethyl-	0.954	18.94	J	mg/kg	1	6/2/23 22:16
Benzene, 1-ethenyl-2-methyl-	0.126	19.98	J	mg/kg	1	6/2/23 22:16
Benzene, 1-ethenyl-3-methyl-	0.205	19.15	J	mg/kg	1	6/2/23 22:16
Benzene, 1-ethyl-2-methyl-	0.478	18.12	J	mg/kg	1	6/2/23 22:16

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-04 (Soil) Sample Name: **OH-SB-24-34.5-35.5-2 0230526** Collected: **5/26/2023 11:05:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethyl-3-methyl-	0.191	19.63	J	mg/kg	1	6/2/23 22:16
Benzene, 1-ethyl-4-methyl-	0.560	18.20	J	mg/kg	1	6/2/23 22:16
Benzene, 1-propynyl-	1.18	20.37	J	mg/kg	1	6/2/23 22:16
Benzene, ethenylmethyl-	0.952	19.05	J	mg/kg	1	6/2/23 22:16
Benzene, methyl(1-methylethyl)-	0.0956	19.34	J	mg/kg	1	6/2/23 22:16
Benzene, propyl-	0.122	17.98	J	mg/kg	1	6/2/23 22:16
Cyclohexane, methyl-	0.0612	17.10	J	mg/kg	1	6/2/23 22:16
Octane	0.0737	13.37	J	mg/kg	1	6/2/23 22:16
Octane, 3-methyl-	0.0571	15.37	J	mg/kg	1	6/2/23 22:16
TIC:Naphthalene	0.185	23.22	J	mg/kg	1	6/2/23 22:16
TIC Total	**5.54**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.6**				**%**	**1**	**5/30/23 12:00**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.385**		**0.00817**	**0.0685**	**mg/kg**	**1**	**6/7/23 17:34**

23E1291-05 (Ground Water) Sample Name: **TB-20230526** Collected: **5/26/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/6/23 18:20
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/6/23 18:20
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/6/23 18:20
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/6/23 18:20
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/6/23 18:20
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/6/23 18:20
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/6/23 18:20
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/6/23 18:20
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/6/23 18:20
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/6/23 18:20
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/6/23 18:20
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/6/23 18:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-05 (Ground Water) Sample Name: **TB-20230526** Collected: **5/26/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/6/23 18:20
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/6/23 18:20
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/6/23 18:20
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/6/23 18:20
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/6/23 18:20
2-Hexanone UJ, RC:SL	ND	U	0.635	2.00	ug/L	1	6/6/23 18:20
4-Methyl-2-pentanone UJ, RC:SL	ND	U	0.638	2.00	ug/L	1	6/6/23 18:20
Acetone	ND	U	10.0	10.0	ug/L	1	6/6/23 18:20
Benzene	ND	U	0.129	1.00	ug/L	1	6/6/23 18:20
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/6/23 18:20
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/6/23 18:20
Bromoform	ND	U	0.421	1.00	ug/L	1	6/6/23 18:20
Bromomethane UJ, RC:SL	ND	U	0.702	10.0	ug/L	1	6/6/23 18:20
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/6/23 18:20
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/6/23 18:20
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/6/23 18:20
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/6/23 18:20
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/6/23 18:20
Chloroform	ND	U	0.365	1.00	ug/L	1	6/6/23 18:20
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/6/23 18:20
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/6/23 18:20
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/6/23 18:20
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/6/23 18:20
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/6/23 18:20
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/6/23 18:20
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/6/23 18:20
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/6/23 18:20
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/6/23 18:20
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/6/23 18:20
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/6/23 18:20
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/6/23 18:20
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/6/23 18:20
Styrene	ND	U	0.176	1.00	ug/L	1	6/6/23 18:20
tert-Butyl alcohol UJ, RC:Q	ND	U	8.17	10.0	ug/L	1	6/6/23 18:20
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/6/23 18:20
Toluene	ND	U	0.205	1.00	ug/L	1	6/6/23 18:20
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/6/23 18:20
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/6/23 18:20
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/6/23 18:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23E1291
Date to Lab: 5/26/2023 1:55:00PM

23E1291-05 (Ground Water) Sample Name: **TB-20230526** Collected: **5/26/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/6/23 18:20
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/6/23 18:20
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/6/23 18:20

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Alpha Analytical

Laboratory Code: 11148

SDG Number: L2330491

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Project Name:	23E1291	**Lab Number:**	L2330491
Project Number:	23E1291	**Report Date:**	10/24/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2330491-01	OH-SB-24-2.5-3.5-20230526	SOIL	Not Specified	05/26/23 07:40	05/31/23
L2330491-02	OH-SB-24-5.5-6.5-20230526	SOIL	Not Specified	05/26/23 08:05	05/31/23
L2330491-03	OH-SB-24-34.5-35.5-20230526	SOIL	Not Specified	05/26/23 11:05	05/31/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Revision

October 24, 2023: The Client IDs were amended on L2330491-01, -02, and -03.

Report Submission

June 28, 2023: This final report includes the results of all requested analyses.

June 12, 2023: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Alkylated PAHs

L2330491-03D: The sample has elevated detection limits due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Report Date: 10/24/23

Title: Technical Director/Representative

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 7890 GC/5975C MSD	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics: Dissolved Gas

Instrument: Agilent 7890 (or equivalent) with FID/TCD

	Column Type: Haysep S Column
	Column Length: 2 Meters packed (100/200 mesh)
Autosampler: LEAP Headspace	Purge time: 0.6 min

Volatile Organics in Air Instruments

Volatile Organics in Air:

Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE / QP2020

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.25 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.32 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul;2 uL LVI
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB/Herbicides:

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum/EPH:

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5	df: 0.25um, 0.18 um
Column Length: 30 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (8081):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8082):

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L2330491

Account Name : Aqua Pro-Tech Laboratories
Project Number : 23E1291
Project Name : 23E1291

Received : 31-MAY-2023
Reviewer : Craig Sloma-Green

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	4.1	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between COC & sample labels?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NA**

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-01	**Date Collected**	: 05/26/23 07:40
Client ID	: OH-SB-24-2.5-3.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/20/23 21:10
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192326	**Analyst**	: CNC
Sample Amount	: 10.36 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	3010	10.2	2.93	
91-20-3C1	C1-Naphthalenes	5130	10.2	2.93	
91-20-3C2	C2-Naphthalenes	35200	10.2	2.93	
91-20-3C3	C3-Naphthalenes	23200	10.2	2.93	
91-20-3C4	C4-Naphthalenes	9620	10.2	2.93	
208-96-8	Acenaphthylene	962	10.2	1.95	
83-32-9	Acenaphthene	27100	10.2	1.80	E
86-73-7	Fluorene	18600	10.2	2.72	E
86-73-7C1	C1-Fluorenes	4280	10.2	2.72	
86-73-7C2	C2-Fluorenes	4360	10.2	2.72	
86-73-7C3	C3-Fluorenes	3480	10.2	2.72	
85-01-8	Phenanthrene	36500	10.2	3.38	E
PHENANTHC1	C1-Phenanthrenes/Anthracenes	9860	10.2	3.38	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	6640	10.2	3.38	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	2670	10.2	3.38	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1040	10.2	3.38	
120-12-7	Anthracene	8210	10.2	2.10	
206-44-0	Fluoranthene	15800	10.2	3.24	E
129-00-0	Pyrene	14900	10.2	2.68	E
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	5800	10.2	2.68	
56-55-3	Benz(a)anthracene	6370	10.2	2.08	
218-01-9	Chrysene	6060	10.2	2.06	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-01	**Date Collected**	: 05/26/23 07:40
Client ID	: OH-SB-24-2.5-3.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/20/23 21:10
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206192326	**Analyst**	: CNC
Sample Amount	: 10.36 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	2800	10.2	2.06	
218-01-9C2	C2-Chrysenes BS	1480	10.2	2.06	
218-01-9C3	C3-Chrysenes	1290	10.2	2.06	
218-01-9C4	C4-Chrysenes	651	10.2	2.06	
205-99-2	Benzo(b)fluoranthene	5860	10.2	2.65	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	5460	10.2	2.02	
192-97-2	Benzo(e)pyrene	4520	10.2	2.10	
50-32-8	Benzo(a)pyrene	5810	10.2	2.91	
198-55-0	Perylene	1430	10.2	1.97	
193-39-5	Indeno(1,2,3-cd)pyrene	4250	10.2	2.77	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	1150	10.2	2.76	
191-24-2	Benzo(g,h,i)perylene	3880	10.2	2.71	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-01D	**Date Collected**	: 05/26/23 07:40
Client ID	: OH-SB-24-2.5-3.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/23/23 21:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F1206232310	**Analyst**	: CNC
Sample Amount	: 10.36 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 81
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
83-32-9	Acenaphthene	24400	40.8	7.19	
86-73-7	Fluorene	17100	40.8	10.9	
85-01-8	Phenanthrene	31900	40.8	13.5	
206-44-0	Fluoranthene	13900	40.8	13.0	
129-00-0	Pyrene	12800	40.8	10.7	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-02	**Date Collected**	: 05/26/23 08:05
Client ID	: OH-SB-24-5.5-6.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 10:24
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206232319	**Analyst**	: CNC
Sample Amount	: 20.54 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	33.3	1.90	0.546	
91-20-3C1	C1-Naphthalenes	24.7	1.90	0.546	
91-20-3C2	C2-Naphthalenes	65.2	1.90	0.546	
91-20-3C3	C3-Naphthalenes	44.0	1.90	0.546	
91-20-3C4	C4-Naphthalenes	24.5	1.90	0.546	
208-96-8	Acenaphthylene	5.24	1.90	0.363	
83-32-9	Acenaphthene	357	1.90	0.335	
86-73-7	Fluorene	15.2	1.90	0.507	
86-73-7C1	C1-Fluorenes	26.8	1.90	0.507	
86-73-7C2	C2-Fluorenes	13.9	1.90	0.507	
86-73-7C3	C3-Fluorenes	12.5	1.90	0.507	
85-01-8	Phenanthrene	50.5	1.90	0.630	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	33.9	1.90	0.630	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	21.6	1.90	0.630	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	12.9	1.90	0.630	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	9.60	1.90	0.630	
120-12-7	Anthracene	29.3	1.90	0.392	
206-44-0	Fluoranthene	21.4	1.90	0.604	
129-00-0	Pyrene	29.0	1.90	0.500	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	27.1	1.90	0.500	
56-55-3	Benz(a)anthracene	14.3	1.90	0.388	
218-01-9	Chrysene	15.0	1.90	0.384	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-02	**Date Collected**	: 05/26/23 08:05
Client ID	: OH-SB-24-5.5-6.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 10:24
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206232319	**Analyst**	: CNC
Sample Amount	: 20.54 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 77
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	13.2	1.90	0.384	
218-01-9C2	C2-Chrysenes BS	11.6	1.90	0.384	
218-01-9C3	C3-Chrysenes	17.7	1.90	0.384	
218-01-9C4	C4-Chrysenes	ND	1.90	0.384	U
205-99-2	Benzo(b)fluoranthene	11.6	1.90	0.494	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	10.3	1.90	0.377	
192-97-2	Benzo(e)pyrene	11.5	1.90	0.392	
50-32-8	Benzo(a)pyrene	12.4	1.90	0.543	
198-55-0	Perylene	5.42	1.90	0.367	
193-39-5	Indeno(1,2,3-cd)pyrene	8.82	1.90	0.516	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	2.97	1.90	0.514	
191-24-2	Benzo(g,h,i)perylene	12.0	1.90	0.505	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-03D	**Date Collected**	: 05/26/23 11:05
Client ID	: OH-SB-24-34.5-35.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 00:34
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206232312	**Analyst**	: CNC
Sample Amount	: 5.5 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2140000	1240	356.	E
91-20-3C1	C1-Naphthalenes	1520000	1240	356.	
91-20-3C2	C2-Naphthalenes	824000	1240	356.	
91-20-3C3	C3-Naphthalenes	288000	1240	356.	
91-20-3C4	C4-Naphthalenes	73500	1240	356.	
208-96-8	Acenaphthylene	762000	1240	236.	
83-32-9	Acenaphthene	121000	1240	218.	
86-73-7	Fluorene	386000	1240	331.	
86-73-7C1	C1-Fluorenes	196000	1240	331.	
86-73-7C2	C2-Fluorenes	111000	1240	331.	
86-73-7C3	C3-Fluorenes	49900	1240	331.	
85-01-8	Phenanthrene	1230000	1240	411.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	658000	1240	411.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	245000	1240	411.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	61400	1240	411.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	17200	1240	411.	
120-12-7	Anthracene	353000	1240	256.	
206-44-0	Fluoranthene	300000	1240	394.	
129-00-0	Pyrene	480000	1240	326.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	404000	1240	326.	
56-55-3	Benz(a)anthracene	204000	1240	253.	
218-01-9	Chrysene	174000	1240	250.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-03D	**Date Collected**	: 05/26/23 11:05
Client ID	: OH-SB-24-34.5-35.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 00:34
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 10
Lab File ID	: F1206232312	**Analyst**	: CNC
Sample Amount	: 5.5 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	156000	1240	250.	
218-01-9C2	C2-Chrysenes BS	68300	1240	250.	
218-01-9C3	C3-Chrysenes	29400	1240	250.	
218-01-9C4	C4-Chrysenes	11000	1240	250.	
205-99-2	Benzo(b)fluoranthene	66000	1240	322.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	87100	1240	246.	
192-97-2	Benzo(e)pyrene	72100	1240	256.	
50-32-8	Benzo(a)pyrene	170000	1240	354.	
198-55-0	Perylene	22900	1240	239.	
193-39-5	Indeno(1,2,3-cd)pyrene	58500	1240	336.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	19100	1240	335.	
191-24-2	Benzo(g,h,i)perylene	58700	1240	329.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-03D2	**Date Collected**	: 05/26/23 11:05
Client ID	: OH-SB-24-34.5-35.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/24/23 03:22
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 50
Lab File ID	: F1206232314	**Analyst**	: CNC
Sample Amount	: 5.5 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2310000	6200	1780	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: WG1788210-1	**Date Collected**	: NA
Client ID	: WG1788210-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/21/23 16:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206212306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	0.314	1.00	0.287	J
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	0.285	1.00	0.263	J
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: WG1788210-1	**Date Collected**	: NA
Client ID	: WG1788210-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/21/23 16:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/07/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1206212306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH12
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-01	**Date Collected**	: 05/26/23 07:40
Client ID	: OH-SB-24-2.5-3.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 81
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-02	**Date Collected**	: 05/26/23 08:05
Client ID	: OH-SB-24-5.5-6.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 77
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.3	1.3	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-03	**Date Collected**	: 05/26/23 11:05
Client ID	: OH-SB-24-34.5-35.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 88
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: WG1788010-1	**Date Collected**	: NA
Client ID	: WG1788010-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: WG1788010-3	**Date Collected**	: 06/02/23 12:35
Client ID	: WG1788010-3 DUP	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 91
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-01	**Date Collected**	: 05/26/23 07:40
Client ID	: OH-SB-24-2.5-3.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787621.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 81
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.1**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-02	**Date Collected**	: 05/26/23 08:05
Client ID	: OH-SB-24-5.5-6.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787621.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 77
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**76.8**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: L2330491-03	**Date Collected**	: 05/26/23 11:05
Client ID	: OH-SB-24-34.5-35.5-20230526	**Date Received**	: 05/31/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787621.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 88
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**88.0**	**0.100**	**NA**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2330491
Project Name	: 23E1291	**Project Number**	: 23E1291
Lab ID	: WG1787621-1	**Date Collected**	: 05/31/23 10:15
Client ID	: WG1787621-1 DUP	**Date Received**	: 06/01/23
Sample Location	:	**Date Analyzed**	: 06/06/23 10:31
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: ROI
Lab File ID	: WG1787621.pdf	**Instrument ID**	: BALANCE#53
Sample Amount	:	**%Solids**	: 89
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**89.2**	**0.100**	**NA**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2331244 and 23F0039
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: April 10, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MW-06-5.0-6.0-20230601	23F0039-01	6/1/2023	Soil
MW-06-41.0-42.0-20230601	23F0039-02	6/1/2023	Soil
FB-20230601	23F0039-03	6/1/2023	Water
MW-06-66.0-67.0-20230601	23F0039-04	6/1/2023	Soil
TB-20230601	23F0039-05	6/1/2023	Water

Data validation was performed on the analytical data for five (5) samples collected June 1, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. VOCs 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dichlorobenzene and 1,4-Dichlorobenzene associated with sample MW-06-41.0-42.0-20230601 were qualified as rejected due to low internal standard recoveries. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, laboratory control samples, surrogates, internal standards, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs was listed on the COC for FB-20230601 but this analysis was not reported by Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	MW-06-41.0-42.0-20230601	4-Bromofluorobenzene	10% < %R < CL	J (Detects) UJ (NDs)	3L
	MW-06-41.0-42.0-20230601RE1 MW-06-41.0-42.0-20230601RE2	4-Bromofluorobenzene Dibromofluoromethane Toluene-d8	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	TB-20230601	Bromomethane Dichlorodifluoromethane	10% < %R < CL	J (Detects) UJ (NDs)	6L
	FB-20230601	Bromomethane	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Internal Standard	Exceedance	Qualification	Reason Code
8260D	MW-06-41.0-42.0-20230601	1,4-Dichlorobenzene-d4	%R < 20%	J (Detects) R (NDs)	Detects: XH NDs: X
		Chlorobenzene-d5	20% < %R < CL	J (Detects) UJ (NDs)	Detects: XH NDs: X

- Compounds associated with 1,4-Dichlorobenzene-d4 (1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,2-Dibromo-3-chloropropane) are qualified as rejected due to internal standard recovery.
- Compounds associated with Chlorobenzene-d5 (Chlorobenzene, Styrene, Bromoform, 1,1,2,2-Tetrachloroethane and 1,3-Dichlorobenzene) are qualified as estimated (J/UJ) due to internal standard recovery. Certain compounds associated with Chlorobenzene-d5 but not listed here were reported from subsequent dilution analyses which exhibited acceptable internal standard recoveries.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB-20230601	4-Methyl-2-pentanone Bromomethane Chloromethane Methyl Acetate	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
		Carbon Tetrachloride	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-06-5.0-6.0-20230601 MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	FB-20230601	Bromomethane Methyl Acetate	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
		Tetrachloroethene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated VOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown (5.97). Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries. The original analysis for sample MW-06-41.0-42.0-20230601 exhibited recoveries above control limits for Nitrobenzene-d5 and 2,4,6-Tribromophenol. No qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230601	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Atrazine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MW-06-5.0-6.0-20230601 MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-SIM	MW-06-41.0-42.0-20230601	Naphthalene Phenanthrene Benzo[b]fluoranthene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	MW-06-5.0-6.0-20230601 MW-06-66.0-67.0-20230601	DCB	10% < %R < CL	J (Detects) UJ (NDs)	3L
	MW-06-41.0-42.0-20230601	DCB	%R > CL	J (Detects) No action (NDs)	3H
8151A	MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	DCAA	%R > CL	J (Detects) No action (NDs)	3H
8081B	MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	TCMX DCB	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8082A	MW-06-5.0-6.0-20230601 MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	Aroclor 1016	10% < %R < CL	J (Detects) UJ (NDs)	6L
8081B	FB-20230601	Endrin	10% < %R < CL	J (Detects) UJ (NDs)	6L
	MW-06-5.0-6.0-20230601 MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	4,4'-DDE Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8081B	FB-20230601	Methoxychlor	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230601	Thallium	> CL	J (Detects) No action (NDs)	6H
	MW-06-5.0-6.0-20230601 MW-06-41.0-42.0-20230601 MW-06-66.0-67.0-20230601	Silver	30% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: April 10, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0039

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 25, 2023

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Sample Summary

Work Order: 23F0039

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-06-5.0-6.0-20230601	23F0039-01	Soil	06/01/2023 09:20	06/01/2023 14:55
MW-06-41.0-42.0-20230601	23F0039-02	Soil	06/01/2023 10:55	06/01/2023 14:55
FB-20230601	23F0039-03	Ground Water	06/01/2023 11:30	06/01/2023 14:55
MW-06-66.0-67.0-20230601	23F0039-04	Soil	06/01/2023 13:05	06/01/2023 14:55
TB-20230601	23F0039-05	Ground Water	06/01/2023 00:00	06/01/2023 14:55

PN: 23F0039

APL 23F0039

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FAIRFIELD, NEW JERSEY 07004

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FAX: 973.227.2813

CHAIN OF CUSTODY

CLIENT: Y & Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive, Std Floor, Elmwood Park NJ 07407	ADDRESS: " "
PHONE: 201-773-9621	PHONE: " "
E-MAIL: Swang@Yn-Associates.com	FAX:
PROJECT NAME: Gowanus Oil-007	SEND INVOICE TO: " "
PROJECT MGR: Sixuan Wang	ADDRESS: " "
PROJECT or PO #: 156854	SAMPLED BY: " "

PAGE ____ OF ____

TURN-AROUND TIME

- ☐ APL STANDARD 2 weeks
- ☐ RUSH (choose one below)
  - ☐ 24 hr. date & time required ____
  - ☐ 48 hr. date & time required ____
  - ☐ 72 hr. date & time required ____
  - ☐ 1 week

REPORT FORMAT

- ☐ RESULTS ONLY
- ☐ NJ DEP REDUCED
- ☐ NJ DEP FULL
- ☐ STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- ☐ EMAIL DELIVERY
- ☐ HAZSITE EDD
- ☐ EXCEL

SRP# ____

PWSID# NY State category B

CONTAMINATION LEVEL

☐ HIGH ☐ MEDIUM ☒ LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0039 -01	MW-06-5-0-6.0-20230601	06/01/23	0950	X		S	5		VOC, SVOC, PCB, Pesticide, Herbicide, TAL Metals, Alkylated PAH, TCN, FCN
-02	MW-06-4.0-6.0-20230601	06/01/23	1055	X		S	5		" "
-03	FB-20230601	06/01/23	1130	X		DI Water	10		" "
-04	MW-06-6.0-7.0-20230601	06/01/23	1305	X		S	5		" "
-05	TB-20230601	06/01/23	CAB	X		DI Water	2		VOC.

RELINQUISHED BY (Print) Yasunda Pujara	DATE 06/01/23	RECEIVED BY (Print) Alfonso Rivera	6-1-23
Signature	Time 1317	Signature	1317pm
RELINQUISHED BY (Print) Alfonso Rivera	DATE 6-1-23	RECEIVED BY (Print)	
Signature	Time 1455	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.7:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 245.1 / 7473 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Samples 23F0039-01, -02 and -04 have surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PCBs [8082A]
The percent recovery for Aroclor-1016 was outside of the QC limits for the blank spike (low).

Samples 23F0039-01, -02 and -04 have surrogates outside of the QC limits (low and high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23F0039-02 and -04 have surrogates outside of the QC limits (low and high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes, matrix spike and matrix spike duplicate (low and high).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, blank spike duplicates, matrix spike and matrix spike duplicate (low).

Samples 23F0039-02, -02RE1 and -02RE2 have surrogates outside of the QC limits (low), due to matrix interferences.
Sample 23F0039-02 has one internal standard (Chlorobenzene-d5) outside of the QC limits (low) and has no internal standard area response for (1,4-Dichlorobenzene-d4), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

Samples 23F0039-02, -02RE1, -02RE2 and -02RE3 have surrogates outside of the QC limits (low and high), due to matrix interferences.



Reviewed By: _____ (SK) 8/28/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.675		0.00625	0.0250	mg/kg dry	1	6/14/23 11:43

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5940		0.188	3.16	mg/kg dry	1	6/14/23 11:22
Arsenic	6.17		0.113	1.58	mg/kg dry	1	6/14/23 11:22
Barium	34.2		0.0477	0.631	mg/kg dry	1	6/14/23 11:22
Beryllium	0.470		0.00366	0.0316	mg/kg dry	1	6/14/23 11:22
Cadmium	0.363		0.0616	0.316	mg/kg dry	1	6/14/23 11:22
Calcium	61900	D	35.5	316	mg/kg dry	10	6/14/23 13:22
Chromium	19.3		0.0357	0.316	mg/kg dry	1	6/14/23 11:22
Cobalt	3.54		0.0323	0.253	mg/kg dry	1	6/14/23 11:22
Copper	35.0		0.0883	0.316	mg/kg dry	1	6/14/23 11:22
Iron	14300		0.894	6.31	mg/kg dry	1	6/14/23 11:22
Lead	114		0.132	1.58	mg/kg dry	1	6/14/23 11:22
Magnesium	3380		11.2	63.1	mg/kg dry	1	6/14/23 11:22
Manganese	129		0.0393	0.316	mg/kg dry	1	6/14/23 11:22
Nickel	11.5		0.0277	0.158	mg/kg dry	1	6/14/23 11:22
Potassium	1970		37.5	126	mg/kg dry	1	6/14/23 11:22
Sodium	1040		6.02	63.1	mg/kg dry	1	6/14/23 11:22
Vanadium	25.1		0.0726	0.631	mg/kg dry	1	6/14/23 11:22
Zinc	70.1		0.0965	0.947	mg/kg dry	1	6/14/23 11:22

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.0247		0.00115	0.00163	mg/kg dry	1	6/14/23 19:53

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.202	J	0.0399	0.250	mg/kg dry	1	6/14/23 13:17
Acenaphthene	1.05		0.00949	0.166	mg/kg dry	1	6/14/23 13:17
Acenaphthylene	0.701		0.00579	0.166	mg/kg dry	1	6/14/23 13:17
Anthracene	2.04		0.0241	0.166	mg/kg dry	1	6/14/23 13:17
Benzo(a)anthracene	1.73		0.0168	0.166	mg/kg dry	1	6/14/23 13:17
Benzo(a)pyrene	3.26		0.0290	0.166	mg/kg dry	1	6/14/23 13:17
Benzo(b)fluoranthene	2.84		0.0234	0.166	mg/kg dry	1	6/14/23 13:17
Benzo(g,h,i)perylene	3.91		0.0135	0.166	mg/kg dry	1	6/14/23 13:17
Benzo(k)fluoranthene	0.728		0.0191	0.166	mg/kg dry	1	6/14/23 13:17
Biphenyl	0.0725	J	0.0146	0.166	mg/kg dry	1	6/14/23 13:17
bis(2-ethylhexyl)phthalate	0.721		0.0333	0.166	mg/kg dry	1	6/14/23 13:17
Carbazole	0.159	J	0.0320	0.416	mg/kg dry	1	6/14/23 13:17

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chrysene	1.80		0.0114	0.166	mg/kg dry	1	6/14/23 13:17
Dibenzo(a,h)anthracene	0.165	J	0.0165	0.166	mg/kg dry	1	6/14/23 13:17
Dibenzofuran	0.189		0.00992	0.166	mg/kg dry	1	6/14/23 13:17
Fluoranthene	5.33		0.0156	0.166	mg/kg dry	1	6/14/23 13:17
Fluorene	0.286		0.0139	0.166	mg/kg dry	1	6/14/23 13:17
Indeno(1,2,3-cd)pyrene	2.12		0.0179	0.166	mg/kg dry	1	6/14/23 13:17
Naphthalene	0.742		0.0123	0.166	mg/kg dry	1	6/14/23 13:17
Phenanthrene	1.43		0.0219	0.166	mg/kg dry	1	6/14/23 13:17
Pyrene	5.66		0.0122	0.166	mg/kg dry	1	6/14/23 13:17
TIC_2-Pentanone, 4-hydroxy-4-methyl-	45.0	J, B			mg/kg dry	1	6/14/23 13:17
TIC_Hexadecanoic acid, butyl ester	4.21	J, B			mg/kg dry	1	6/14/23 13:17
TIC_Octadecanoic acid, butyl ester	1.78	J, B			mg/kg dry	1	6/14/23 13:17
TIC_unknown (01)	2.10	J			mg/kg dry	1	6/14/23 13:17
TIC_unknown (02)	2.34	J			mg/kg dry	1	6/14/23 13:17
TIC_unknown (03)	0.518	J			mg/kg dry	1	6/14/23 13:17
TIC_unknown (04)	2.91	J			mg/kg dry	1	6/14/23 13:17

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00199	J	0.000411	0.00298	mg/kg dry	1	6/12/23 14:44
2-Butanone	0.0140	J	0.000485	0.0149	mg/kg dry	1	6/12/23 14:44
Acetone	0.112		0.000902	0.0744	mg/kg dry	1	6/12/23 14:44
Carbon disulfide	0.00475		0.000427	0.00298	mg/kg dry	1	6/12/23 14:44
Chloromethane	0.0153		0.00115	0.00298	mg/kg dry	1	6/12/23 14:44
Isopropylbenzene	0.00435		0.000467	0.00298	mg/kg dry	1	6/12/23 14:44
m+p-Xylenes	0.00214	J	0.000752	0.00595	mg/kg dry	1	6/12/23 14:44
Methylcyclohexane	0.00364		0.000479	0.00298	mg/kg dry	1	6/12/23 14:44
Total Xylenes	0.00214	J	0.000383	0.00298	mg/kg dry	1	6/12/23 14:44
TIC_1-Decanol, 2-ethyl-	0.0761	J			mg/kg dry	1	6/12/23 14:44
TIC_Benzene, 1-ethyl-2-methyl-	0.0353	J			mg/kg dry	1	6/12/23 14:44
TIC_Cyclohexane, 1-methyl-2-propyl-	0.0959	J			mg/kg dry	1	6/12/23 14:44
TIC_Cyclohexane, hexyl-	0.0569	J			mg/kg dry	1	6/12/23 14:44
TIC_Cyclopentane	0.0514	J			mg/kg dry	1	6/12/23 14:44
TIC_Dodecane, 2,6,11-trimethyl-	0.0476	J			mg/kg dry	1	6/12/23 14:44
TIC_Dodecane, 6-methyl-	0.0862	J			mg/kg dry	1	6/12/23 14:44
TIC_Hexane, 2,3,4-trimethyl-	0.0581	J			mg/kg dry	1	6/12/23 14:44

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Pentadecane, 6-methyl-	0.111	J			mg/kg dry	1	6/12/23 14:44
TIC_Pentadecane, 7-methyl-	0.0320	J			mg/kg dry	1	6/12/23 14:44
TIC_Undecane, 2,10-dimethyl-	0.0310	J			mg/kg dry	1	6/12/23 14:44
TIC_Undecane, 2-methyl-	0.0625	J			mg/kg dry	1	6/12/23 14:44
TIC_Undecane, 3,5-dimethyl-	0.0596	J			mg/kg dry	1	6/12/23 14:44
TIC_Undecane, 3-methyl-	0.0434	J			mg/kg dry	1	6/12/23 14:44
TIC_Undecane, 4-methyl-	0.0348	J			mg/kg dry	1	6/12/23 14:44

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-20230601**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0691		0.00545	0.0218	mg/kg dry	1	6/14/23 11:43

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3900		0.158	2.66	mg/kg dry	1	6/14/23 11:24
Arsenic	1.64		0.0948	1.33	mg/kg dry	1	6/14/23 11:24
Barium	46.8		0.0402	0.532	mg/kg dry	1	6/14/23 11:24
Beryllium	0.318		0.00308	0.0266	mg/kg dry	1	6/14/23 11:24
Calcium	10000		2.99	26.6	mg/kg dry	1	6/14/23 11:24
Chromium	7.95		0.0300	0.266	mg/kg dry	1	6/14/23 11:24
Cobalt	2.60		0.0272	0.213	mg/kg dry	1	6/14/23 11:24
Copper	9.54		0.0744	0.266	mg/kg dry	1	6/14/23 11:24
Iron	6750		0.753	5.32	mg/kg dry	1	6/14/23 11:24
Lead	17.0		0.111	1.33	mg/kg dry	1	6/14/23 11:24
Magnesium	2910		9.39	53.2	mg/kg dry	1	6/14/23 11:24
Manganese	167		0.0331	0.266	mg/kg dry	1	6/14/23 11:24
Nickel	7.82		0.0234	0.133	mg/kg dry	1	6/14/23 11:24
Potassium	1060		31.6	106	mg/kg dry	1	6/14/23 11:24
Sodium	558		5.07	53.2	mg/kg dry	1	6/14/23 11:24
Vanadium	10.9		0.0611	0.532	mg/kg dry	1	6/14/23 11:24
Zinc	18.1		0.0812	0.797	mg/kg dry	1	6/14/23 11:24

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.478	D	0.0130	0.0283	mg/kg dry	20	6/15/23 20:01
4,4'-DDT	0.412	D	0.0200	0.0283	mg/kg dry	20	6/15/23 20:01
Chlordane	0.936	D	0.0126	0.0283	mg/kg dry	20	6/15/23 20:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-20230601**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	3690	D	17.4	109	mg/kg dry	50	6/16/23 18:38
Acenaphthene	702	D	1.65	29.0	mg/kg dry	20	6/16/23 0:20
Acenaphthylene	1390	D	1.01	29.0	mg/kg dry	20	6/16/23 0:20
Anthracene	836	D	4.21	29.0	mg/kg dry	20	6/16/23 0:20
Benzo(a)anthracene	436	D	2.92	29.0	mg/kg dry	20	6/16/23 0:20
Benzo(a)pyrene	342	D	5.06	29.0	mg/kg dry	20	6/16/23 0:20
Benzo(b)fluoranthene	258	D	4.08	29.0	mg/kg dry	20	6/16/23 0:20
Benzo(g,h,i)perylene	121	D	2.35	29.0	mg/kg dry	20	6/16/23 0:20
Benzo(k)fluoranthene	90.4	D	3.34	29.0	mg/kg dry	20	6/16/23 0:20
Biphenyl	379	D	2.55	29.0	mg/kg dry	20	6/16/23 0:20
Carbazole	25.6		0.279	3.63	mg/kg dry	1	6/14/23 13:49
Chrysene	427	D	1.99	29.0	mg/kg dry	20	6/16/23 0:20
Dibenzo(a,h)anthracene	13.9		0.144	1.45	mg/kg dry	1	6/14/23 13:49
Dibenzofuran	86.3		0.0864	1.45	mg/kg dry	1	6/14/23 13:49
Fluoranthene	868	D	2.72	29.0	mg/kg dry	20	6/16/23 0:20
Fluorene	1150	D	2.42	29.0	mg/kg dry	20	6/16/23 0:20
Indeno(1,2,3-cd)pyrene	101	D	3.12	29.0	mg/kg dry	20	6/16/23 0:20
Naphthalene	13300	D	53.7	725	mg/kg dry	500	6/20/23 17:54
Phenanthrene	2490	D	9.54	72.5	mg/kg dry	50	6/16/23 18:38
Pyrene	1090	D	2.13	29.0	mg/kg dry	20	6/16/23 0:20
TIC_Benzene, 1,2-dimethyl-	77.7	J			mg/kg dry	1	6/14/23 13:49
TIC_Benzene, 1-ethenyl-3-methyl-	192	J			mg/kg dry	1	6/14/23 13:49
TIC_Benzene, 1-ethyl-4-methyl-	55.9	J			mg/kg dry	1	6/14/23 13:49
TIC_Ethylbenzene	119	J			mg/kg dry	1	6/14/23 13:49
TIC_Indene	253	J			mg/kg dry	1	6/14/23 13:49
TIC_Naphthalene, 1,5-dimethyl-	90.7	J			mg/kg dry	1	6/14/23 13:49
TIC_Naphthalene, 1,6,7-trimethyl-	65.9	J			mg/kg dry	1	6/14/23 13:49
TIC_Naphthalene, 1,6-dimethyl-	90.6	J			mg/kg dry	1	6/14/23 13:49
TIC_Naphthalene, 2,6-dimethyl-	128	J			mg/kg dry	1	6/14/23 13:49
TIC_Naphthalene, 2,7-dimethyl-	115	J			mg/kg dry	1	6/14/23 13:49
TIC_unknown (01)	61.3	J			mg/kg dry	1	6/14/23 13:49
TIC_unknown (02)	80.0	J			mg/kg dry	1	6/14/23 13:49
TIC_unknown (03)	59.7	J			mg/kg dry	1	6/14/23 13:49
TIC_unknown (04)	71.8	J			mg/kg dry	1	6/14/23 13:49
TIC_unknown (05)	43.7	J			mg/kg dry	1	6/14/23 13:49

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-20230601**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	687	D	4.07	29.5	mg/kg dry	11628	6/13/23 6:07
1,2-Dichloroethane	2.97	J, D	0.851	6.03	mg/kg dry	2381	6/13/23 5:37
Acetone	0.110		0.000541	0.0447	mg/kg dry	1	6/12/23 15:43
Benzene	126	D	0.549	6.03	mg/kg dry	2381	6/13/23 5:37
Chloromethane	0.0645		0.000688	0.00179	mg/kg dry	1	6/12/23 15:43
Cyclohexane	0.0563		0.000396	0.00179	mg/kg dry	1	6/12/23 15:43
EthylBenzene	995	D	3.99	29.5	mg/kg dry	11628	6/13/23 6:07
Isopropylbenzene	76.1	D	0.947	6.03	mg/kg dry	2381	6/13/23 5:37
m+p-Xylenes	836	D	1.52	12.1	mg/kg dry	2381	6/13/23 5:37
Methylcyclohexane	0.226		0.000288	0.00179	mg/kg dry	1	6/12/23 15:43
o-Xylene	388	D	0.775	6.03	mg/kg dry	2381	6/13/23 5:37
Toluene	336	D	0.486	6.03	mg/kg dry	2381	6/13/23 5:37
Total Xylenes	1220	D	0.775	6.03	mg/kg dry	2381	6/13/23 5:37

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-20230601**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0316		0.00598	0.0239	mg/kg dry	1	6/14/23 11:43

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6630		0.179	3.02	mg/kg dry	1	6/14/23 11:27
Barium	74.3		0.0456	0.604	mg/kg dry	1	6/14/23 11:27
Beryllium	0.474		0.00350	0.0302	mg/kg dry	1	6/14/23 11:27
Calcium	13900		3.40	30.2	mg/kg dry	1	6/14/23 11:27
Chromium	12.3		0.0341	0.302	mg/kg dry	1	6/14/23 11:27
Cobalt	4.56		0.0309	0.241	mg/kg dry	1	6/14/23 11:27
Copper	12.5		0.0844	0.302	mg/kg dry	1	6/14/23 11:27
Iron	11700		0.855	6.04	mg/kg dry	1	6/14/23 11:27
Lead	6.64		0.126	1.51	mg/kg dry	1	6/14/23 11:27
Magnesium	6150		10.7	60.4	mg/kg dry	1	6/14/23 11:27
Manganese	289		0.0376	0.302	mg/kg dry	1	6/14/23 11:27
Nickel	15.2		0.0265	0.151	mg/kg dry	1	6/14/23 11:27
Potassium	1690		35.9	121	mg/kg dry	1	6/14/23 11:27
Sodium	1040		5.76	60.4	mg/kg dry	1	6/14/23 11:27
Vanadium	16.2		0.0694	0.604	mg/kg dry	1	6/14/23 11:27
Zinc	23.4		0.0922	0.906	mg/kg dry	1	6/14/23 11:27

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-20230601**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	2.46		0.0381	0.239	mg/kg dry	1	6/14/23 14:20
Acenaphthene	0.605		0.00907	0.159	mg/kg dry	1	6/14/23 14:20
Acenaphthylene	1.94		0.00553	0.159	mg/kg dry	1	6/14/23 14:20
Anthracene	1.47		0.0231	0.159	mg/kg dry	1	6/14/23 14:20
Benzo(a)anthracene	0.952		0.0160	0.159	mg/kg dry	1	6/14/23 14:20
Benzo(a)pyrene	0.770		0.0277	0.159	mg/kg dry	1	6/14/23 14:20
Benzo(b)fluoranthene	0.497		0.0224	0.159	mg/kg dry	1	6/14/23 14:20
Benzo(g,h,i)perylene	0.303		0.0129	0.159	mg/kg dry	1	6/14/23 14:20
Benzo(k)fluoranthene	0.223		0.0183	0.159	mg/kg dry	1	6/14/23 14:20
Biphenyl	0.316		0.0140	0.159	mg/kg dry	1	6/14/23 14:20
bis(2-ethylhexyl)phthalate	0.301		0.0318	0.159	mg/kg dry	1	6/14/23 14:20
Carbazole	0.0583	J	0.0306	0.398	mg/kg dry	1	6/14/23 14:20
Chrysene	0.988		0.0109	0.159	mg/kg dry	1	6/14/23 14:20
Dibenzo(a,h)anthracene	0.0444	J	0.0158	0.159	mg/kg dry	1	6/14/23 14:20
Dibenzofuran	0.143	J	0.00948	0.159	mg/kg dry	1	6/14/23 14:20
Fluoranthene	1.76		0.0149	0.159	mg/kg dry	1	6/14/23 14:20
Fluorene	1.74		0.0133	0.159	mg/kg dry	1	6/14/23 14:20
Indeno(1,2,3-cd)pyrene	0.238		0.0171	0.159	mg/kg dry	1	6/14/23 14:20
Naphthalene	2.16		0.0118	0.159	mg/kg dry	1	6/14/23 14:20
Phenanthrene	5.33		0.0209	0.159	mg/kg dry	1	6/14/23 14:20
Pyrene	2.40		0.0117	0.159	mg/kg dry	1	6/14/23 14:20
TIC_2-Pentanone, 4-hydroxy-4-methyl-	40.4	J, B			mg/kg dry	1	6/14/23 14:20
TIC_Hexadecanoic acid, butyl ester	10.2	J, B			mg/kg dry	1	6/14/23 14:20
TIC_Naphthalene, 1,6-dimethyl-	0.618	J			mg/kg dry	1	6/14/23 14:20
TIC_Naphthalene, 1,7-dimethyl-	0.915	J			mg/kg dry	1	6/14/23 14:20
TIC_Naphthalene, 1-methyl-	1.79	J			mg/kg dry	1	6/14/23 14:20
TIC_Naphthalene, 2,3-dimethyl-	1.14	J			mg/kg dry	1	6/14/23 14:20
TIC_Octadecanoic acid, butyl ester	4.65	J, B			mg/kg dry	1	6/14/23 14:20
TIC_unknown (01)	1.91	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (02)	0.642	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (03)	0.636	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (04)	1.10	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (05)	1.39	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (06)	2.80	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (07)	0.745	J			mg/kg dry	1	6/14/23 14:20
TIC_unknown (08)	0.961	J			mg/kg dry	1	6/14/23 14:20

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-20230601**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopentane	0.00852	J			mg/kg dry	1	6/12/23 15:13
TIC_Lab Contamination	0.0108	J			mg/kg dry	1	6/12/23 15:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601** Collected: **6/1/2023 9:20:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00553	0.0413	mg/kg	1	6/12/23 21:53	UJ, RC:3L
Aroclor-1221	ND	U	0.0109	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1232	ND	U	0.0138	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1242	ND	U	0.00811	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1248	ND	U	0.00848	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1254	ND	U	0.00666	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1260	ND	U	0.00517	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1262	ND	U	0.0111	0.0413	mg/kg	1	6/12/23 21:53	
Aroclor-1268	ND	U	0.00499	0.0413	mg/kg	1	6/12/23 21:53	
Total PCBs	ND	U	0.00385	0.0413	mg/kg	1	6/12/23 21:53	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0123	0.125	mg/kg	1	6/14/23 1:51
2,4-D	ND	U	0.0208	0.125	mg/kg	1	6/14/23 1:51

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.675**		**0.00625**	**0.0250**	**mg/kg**	**1**	**6/14/23 11:43**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5940**		**0.188**	**3.16**	**mg/kg**	**1**	**6/14/23 11:22**
Antimony	ND	U	0.172	1.58	mg/kg	1	6/14/23 11:22
Arsenic	**6.17**		**0.113**	**1.58**	**mg/kg**	**1**	**6/14/23 11:22**
Barium	**34.2**		**0.0477**	**0.631**	**mg/kg**	**1**	**6/14/23 11:22**
Beryllium	**0.470**		**0.00366**	**0.0316**	**mg/kg**	**1**	**6/14/23 11:22**
Cadmium	**0.363**		**0.0616**	**0.316**	**mg/kg**	**1**	**6/14/23 11:22**
Calcium	**61900**	D	**35.5**	**316**	**mg/kg**	**10**	**6/14/23 13:22**
Chromium	**19.3**		**0.0357**	**0.316**	**mg/kg**	**1**	**6/14/23 11:22**
Cobalt	**3.54**		**0.0323**	**0.253**	**mg/kg**	**1**	**6/14/23 11:22**
Copper	**35.0**		**0.0883**	**0.316**	**mg/kg**	**1**	**6/14/23 11:22**
Iron	**14300**		**0.894**	**6.31**	**mg/kg**	**1**	**6/14/23 11:22**
Lead	**114**		**0.132**	**1.58**	**mg/kg**	**1**	**6/14/23 11:22**
Magnesium	**3380**		**11.2**	**63.1**	**mg/kg**	**1**	**6/14/23 11:22**
Manganese	**129**		**0.0393**	**0.316**	**mg/kg**	**1**	**6/14/23 11:22**
Nickel	**11.5**		**0.0277**	**0.158**	**mg/kg**	**1**	**6/14/23 11:22**
Potassium	**1970**		**37.5**	**126**	**mg/kg**	**1**	**6/14/23 11:22**

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601** Collected: **6/1/2023 9:20:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.303	1.58	mg/kg	1	6/14/23 11:22	
Silver	ND	U	0.0537	0.189	mg/kg	1	6/14/23 11:22	UJ, RC:6L
Sodium	**1040**		**6.02**	**63.1**	**mg/kg**	**1**	**6/14/23 11:22**	
Thallium	ND	U	0.106	1.58	mg/kg	1	6/14/23 11:22	
Vanadium	**25.1**		**0.0726**	**0.631**	**mg/kg**	**1**	**6/14/23 11:22**	
Zinc	**70.1**		**0.0965**	**0.947**	**mg/kg**	**1**	**6/14/23 11:22**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000744	0.00163	mg/kg	1	6/14/23 19:53
4,4'-DDE	ND	U	0.000889	0.00163	mg/kg	1	6/14/23 19:53
4,4'-DDT	**0.0247**		**0.00115**	**0.00163**	**mg/kg**	**1**	**6/14/23 19:53**
Aldrin	ND	U	0.000770	0.00163	mg/kg	1	6/14/23 19:53
alpha-BHC	ND	U	0.000484	0.00163	mg/kg	1	6/14/23 19:53
beta-BHC	ND	U	0.000776	0.00163	mg/kg	1	6/14/23 19:53
Chlordane	ND	U	0.000723	0.00163	mg/kg	1	6/14/23 19:53
delta-BHC	ND	U	0.000755	0.00163	mg/kg	1	6/14/23 19:53
Dieldrin	ND	U	0.000850	0.00163	mg/kg	1	6/14/23 19:53
Endosulfan I	ND	U	0.000768	0.00163	mg/kg	1	6/14/23 19:53
Endosulfan II	ND	U	0.000739	0.00163	mg/kg	1	6/14/23 19:53
Endosulfan sulfate	ND	U	0.000611	0.00163	mg/kg	1	6/14/23 19:53
Endosulfans, Total (alpha and beta)	ND	U	0.000739	0.00163	mg/kg	1	6/14/23 19:53
Endrin	ND	U	0.000561	0.00163	mg/kg	1	6/14/23 19:53
Endrin aldehyde	ND	U	0.000648	0.00163	mg/kg	1	6/14/23 19:53
Endrin ketone	ND	U	0.000573	0.00163	mg/kg	1	6/14/23 19:53
gamma-BHC (Lindane)	ND	U	0.000515	0.00163	mg/kg	1	6/14/23 19:53
Heptachlor	ND	U	0.000435	0.00163	mg/kg	1	6/14/23 19:53
Heptachlor Epoxide	ND	U	0.000820	0.00163	mg/kg	1	6/14/23 19:53
Methoxychlor	ND	U	0.000476	0.00163	mg/kg	1	6/14/23 19:53
Toxaphene	ND	U	0.0783	0.0825	mg/kg	1	6/14/23 19:53

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00470	0.0416	mg/kg	1	6/14/23 13:17
2,3,4,6-Tetrachlorophenol	ND	U	0.0256	0.166	mg/kg	1	6/14/23 13:17
2,4,5-Trichlorophenol	ND	U	0.0226	0.166	mg/kg	1	6/14/23 13:17
2,4,6-Trichlorophenol	ND	U	0.0104	0.166	mg/kg	1	6/14/23 13:17

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-202306 01** Collected: **6/1/2023 9:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0168	0.166	mg/kg	1	6/14/23 13:17	
2,4-Dimethylphenol	ND	U	0.0164	0.166	mg/kg	1	6/14/23 13:17	
2,4-Dinitrophenol	ND	U	0.0240	0.834	mg/kg	1	6/14/23 13:17	
2,4-Dinitrotoluene	ND	U	0.0178	0.166	mg/kg	1	6/14/23 13:17	
2,6-Dinitrotoluene	ND	U	0.0398	0.166	mg/kg	1	6/14/23 13:17	
2-Chloronaphthalene	ND	U	0.0191	0.166	mg/kg	1	6/14/23 13:17	
2-Chlorophenol	ND	U	0.0220	0.166	mg/kg	1	6/14/23 13:17	
2-Methylnaphthalene	**0.202**	J	**0.0399**	**0.250**	**mg/kg**	**1**	**6/14/23 13:17**	
2-Methylphenol	ND	U	0.0329	0.166	mg/kg	1	6/14/23 13:17	
2-Nitroaniline	ND	U	0.0134	0.166	mg/kg	1	6/14/23 13:17	
2-Nitrophenol	ND	U	0.0185	0.166	mg/kg	1	6/14/23 13:17	
3,3'-Dichlorobenzidine	ND	U	0.0175	0.166	mg/kg	1	6/14/23 13:17	
3+4-Methylphenol	ND	U	0.0305	0.166	mg/kg	1	6/14/23 13:17	
3-Nitroaniline	ND	U	0.0309	0.166	mg/kg	1	6/14/23 13:17	
4,6-Dinitro-2-methylphenol	ND	U	0.0314	0.416	mg/kg	1	6/14/23 13:17	
4-Bromophenyl-phenyl ether	ND	U	0.0238	0.166	mg/kg	1	6/14/23 13:17	
4-Chloro-3-methylphenol	ND	U	0.0263	0.166	mg/kg	1	6/14/23 13:17	
4-Chloroaniline	ND	U	0.00583	0.166	mg/kg	1	6/14/23 13:17	
4-Chlorophenyl phenyl ether	ND	U	0.00899	0.166	mg/kg	1	6/14/23 13:17	
4-Nitroaniline	ND	U	0.0833	0.166	mg/kg	1	6/14/23 13:17	
4-Nitrophenol	ND	U	0.0107	0.166	mg/kg	1	6/14/23 13:17	
Acenaphthene	**1.05**		**0.00949**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Acenaphthylene	**0.701**		**0.00579**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Acetophenone	ND	U	0.0165	0.166	mg/kg	1	6/14/23 13:17	
Anthracene	**2.04**		**0.0241**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Atrazine	ND	U	0.0156	0.166	mg/kg	1	6/14/23 13:17	
Benzaldehyde	ND	U	0.0511	0.166	mg/kg	1	6/14/23 13:17	UJ, RC:SL
Benzo(a)anthracene	**1.73**		**0.0168**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Benzo(a)pyrene	**3.26**		**0.0290**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Benzo(b)fluoranthene	**2.84**		**0.0234**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Benzo(g,h,i)perylene	**3.91**		**0.0135**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	J, RC:SH
Benzo(k)fluoranthene	**0.728**		**0.0191**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Biphenyl	**0.0725**	J	**0.0146**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
bis(2-chloroethoxy)methane	ND	U	0.0230	0.166	mg/kg	1	6/14/23 13:17	
bis(2-chloroethyl)ether	ND	U	0.0183	0.166	mg/kg	1	6/14/23 13:17	
bis(2-chloroisopropyl)ether	ND	U	0.0599	0.166	mg/kg	1	6/14/23 13:17	
bis(2-ethylhexyl)phthalate	**0.721**		**0.0333**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Butylbenzylphthalate	ND	U	0.0151	0.166	mg/kg	1	6/14/23 13:17	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-202306 01** Collected: **6/1/2023 9:20:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0215	0.166	mg/kg	1	6/14/23 13:17	
Carbazole	**0.159**	J	**0.0320**	**0.416**	**mg/kg**	**1**	**6/14/23 13:17**	
Chrysene	**1.80**		**0.0114**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Dibenzo(a,h)anthracene	**0.165**	J	**0.0165**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	J, RC:SH
Dibenzofuran	**0.189**		**0.00992**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Diethylphthalate	ND	U	0.0323	0.166	mg/kg	1	6/14/23 13:17	
Dimethylphthalate	ND	U	0.0103	0.166	mg/kg	1	6/14/23 13:17	
Di-n-butylphthalate	ND	U	0.0680	0.166	mg/kg	1	6/14/23 13:17	
Di-n-octylphthalate	ND	U	0.0341	0.166	mg/kg	1	6/14/23 13:17	
Fluoranthene	**5.33**		**0.0156**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Fluorene	**0.286**		**0.0139**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Hexachlorobenzene	ND	U	0.0218	0.166	mg/kg	1	6/14/23 13:17	
Hexachlorobutadiene	ND	U	0.0799	0.166	mg/kg	1	6/14/23 13:17	
Hexachlorocyclopentadiene	ND	U	0.0694	0.416	mg/kg	1	6/14/23 13:17	
Hexachloroethane	ND	U	0.0183	0.166	mg/kg	1	6/14/23 13:17	
Indeno(1,2,3-cd)pyrene	**2.12**		**0.0179**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	J, RC:SH
Isophorone	ND	U	0.0109	0.166	mg/kg	1	6/14/23 13:17	
Naphthalene	**0.742**		**0.0123**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Nitrobenzene	ND	U	0.0283	0.166	mg/kg	1	6/14/23 13:17	
n-Nitroso-di-n-propylamine	ND	U	0.00891	0.166	mg/kg	1	6/14/23 13:17	
n-Nitrosodiphenylamine	ND	U	0.0355	0.166	mg/kg	1	6/14/23 13:17	
Pentachlorophenol	ND	U	0.0229	0.416	mg/kg	1	6/14/23 13:17	UJ, RC:SL
Phenanthrene	**1.43**		**0.0219**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	
Phenol	ND	U	0.0135	0.166	mg/kg	1	6/14/23 13:17	
Pyrene	**5.66**		**0.0122**	**0.166**	**mg/kg**	**1**	**6/14/23 13:17**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~45.0~~	5.22	J, B	mg/kg	1	6/14/23 13:17	R, RC:2
Hexadecanoic acid, butyl ester	~~4.21~~	12.83	J, B	mg/kg	1	6/14/23 13:17	R, RC:2
Octadecanoic acid, butyl ester	~~1.78~~	13.64	J, B	mg/kg	1	6/14/23 13:17	R, RC:2
unknown (01)	2.10	5.97	J	mg/kg	1	6/14/23 13:17	
unknown (02)	2.34	12.13	J	mg/kg	1	6/14/23 13:17	
unknown (03)	0.518	12.29	J	mg/kg	1	6/14/23 13:17	
unknown (04)	2.91	16.72	J	mg/kg	1	6/14/23 13:17	
TIC Total	~~58.9~~ 7.9						

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601** Collected: **6/1/2023 9:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000435	0.00298	mg/kg	1	6/12/23 14:44	
1,1,2,2-Tetrachloroethane	ND	U	0.000411	0.00298	mg/kg	1	6/12/23 14:44	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00127	0.00298	mg/kg	1	6/12/23 14:44	
1,1,2-Trichloroethane	ND	U	0.000502	0.00298	mg/kg	1	6/12/23 14:44	
1,1-Dichloroethane	ND	U	0.000435	0.00298	mg/kg	1	6/12/23 14:44	
1,1-Dichloroethene	ND	U	0.000551	0.00298	mg/kg	1	6/12/23 14:44	
1,2,3-Trichlorobenzene	ND	U	0.000643	0.00298	mg/kg	1	6/12/23 14:44	
1,2,4-Trichlorobenzene	ND	U	0.000793	0.00298	mg/kg	1	6/12/23 14:44	
1,2,4-Trimethylbenzene	**0.00199**	J	**0.000411**	**0.00298**	**mg/kg**	**1**	**6/12/23 14:44**	
1,2-Dibromo-3-chloropropane	ND	U	0.000726	0.00744	mg/kg	1	6/12/23 14:44	
1,2-Dibromoethane	ND	U	0.000375	0.00298	mg/kg	1	6/12/23 14:44	
1,2-Dichlorobenzene	ND	U	0.000525	0.00298	mg/kg	1	6/12/23 14:44	
1,2-Dichloroethane	ND	U	0.000420	0.00298	mg/kg	1	6/12/23 14:44	
1,2-Dichloropropane	ND	U	0.000488	0.00298	mg/kg	1	6/12/23 14:44	
1,3-Dichlorobenzene	ND	U	0.000219	0.00298	mg/kg	1	6/12/23 14:44	
1,4-Dichlorobenzene	ND	U	0.000429	0.00298	mg/kg	1	6/12/23 14:44	
2-Butanone	**0.0140**	J	**0.000485**	**0.0149**	**mg/kg**	**1**	**6/12/23 14:44**	
2-Hexanone	ND	U	0.000278	0.00298	mg/kg	1	6/12/23 14:44	
4-Methyl-2-pentanone	ND	U	0.000372	0.00298	mg/kg	1	6/12/23 14:44	
Acetone	**0.112**		**0.000902**	**0.0744**	**mg/kg**	**1**	**6/12/23 14:44**	
Benzene	ND	U	0.000271	0.00298	mg/kg	1	6/12/23 14:44	
Bromochloromethane	ND	U	0.000549	0.00298	mg/kg	1	6/12/23 14:44	
Bromodichloromethane	ND	U	0.000374	0.00298	mg/kg	1	6/12/23 14:44	
Bromoform	ND	U	0.000522	0.00298	mg/kg	1	6/12/23 14:44	
Bromomethane	ND	U	0.000859	0.00298	mg/kg	1	6/12/23 14:44	UJ, RC:SL
Carbon disulfide	**0.00475**		**0.000427**	**0.00298**	**mg/kg**	**1**	**6/12/23 14:44**	
Carbon Tetrachloride	ND	U	0.000448	0.00298	mg/kg	1	6/12/23 14:44	
Chlorobenzene	ND	U	0.000432	0.00298	mg/kg	1	6/12/23 14:44	
Chlorodibromomethane	ND	U	0.000366	0.00298	mg/kg	1	6/12/23 14:44	
Chloroethane	ND	U	0.000508	0.00298	mg/kg	1	6/12/23 14:44	
Chloroform	ND	U	0.000500	0.00298	mg/kg	1	6/12/23 14:44	
Chloromethane	**0.0153**		**0.00115**	**0.00298**	**mg/kg**	**1**	**6/12/23 14:44**	
cis-1,2-Dichloroethene	ND	U	0.000144	0.00298	mg/kg	1	6/12/23 14:44	
cis-1,3-Dichloropropene	ND	U	0.000377	0.00298	mg/kg	1	6/12/23 14:44	
Cyclohexane	ND	U	0.000659	0.00298	mg/kg	1	6/12/23 14:44	
Dichlorodifluoromethane	ND	U	0.00100	0.00298	mg/kg	1	6/12/23 14:44	
EthylBenzene	ND	U	0.000403	0.00298	mg/kg	1	6/12/23 14:44	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601** Collected: **6/1/2023 9:20:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	**0.00435**		**0.000467**	**0.00298**	**mg/kg**	**1**	**6/12/23 14:44**
m+p-Xylenes	**0.00214**	J	**0.000752**	**0.00595**	**mg/kg**	**1**	**6/12/23 14:44**
Methyl Acetate	ND	U	0.000394	0.00298	mg/kg	1	6/12/23 14:44
Methyl tert-Butyl Ether	ND	U	0.000503	0.00298	mg/kg	1	6/12/23 14:44
Methylcyclohexane	**0.00364**		**0.000479**	**0.00298**	**mg/kg**	**1**	**6/12/23 14:44**
Methylene Chloride	ND	U	0.000895	0.00744	mg/kg	1	6/12/23 14:44
o-Xylene	ND	U	0.000383	0.00298	mg/kg	1	6/12/23 14:44
Styrene	ND	U	0.000426	0.00298	mg/kg	1	6/12/23 14:44
tert-Butyl alcohol	ND	U	0.00625	0.0298	mg/kg	1	6/12/23 14:44
Tetrachloroethene	ND	U	0.000295	0.00298	mg/kg	1	6/12/23 14:44
Toluene	ND	U	0.000240	0.00298	mg/kg	1	6/12/23 14:44
Total Xylenes	**0.00214**	J	**0.000383**	**0.00298**	**mg/kg**	**1**	**6/12/23 14:44**
trans-1,2-Dichloroethene	ND	U	0.000403	0.00298	mg/kg	1	6/12/23 14:44
trans-1,3-Dichloropropene	ND	U	0.000569	0.00298	mg/kg	1	6/12/23 14:44
Trichloroethene	ND	U	0.000438	0.00298	mg/kg	1	6/12/23 14:44
Trichlorofluoromethane	ND	U	0.000342	0.00298	mg/kg	1	6/12/23 14:44
Vinyl chloride	ND	U	0.000566	0.00298	mg/kg	1	6/12/23 14:44

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Decanol, 2-ethyl-	0.0761	19.06	J	mg/kg	1	6/12/23 14:44
Benzene, 1-ethyl-2-methyl-	0.0353	16.95	J	mg/kg	1	6/12/23 14:44
Cyclohexane, 1-methyl-2-propyl-	0.0959	20.58	J	mg/kg	1	6/12/23 14:44
Cyclohexane, hexyl-	0.0569	21.54	J	mg/kg	1	6/12/23 14:44
Cyclopentane	0.0514	4.02	J	mg/kg	1	6/12/23 14:44
Dodecane, 2,6,11-trimethyl-	0.0476	19.26	J	mg/kg	1	6/12/23 14:44
Dodecane, 6-methyl-	0.0862	20.78	J	mg/kg	1	6/12/23 14:44
Hexane, 2,3,4-trimethyl-	0.0581	21.45	J	mg/kg	1	6/12/23 14:44
Pentadecane, 6-methyl-	0.111	19.73	J	mg/kg	1	6/12/23 14:44
Pentadecane, 7-methyl-	0.0320	19.54	J	mg/kg	1	6/12/23 14:44
Undecane, 2,10-dimethyl-	0.0310	21.63	J	mg/kg	1	6/12/23 14:44
Undecane, 2-methyl-	0.0625	19.91	J	mg/kg	1	6/12/23 14:44
Undecane, 3,5-dimethyl-	0.0596	21.76	J	mg/kg	1	6/12/23 14:44
Undecane, 3-methyl-	0.0434	20.05	J	mg/kg	1	6/12/23 14:44
Undecane, 4-methyl-	0.0348	19.82	J	mg/kg	1	6/12/23 14:44
TIC Total	**0.882**					

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-01 (Soil) Sample Name: **MW-06-5.0-6.0-20230601** Collected: **6/1/2023 9:20:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.0**				**%**	**1**	**6/2/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00810	0.0679	mg/kg	1	6/12/23 17:07

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-20230601** Collected: **6/1/2023 10:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00482	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1221	ND	U	0.00949	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1232	ND	U	0.0121	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1242	ND	U	0.00707	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1248	ND	U	0.00739	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1254	ND	U	0.00580	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1260	ND	U	0.00450	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1262	ND	U	0.00968	0.0360	mg/kg	1	6/12/23 22:15
Aroclor-1268	ND	U	0.00435	0.0360	mg/kg	1	6/12/23 22:15
Total PCBs	ND	U	0.00336	0.0360	mg/kg	1	6/12/23 22:15

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0107	0.109	mg/kg	1	6/14/23 2:15
2,4-D	ND	U	0.0181	0.109	mg/kg	1	6/14/23 2:15

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0691**		**0.00545**	**0.0218**	**mg/kg**	**1**	**6/14/23 11:43**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3900**		**0.158**	**2.66**	**mg/kg**	**1**	**6/14/23 11:24**
Antimony	ND	U	0.145	1.33	mg/kg	1	6/14/23 11:24
Arsenic	**1.64**		**0.0948**	**1.33**	**mg/kg**	**1**	**6/14/23 11:24**
Barium	**46.8**		**0.0402**	**0.532**	**mg/kg**	**1**	**6/14/23 11:24**
Beryllium	**0.318**		**0.00308**	**0.0266**	**mg/kg**	**1**	**6/14/23 11:24**

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-2023 0601** Collected: **6/1/2023 10:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	ND	U	0.0518	0.266	mg/kg	1	6/14/23 11:24	
Calcium	**10000**		**2.99**	**26.6**	**mg/kg**	**1**	**6/14/23 11:24**	
Chromium	**7.95**		**0.0300**	**0.266**	**mg/kg**	**1**	**6/14/23 11:24**	
Cobalt	**2.60**		**0.0272**	**0.213**	**mg/kg**	**1**	**6/14/23 11:24**	
Copper	**9.54**		**0.0744**	**0.266**	**mg/kg**	**1**	**6/14/23 11:24**	
Iron	**6750**		**0.753**	**5.32**	**mg/kg**	**1**	**6/14/23 11:24**	
Lead	**17.0**		**0.111**	**1.33**	**mg/kg**	**1**	**6/14/23 11:24**	
Magnesium	**2910**		**9.39**	**53.2**	**mg/kg**	**1**	**6/14/23 11:24**	
Manganese	**167**		**0.0331**	**0.266**	**mg/kg**	**1**	**6/14/23 11:24**	
Nickel	**7.82**		**0.0234**	**0.133**	**mg/kg**	**1**	**6/14/23 11:24**	
Potassium	**1060**		**31.6**	**106**	**mg/kg**	**1**	**6/14/23 11:24**	
Selenium	ND	U	0.255	1.33	mg/kg	1	6/14/23 11:24	
Silver	ND	U	0.0452	0.159	mg/kg	1	6/14/23 11:24	UJ, RC:6L
Sodium	**558**		**5.07**	**53.2**	**mg/kg**	**1**	**6/14/23 11:24**	
Thallium	ND	U	0.0894	1.33	mg/kg	1	6/14/23 11:24	
Vanadium	**10.9**		**0.0611**	**0.532**	**mg/kg**	**1**	**6/14/23 11:24**	
Zinc	**18.1**		**0.0812**	**0.797**	**mg/kg**	**1**	**6/14/23 11:24**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.478**	D	**0.0130**	**0.0283**	**mg/kg**	**20**	**6/15/23 20:01**	J, RC:3H
4,4'-DDE	ND	U	0.000775	0.00142	mg/kg	1	6/14/23 20:11	
4,4'-DDT	**0.412**	D	**0.0200**	**0.0283**	**mg/kg**	**20**	**6/15/23 20:01**	J, RC:3H
Aldrin	ND	U	0.000671	0.00142	mg/kg	1	6/14/23 20:11	
alpha-BHC	ND	U	0.000422	0.00142	mg/kg	1	6/14/23 20:11	
beta-BHC	ND	U	0.000677	0.00142	mg/kg	1	6/14/23 20:11	
Chlordane	**0.936**	D	**0.0126**	**0.0283**	**mg/kg**	**20**	**6/15/23 20:01**	J, RC:3H
delta-BHC	ND	U	0.000658	0.00142	mg/kg	1	6/14/23 20:11	
Dieldrin	ND	U	0.000741	0.00142	mg/kg	1	6/14/23 20:11	
Endosulfan I	ND	U	0.000669	0.00142	mg/kg	1	6/14/23 20:11	
Endosulfan II	ND	U	0.000644	0.00142	mg/kg	1	6/14/23 20:11	
Endosulfan sulfate	ND	U	0.000533	0.00142	mg/kg	1	6/14/23 20:11	
Endosulfans, Total (alpha and beta)	ND	U	0.000644	0.00142	mg/kg	1	6/14/23 20:11	
Endrin	ND	U	0.000489	0.00142	mg/kg	1	6/14/23 20:11	
Endrin aldehyde	ND	U	0.000565	0.00142	mg/kg	1	6/14/23 20:11	
Endrin ketone	ND	U	0.000499	0.00142	mg/kg	1	6/14/23 20:11	
gamma-BHC (Lindane)	ND	U	0.000449	0.00142	mg/kg	1	6/14/23 20:11	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-2023 0601** Collected: **6/1/2023 10:55:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000379	0.00142	mg/kg	1	6/14/23 20:11
Heptachlor Epoxide	ND	U	0.000715	0.00142	mg/kg	1	6/14/23 20:11
Methoxychlor	ND	U	0.000415	0.00142	mg/kg	1	6/14/23 20:11
Toxaphene	ND	U	0.0683	0.0719	mg/kg	1	6/14/23 20:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0410	0.363	mg/kg	1	6/14/23 13:49	
2,3,4,6-Tetrachlorophenol	ND	U	0.223	1.45	mg/kg	1	6/14/23 13:49	
2,4,5-Trichlorophenol	ND	U	0.197	1.45	mg/kg	1	6/14/23 13:49	
2,4,6-Trichlorophenol	ND	U	0.0908	1.45	mg/kg	1	6/14/23 13:49	
2,4-Dichlorophenol	ND	U	0.146	1.45	mg/kg	1	6/14/23 13:49	
2,4-Dimethylphenol	ND	U	0.143	1.45	mg/kg	1	6/14/23 13:49	
2,4-Dinitrophenol	ND	U	0.209	7.27	mg/kg	1	6/14/23 13:49	
2,4-Dinitrotoluene	ND	U	0.155	1.45	mg/kg	1	6/14/23 13:49	
2,6-Dinitrotoluene	ND	U	0.347	1.45	mg/kg	1	6/14/23 13:49	
2-Chloronaphthalene	ND	U	0.167	1.45	mg/kg	1	6/14/23 13:49	
2-Chlorophenol	ND	U	0.192	1.45	mg/kg	1	6/14/23 13:49	
2-Methylnaphthalene	**3690**	D	**17.4**	**109**	**mg/kg**	**50**	**6/16/23 18:38**	
2-Methylphenol	ND	U	0.287	1.45	mg/kg	1	6/14/23 13:49	
2-Nitroaniline	ND	U	0.117	1.45	mg/kg	1	6/14/23 13:49	
2-Nitrophenol	ND	U	0.161	1.45	mg/kg	1	6/14/23 13:49	
3,3'-Dichlorobenzidine	ND	U	0.153	1.45	mg/kg	1	6/14/23 13:49	
3+4-Methylphenol	ND	U	0.266	1.45	mg/kg	1	6/14/23 13:49	
3-Nitroaniline	ND	U	0.269	1.45	mg/kg	1	6/14/23 13:49	
4,6-Dinitro-2-methylphenol	ND	U	0.274	3.63	mg/kg	1	6/14/23 13:49	
4-Bromophenyl-phenyl ether	ND	U	0.207	1.45	mg/kg	1	6/14/23 13:49	
4-Chloro-3-methylphenol	ND	U	0.229	1.45	mg/kg	1	6/14/23 13:49	
4-Chloroaniline	ND	U	0.0508	1.45	mg/kg	1	6/14/23 13:49	
4-Chlorophenyl phenyl ether	ND	U	0.0784	1.45	mg/kg	1	6/14/23 13:49	
4-Nitroaniline	ND	U	0.726	1.45	mg/kg	1	6/14/23 13:49	
4-Nitrophenol	ND	U	0.0929	1.45	mg/kg	1	6/14/23 13:49	
Acenaphthene	**702**	D	**1.65**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Acenaphthylene	**1390**	D	**1.01**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Acetophenone	ND	U	0.144	1.45	mg/kg	1	6/14/23 13:49	
Anthracene	**836**	D	**4.21**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Atrazine	ND	U	0.136	1.45	mg/kg	1	6/14/23 13:49	
Benzaldehyde	ND	U	0.446	1.45	mg/kg	1	6/14/23 13:49	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-2023 0601** Collected: **6/1/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	**436**	D	**2.92**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Benzo(a)pyrene	**342**	D	**5.06**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Benzo(b)fluoranthene	**258**	D	**4.08**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Benzo(g,h,i)perylene	**121**	D	**2.35**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	J, RC:SH
Benzo(k)fluoranthene	**90.4**	D	**3.34**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Biphenyl	**379**	D	**2.55**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
bis(2-chloroethoxy)methane	ND	U	0.201	1.45	mg/kg	1	6/14/23 13:49	
bis(2-chloroethyl)ether	ND	U	0.159	1.45	mg/kg	1	6/14/23 13:49	
bis(2-chloroisopropyl)ether	ND	U	0.522	1.45	mg/kg	1	6/14/23 13:49	
bis(2-ethylhexyl)phthalate	ND	U	0.290	1.45	mg/kg	1	6/14/23 13:49	
Butylbenzylphthalate	ND	U	0.132	1.45	mg/kg	1	6/14/23 13:49	
Caprolactam	ND	U	0.187	1.45	mg/kg	1	6/14/23 13:49	
Carbazole	**25.6**		**0.279**	**3.63**	**mg/kg**	**1**	**6/14/23 13:49**	
Chrysene	**427**	D	**1.99**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Dibenzo(a,h)anthracene	**13.9**		**0.144**	**1.45**	**mg/kg**	**1**	**6/14/23 13:49**	J, RC:SH
Dibenzofuran	**86.3**		**0.0864**	**1.45**	**mg/kg**	**1**	**6/14/23 13:49**	
Diethylphthalate	ND	U	0.281	1.45	mg/kg	1	6/14/23 13:49	
Dimethylphthalate	ND	U	0.0900	1.45	mg/kg	1	6/14/23 13:49	
Di-n-butylphthalate	ND	U	0.593	1.45	mg/kg	1	6/14/23 13:49	
Di-n-octylphthalate	ND	U	0.298	1.45	mg/kg	1	6/14/23 13:49	
Fluoranthene	**868**	D	**2.72**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Fluorene	**1150**	D	**2.42**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	
Hexachlorobenzene	ND	U	0.190	1.45	mg/kg	1	6/14/23 13:49	
Hexachlorobutadiene	ND	U	0.696	1.45	mg/kg	1	6/14/23 13:49	
Hexachlorocyclopentadiene	ND	U	0.605	3.63	mg/kg	1	6/14/23 13:49	
Hexachloroethane	ND	U	0.159	1.45	mg/kg	1	6/14/23 13:49	
Indeno(1,2,3-cd)pyrene	**101**	D	**3.12**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	J, RC:SH
Isophorone	ND	U	0.0950	1.45	mg/kg	1	6/14/23 13:49	
Naphthalene	**13300**	D	**53.7**	**725**	**mg/kg**	**500**	**6/20/23 17:54**	
Nitrobenzene	ND	U	0.246	1.45	mg/kg	1	6/14/23 13:49	
n-Nitroso-di-n-propylamine	ND	U	0.0777	1.45	mg/kg	1	6/14/23 13:49	
n-Nitrosodiphenylamine	ND	U	0.310	1.45	mg/kg	1	6/14/23 13:49	
Pentachlorophenol	ND	U	0.199	3.63	mg/kg	1	6/14/23 13:49	UJ, RC:SL
Phenanthrene	**2490**	D	**9.54**	**72.5**	**mg/kg**	**50**	**6/16/23 18:38**	
Phenol	ND	U	0.118	1.45	mg/kg	1	6/14/23 13:49	
Pyrene	**1090**	D	**2.13**	**29.0**	**mg/kg**	**20**	**6/16/23 0:20**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-2023 0601** Collected: **6/1/2023 10:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,2-dimethyl-	77.7	5.82	J	mg/kg	1	6/14/23 13:49
Benzene, 1-ethenyl-3-methyl-	192	6.74	J	mg/kg	1	6/14/23 13:49
Benzene, 1-ethyl-4-methyl-	55.9	6.97	J	mg/kg	1	6/14/23 13:49
Ethylbenzene	119	5.49	J	mg/kg	1	6/14/23 13:49
Indene	253	7.20	J	mg/kg	1	6/14/23 13:49
Naphthalene, 1,5-dimethyl-	90.7	9.77	J	mg/kg	1	6/14/23 13:49
Naphthalene, 1,6,7-trimethyl-	65.9	10.34	J	mg/kg	1	6/14/23 13:49
Naphthalene, 1,6-dimethyl-	90.6	9.50	J	mg/kg	1	6/14/23 13:49
Naphthalene, 2,6-dimethyl-	128	9.57	J	mg/kg	1	6/14/23 13:49
Naphthalene, 2,7-dimethyl-	115	9.65	J	mg/kg	1	6/14/23 13:49
unknown (01)	61.3	9.71	J	mg/kg	1	6/14/23 13:49
unknown (02)	80.0	10.30	J	mg/kg	1	6/14/23 13:49
unknown (03)	59.7	10.38	J	mg/kg	1	6/14/23 13:49
unknown (04)	71.8	10.46	J	mg/kg	1	6/14/23 13:49
unknown (05)	43.7	10.67	J	mg/kg	1	6/14/23 13:49
TIC Total	**1,510**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000261	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000247	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L,X
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000765	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
1,1,2-Trichloroethane	ND	U	0.000301	0.00179	mg/kg	1	6/12/23 15:43	
1,1-Dichloroethane	ND	U	0.000261	0.00179	mg/kg	1	6/12/23 15:43	
1,1-Dichloroethene	ND	U	0.000331	0.00179	mg/kg	1	6/12/23 15:43	
1,2,3-Trichlorobenzene	~~ND~~	U	0.000386	0.00179	mg/kg	1	6/12/23 15:43	R, RC:3L,X
1,2,4-Trichlorobenzene	~~ND~~	U	0.000476	0.00179	mg/kg	1	6/12/23 15:43	R, RC:3L,X
1,2,4-Trimethylbenzene	**687**	D	**4.07**	**29.5**	**mg/kg**	**11628**	**6/13/23 6:07**	J, RC:3L
1,2-Dibromo-3-chloropropane	~~ND~~	U	0.000436	0.00447	mg/kg	1	6/12/23 15:43	R, RC:3L,X
1,2-Dibromoethane	ND	U	0.000225	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
1,2-Dichlorobenzene	~~ND~~	U	0.000315	0.00179	mg/kg	1	6/12/23 15:43	R, RC:3L,X
1,2-Dichloroethane	**2.97**	J, D	**0.851**	**6.03**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
1,2-Dichloropropane	ND	U	0.000293	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
1,3-Dichlorobenzene	ND	U	0.000131	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L,X
1,4-Dichlorobenzene	~~ND~~	U	0.000257	0.00179	mg/kg	1	6/12/23 15:43	R, RC:3L,X
2-Butanone	ND	U	0.000291	0.00893	mg/kg	1	6/12/23 15:43	UJ, RC:3L
2-Hexanone	ND	U	0.000167	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-02 (Soil) Sample Name: **MW-06-41.0-42.0-2023 0601** Collected: **6/1/2023 10:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Methyl-2-pentanone	ND	U	0.000223	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Acetone	**0.110**		**0.000541**	**0.0447**	**mg/kg**	**1**	**6/12/23 15:43**	J, RC:3L
Benzene	**126**	D	**0.549**	**6.03**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
Bromochloromethane	ND	U	0.000330	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Bromodichloromethane	ND	U	0.000224	0.00179	mg/kg	1	6/12/23 15:43	
Bromoform	ND	U	0.000314	0.00179	mg/kg	1	6/12/23 15:43	RC:X,SL
Bromomethane	ND	U	0.000515	0.00179	mg/kg	1	6/12/23 15:43	
Carbon disulfide	ND	U	0.000256	0.00179	mg/kg	1	6/12/23 15:43	
Carbon Tetrachloride	ND	U	0.000269	0.00179	mg/kg	1	6/12/23 15:43	
Chlorobenzene	ND	U	0.000259	0.00179	mg/kg	1	6/12/23 15:43	RC:X
Chlorodibromomethane	ND	U	0.000220	0.00179	mg/kg	1	6/12/23 15:43	
Chloroethane	ND	U	0.000305	0.00179	mg/kg	1	6/12/23 15:43	
Chloroform	ND	U	0.000300	0.00179	mg/kg	1	6/12/23 15:43	
Chloromethane	**0.0645**		**0.000688**	**0.00179**	**mg/kg**	**1**	**6/12/23 15:43**	J, RC:3L
cis-1,2-Dichloroethene	ND	U	0.0000864	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
cis-1,3-Dichloropropene	ND	U	0.000226	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Cyclohexane	**0.0563**		**0.000396**	**0.00179**	**mg/kg**	**1**	**6/12/23 15:43**	J, RC:3L
Dichlorodifluoromethane	ND	U	0.000603	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
EthylBenzene	**995**	D	**3.99**	**29.5**	**mg/kg**	**11628**	**6/13/23 6:07**	J, RC:3L
Isopropylbenzene	**76.1**	D	**0.947**	**6.03**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
m+p-Xylenes	**836**	D	**1.52**	**12.1**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
Methyl Acetate	ND	U	0.000237	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000302	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Methylcyclohexane	**0.226**		**0.000288**	**0.00179**	**mg/kg**	**1**	**6/12/23 15:43**	J, RC:3L
Methylene Chloride	ND	U	0.000537	0.00447	mg/kg	1	6/12/23 15:43	UJ, RC:3L
o-Xylene	**388**	D	**0.775**	**6.03**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
Styrene	ND	U	0.000255	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L,X
tert-Butyl alcohol	ND	U	0.00375	0.0179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Tetrachloroethene	ND	U	0.000177	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
Toluene	**336**	D	**0.486**	**6.03**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
Total Xylenes	**1220**	D	**0.775**	**6.03**	**mg/kg**	**2381**	**6/13/23 5:37**	J, RC:3L
trans-1,2-Dichloroethene	ND	U	0.000242	0.00179	mg/kg	1	6/12/23 15:43	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000341	0.00179	mg/kg	1	6/12/23 15:43	
Trichloroethene	ND	U	0.000263	0.00179	mg/kg	1	6/12/23 15:43	
Trichlorofluoromethane	ND	U	0.000205	0.00179	mg/kg	1	6/12/23 15:43	
Vinyl chloride	ND	U	0.000339	0.00179	mg/kg	1	6/12/23 15:43	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-02 (Soil)

Sample Name: **MW-06-41.0-42.0-20230601**
Collected: **6/1/2023 10:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.8**				**%**	**1**	**6/2/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00748	0.0628	mg/kg	1	6/12/23 17:07

23F0039-03 (Ground Water)

Sample Name: **FB-20230601**
Collected: **6/1/2023 11:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/9/23 22:17
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/9/23 22:17
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/9/23 22:17
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/9/23 22:17
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/9/23 22:17
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/9/23 22:17
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/9/23 22:17
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/9/23 22:17
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/9/23 22:17
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/9/23 22:17

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 20:38
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 20:38
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 20:38

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/14/23 15:09

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-03 (Ground Water) Sample Name: **FB-20230601** Collected: **6/1/2023 11:30:00AM**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/14/23 9:51
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/14/23 9:51
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/14/23 9:51
Barium	ND	U	0.000558	0.0200	mg/L	1	6/14/23 9:51
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/14/23 9:51
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/14/23 9:51
Calcium	ND	U	0.256	1.00	mg/L	1	6/14/23 9:51
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/14/23 9:51
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/14/23 9:51
Copper	ND	U	0.00177	0.0100	mg/L	1	6/14/23 9:51
Iron	ND	U	0.0580	0.200	mg/L	1	6/14/23 9:51
Lead	ND	U	0.00510	0.0500	mg/L	1	6/14/23 9:51
Magnesium	ND	U	0.681	2.00	mg/L	1	6/14/23 9:51
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/14/23 9:51
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/14/23 9:51
Potassium	ND	U	2.41	4.00	mg/L	1	6/14/23 9:51
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/14/23 9:51
Silver	ND	U	0.00465	0.0200	mg/L	1	6/14/23 9:51
Sodium	ND	U	0.205	2.00	mg/L	1	6/14/23 9:51
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/14/23 9:51
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/14/23 9:51
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/14/23 9:51

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 18:42
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 18:42
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/13/23 18:42
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 18:42
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 18:42
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 18:42
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 18:42
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 18:42
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 18:42
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 18:42
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 18:42
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 18:42
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/13/23 18:42
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 18:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-03 (Ground Water) Sample Name: **FB-20230601** Collected: **6/1/2023 11:30:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 18:42
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 18:42
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 18:42
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 18:42
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 18:42
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 18:42

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/7/23 16:00	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/7/23 16:00	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/7/23 16:00	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/7/23 16:00	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/7/23 16:00	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/7/23 16:00	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/7/23 16:00	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/7/23 16:00	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/7/23 16:00	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/7/23 16:00	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/7/23 16:00	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/7/23 16:00	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/7/23 16:00	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/7/23 16:00	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/7/23 16:00	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/7/23 16:00	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/7/23 16:00	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/7/23 16:00	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/7/23 16:00	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/7/23 16:00	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/7/23 16:00	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/7/23 16:00	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/7/23 16:00	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/7/23 16:00	
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/7/23 16:00	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/7/23 16:00	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/7/23 16:00	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/7/23 16:00	
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/7/23 16:00	UJ, RC:SL
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/7/23 16:00	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-03 (Ground Water) Sample Name: **FB-20230601** Collected: **6/1/2023 11:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/7/23 16:00
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/7/23 16:00
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/7/23 16:00
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/7/23 16:00
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/7/23 16:00
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/7/23 16:00
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/7/23 16:00
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/7/23 16:00
Carbazole	ND	U	0.188	2.00	ug/L	1	6/7/23 16:00
Chrysene	ND	U	0.129	2.00	ug/L	1	6/7/23 16:00
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/7/23 16:00
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/7/23 16:00
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/7/23 16:00
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/7/23 16:00
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/7/23 16:00
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/7/23 16:00
Fluorene	ND	U	0.109	2.00	ug/L	1	6/7/23 16:00
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/7/23 16:00
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/7/23 16:00
Isophorone	ND	U	0.111	2.00	ug/L	1	6/7/23 16:00
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/7/23 16:00
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/7/23 16:00
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/7/23 16:00
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/7/23 16:00
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/7/23 16:00
Phenol	ND	U	0.0973	2.00	ug/L	1	6/7/23 16:00
Pyrene	ND	U	0.115	2.00	ug/L	1	6/7/23 16:00

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/12/23 14:06
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/12/23 14:06
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/12/23 14:06
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/12/23 14:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-03 (Ground Water) Sample Name: **FB-20230601** Collected: **6/1/2023 11:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/12/23 14:06	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/12/23 14:06	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/12/23 14:06	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/12/23 14:06	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/12/23 14:06	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/12/23 14:06	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/12/23 14:06	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/12/23 14:06	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/12/23 14:06	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/12/23 14:06	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/12/23 14:06	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/12/23 14:06	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/12/23 14:06	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/12/23 14:06	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/12/23 14:06	
Acetone	ND	U	10.0	10.0	ug/L	1	6/12/23 14:06	
Benzene	ND	U	0.129	1.00	ug/L	1	6/12/23 14:06	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/12/23 14:06	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/12/23 14:06	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/12/23 14:06	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/12/23 14:06	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/12/23 14:06	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/12/23 14:06	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/12/23 14:06	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/12/23 14:06	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/12/23 14:06	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/12/23 14:06	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/12/23 14:06	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/12/23 14:06	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/12/23 14:06	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/12/23 14:06	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/12/23 14:06	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/12/23 14:06	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/12/23 14:06	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/12/23 14:06	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/12/23 14:06	UJ, RC:SL
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/12/23 14:06	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/12/23 14:06	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/12/23 14:06	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-03 (Ground Water) Sample Name: FB-20230601 Collected: 6/1/2023 11:30:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/12/23 14:06
Styrene	ND	U	0.176	1.00	ug/L	1	6/12/23 14:06
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/12/23 14:06
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/12/23 14:06
Toluene	ND	U	0.205	1.00	ug/L	1	6/12/23 14:06
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/12/23 14:06
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/12/23 14:06
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/12/23 14:06
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/12/23 14:06
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/12/23 14:06
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/12/23 14:06

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/9/23 17:05

23F0039-04 (Soil) Sample Name: MW-06-66.0-67.0-20230601 Collected: 6/1/2023 1:05:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00529	0.0394	mg/kg	1	6/12/23 22:37	UJ, RC:3L
Aroclor-1221	ND	U	0.0104	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1232	ND	U	0.0132	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1242	ND	U	0.00775	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1248	ND	U	0.00811	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1254	ND	U	0.00637	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1260	ND	U	0.00494	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1262	ND	U	0.0106	0.0394	mg/kg	1	6/12/23 22:37	
Aroclor-1268	ND	U	0.00477	0.0394	mg/kg	1	6/12/23 22:37	
Total PCBs	ND	U	0.00368	0.0394	mg/kg	1	6/12/23 22:37	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-2023 0601** Collected: **6/1/2023 1:05:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0117	0.120	mg/kg	1	6/14/23 3:03
2,4-D	ND	U	0.0198	0.120	mg/kg	1	6/14/23 3:03

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0316**		**0.00598**	**0.0239**	**mg/kg**	**1**	**6/14/23 11:43**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**6630**		**0.179**	**3.02**	**mg/kg**	**1**	**6/14/23 11:27**	
Antimony	ND	U	0.164	1.51	mg/kg	1	6/14/23 11:27	
Arsenic	ND	U	0.108	1.51	mg/kg	1	6/14/23 11:27	
Barium	**74.3**		**0.0456**	**0.604**	**mg/kg**	**1**	**6/14/23 11:27**	
Beryllium	**0.474**		**0.00350**	**0.0302**	**mg/kg**	**1**	**6/14/23 11:27**	
Cadmium	ND	U	0.0589	0.302	mg/kg	1	6/14/23 11:27	
Calcium	**13900**		**3.40**	**30.2**	**mg/kg**	**1**	**6/14/23 11:27**	
Chromium	**12.3**		**0.0341**	**0.302**	**mg/kg**	**1**	**6/14/23 11:27**	
Cobalt	**4.56**		**0.0309**	**0.241**	**mg/kg**	**1**	**6/14/23 11:27**	
Copper	**12.5**		**0.0844**	**0.302**	**mg/kg**	**1**	**6/14/23 11:27**	
Iron	**11700**		**0.855**	**6.04**	**mg/kg**	**1**	**6/14/23 11:27**	
Lead	**6.64**		**0.126**	**1.51**	**mg/kg**	**1**	**6/14/23 11:27**	
Magnesium	**6150**		**10.7**	**60.4**	**mg/kg**	**1**	**6/14/23 11:27**	
Manganese	**289**		**0.0376**	**0.302**	**mg/kg**	**1**	**6/14/23 11:27**	
Nickel	**15.2**		**0.0265**	**0.151**	**mg/kg**	**1**	**6/14/23 11:27**	
Potassium	**1690**		**35.9**	**121**	**mg/kg**	**1**	**6/14/23 11:27**	
Selenium	ND	U	0.290	1.51	mg/kg	1	6/14/23 11:27	
Silver	ND	U	0.0513	0.181	mg/kg	1	6/14/23 11:27	UJ, RC:6L
Sodium	**1040**		**5.76**	**60.4**	**mg/kg**	**1**	**6/14/23 11:27**	
Thallium	ND	U	0.102	1.51	mg/kg	1	6/14/23 11:27	
Vanadium	**16.2**		**0.0694**	**0.604**	**mg/kg**	**1**	**6/14/23 11:27**	
Zinc	**23.4**		**0.0922**	**0.906**	**mg/kg**	**1**	**6/14/23 11:27**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000711	0.00155	mg/kg	1	6/14/23 20:30
4,4'-DDE	ND	U	0.000850	0.00155	mg/kg	1	6/14/23 20:30
4,4'-DDT	ND	U	0.00110	0.00155	mg/kg	1	6/14/23 20:30
Aldrin	ND	U	0.000736	0.00155	mg/kg	1	6/14/23 20:30

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-2023 0601** Collected: **6/1/2023 1:05:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
alpha-BHC	ND	U	0.000463	0.00155	mg/kg	1	6/14/23 20:30
beta-BHC	ND	U	0.000742	0.00155	mg/kg	1	6/14/23 20:30
Chlordane	ND	U	0.000691	0.00155	mg/kg	1	6/14/23 20:30
delta-BHC	ND	U	0.000722	0.00155	mg/kg	1	6/14/23 20:30
Dieldrin	ND	U	0.000813	0.00155	mg/kg	1	6/14/23 20:30
Endosulfan I	ND	U	0.000734	0.00155	mg/kg	1	6/14/23 20:30
Endosulfan II	ND	U	0.000706	0.00155	mg/kg	1	6/14/23 20:30
Endosulfan sulfate	ND	U	0.000585	0.00155	mg/kg	1	6/14/23 20:30
Endosulfans, Total (alpha and beta)	ND	U	0.000706	0.00155	mg/kg	1	6/14/23 20:30
Endrin	ND	U	0.000537	0.00155	mg/kg	1	6/14/23 20:30
Endrin aldehyde	ND	U	0.000619	0.00155	mg/kg	1	6/14/23 20:30
Endrin ketone	ND	U	0.000547	0.00155	mg/kg	1	6/14/23 20:30
gamma-BHC (Lindane)	ND	U	0.000492	0.00155	mg/kg	1	6/14/23 20:30
Heptachlor	ND	U	0.000416	0.00155	mg/kg	1	6/14/23 20:30
Heptachlor Epoxide	ND	U	0.000784	0.00155	mg/kg	1	6/14/23 20:30
Methoxychlor	ND	U	0.000455	0.00155	mg/kg	1	6/14/23 20:30
Toxaphene	ND	U	0.0749	0.0789	mg/kg	1	6/14/23 20:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00449	0.0398	mg/kg	1	6/14/23 14:20
2,3,4,6-Tetrachlorophenol	ND	U	0.0245	0.159	mg/kg	1	6/14/23 14:20
2,4,5-Trichlorophenol	ND	U	0.0216	0.159	mg/kg	1	6/14/23 14:20
2,4,6-Trichlorophenol	ND	U	0.00996	0.159	mg/kg	1	6/14/23 14:20
2,4-Dichlorophenol	ND	U	0.0160	0.159	mg/kg	1	6/14/23 14:20
2,4-Dimethylphenol	ND	U	0.0157	0.159	mg/kg	1	6/14/23 14:20
2,4-Dinitrophenol	ND	U	0.0230	0.797	mg/kg	1	6/14/23 14:20
2,4-Dinitrotoluene	ND	U	0.0170	0.159	mg/kg	1	6/14/23 14:20
2,6-Dinitrotoluene	ND	U	0.0380	0.159	mg/kg	1	6/14/23 14:20
2-Chloronaphthalene	ND	U	0.0183	0.159	mg/kg	1	6/14/23 14:20
2-Chlorophenol	ND	U	0.0210	0.159	mg/kg	1	6/14/23 14:20
2-Methylnaphthalene	**2.46**		**0.0381**	**0.239**	**mg/kg**	**1**	**6/14/23 14:20**
2-Methylphenol	ND	U	0.0314	0.159	mg/kg	1	6/14/23 14:20
2-Nitroaniline	ND	U	0.0128	0.159	mg/kg	1	6/14/23 14:20
2-Nitrophenol	ND	U	0.0177	0.159	mg/kg	1	6/14/23 14:20
3,3'-Dichlorobenzidine	ND	U	0.0167	0.159	mg/kg	1	6/14/23 14:20
3+4-Methylphenol	ND	U	0.0292	0.159	mg/kg	1	6/14/23 14:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-2023 0601** Collected: **6/1/2023 1:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.0295	0.159	mg/kg	1	6/14/23 14:20	
4,6-Dinitro-2-methylphenol	ND	U	0.0300	0.398	mg/kg	1	6/14/23 14:20	
4-Bromophenyl-phenyl ether	ND	U	0.0227	0.159	mg/kg	1	6/14/23 14:20	
4-Chloro-3-methylphenol	ND	U	0.0251	0.159	mg/kg	1	6/14/23 14:20	
4-Chloroaniline	ND	U	0.00557	0.159	mg/kg	1	6/14/23 14:20	
4-Chlorophenyl phenyl ether	ND	U	0.00859	0.159	mg/kg	1	6/14/23 14:20	
4-Nitroaniline	ND	U	0.0796	0.159	mg/kg	1	6/14/23 14:20	
4-Nitrophenol	ND	U	0.0102	0.159	mg/kg	1	6/14/23 14:20	
Acenaphthene	**0.605**		**0.00907**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Acenaphthylene	**1.94**		**0.00553**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Acetophenone	ND	U	0.0158	0.159	mg/kg	1	6/14/23 14:20	
Anthracene	**1.47**		**0.0231**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Atrazine	ND	U	0.0149	0.159	mg/kg	1	6/14/23 14:20	
Benzaldehyde	ND	U	0.0489	0.159	mg/kg	1	6/14/23 14:20	UJ, RC:SL
Benzo(a)anthracene	**0.952**		**0.0160**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Benzo(a)pyrene	**0.770**		**0.0277**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Benzo(b)fluoranthene	**0.497**		**0.0224**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Benzo(g,h,i)perylene	**0.303**		**0.0129**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	J, RC:SH
Benzo(k)fluoranthene	**0.223**		**0.0183**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Biphenyl	**0.316**		**0.0140**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
bis(2-chloroethoxy)methane	ND	U	0.0220	0.159	mg/kg	1	6/14/23 14:20	
bis(2-chloroethyl)ether	ND	U	0.0175	0.159	mg/kg	1	6/14/23 14:20	
bis(2-chloroisopropyl)ether	ND	U	0.0573	0.159	mg/kg	1	6/14/23 14:20	
bis(2-ethylhexyl)phthalate	**0.301**		**0.0318**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Butylbenzylphthalate	ND	U	0.0145	0.159	mg/kg	1	6/14/23 14:20	
Caprolactam	ND	U	0.0206	0.159	mg/kg	1	6/14/23 14:20	
Carbazole	**0.0583**	J	**0.0306**	**0.398**	**mg/kg**	**1**	**6/14/23 14:20**	
Chrysene	**0.988**		**0.0109**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Dibenzo(a,h)anthracene	**0.0444**	J	**0.0158**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	J, RC:SH
Dibenzofuran	**0.143**	J	**0.00948**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Diethylphthalate	ND	U	0.0308	0.159	mg/kg	1	6/14/23 14:20	
Dimethylphthalate	ND	U	0.00987	0.159	mg/kg	1	6/14/23 14:20	
Di-n-butylphthalate	ND	U	0.0650	0.159	mg/kg	1	6/14/23 14:20	
Di-n-octylphthalate	ND	U	0.0326	0.159	mg/kg	1	6/14/23 14:20	
Fluoranthene	**1.76**		**0.0149**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Fluorene	**1.74**		**0.0133**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Hexachlorobenzene	ND	U	0.0208	0.159	mg/kg	1	6/14/23 14:20	
Hexachlorobutadiene	ND	U	0.0764	0.159	mg/kg	1	6/14/23 14:20	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-2023 0601** Collected: **6/1/2023 1:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorocyclopentadiene	ND	U	0.0663	0.398	mg/kg	1	6/14/23 14:20	
Hexachloroethane	ND	U	0.0175	0.159	mg/kg	1	6/14/23 14:20	
Indeno(1,2,3-cd)pyrene	**0.238**		**0.0171**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	J, RC:SH
Isophorone	ND	U	0.0104	0.159	mg/kg	1	6/14/23 14:20	
Naphthalene	**2.16**		**0.0118**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Nitrobenzene	ND	U	0.0270	0.159	mg/kg	1	6/14/23 14:20	
n-Nitroso-di-n-propylamine	ND	U	0.00852	0.159	mg/kg	1	6/14/23 14:20	
n-Nitrosodiphenylamine	ND	U	0.0339	0.159	mg/kg	1	6/14/23 14:20	
Pentachlorophenol	ND	U	0.0219	0.398	mg/kg	1	6/14/23 14:20	UJ, RC:SL
Phenanthrene	**5.33**		**0.0209**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	
Phenol	ND	U	0.0129	0.159	mg/kg	1	6/14/23 14:20	
Pyrene	**2.40**		**0.0117**	**0.159**	**mg/kg**	**1**	**6/14/23 14:20**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~40.4~~	5.22	J, B	mg/kg	1	6/14/23 14:20	R, RC:2
Hexadecanoic acid, butyl ester	~~10.2~~	12.83	J, B	mg/kg	1	6/14/23 14:20	R, RC:2
Naphthalene, 1,6-dimethyl-	0.618	9.66	J	mg/kg	1	6/14/23 14:20	
Naphthalene, 1,7-dimethyl-	0.915	9.55	J	mg/kg	1	6/14/23 14:20	
Naphthalene, 1-methyl-	1.79	9.03	J	mg/kg	1	6/14/23 14:20	
Naphthalene, 2,3-dimethyl-	1.14	9.63	J	mg/kg	1	6/14/23 14:20	
Octadecanoic acid, butyl ester	~~4.65~~	13.64	J, B	mg/kg	1	6/14/23 14:20	R, RC:2
unknown (01)	1.91	5.97	J	mg/kg	1	6/14/23 14:20	
unknown (02)	0.642	9.69	J	mg/kg	1	6/14/23 14:20	
unknown (03)	0.636	10.28	J	mg/kg	1	6/14/23 14:20	
unknown (04)	1.10	12.00	J	mg/kg	1	6/14/23 14:20	
unknown (05)	1.39	12.03	J	mg/kg	1	6/14/23 14:20	
unknown (06)	2.80	12.13	J	mg/kg	1	6/14/23 14:20	
unknown (07)	0.745	12.57	J	mg/kg	1	6/14/23 14:20	
unknown (08)	0.961	12.87	J	mg/kg	1	6/14/23 14:20	
TIC Total	~~69.8~~ 14.6						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000257	0.00176	mg/kg	1	6/12/23 15:13
1,1,2,2-Tetrachloroethane	ND	U	0.000243	0.00176	mg/kg	1	6/12/23 15:13
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000752	0.00176	mg/kg	1	6/12/23 15:13

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-2023 0601** Collected: **6/1/2023 1:05:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,2-Trichloroethane	ND	U	0.000296	0.00176	mg/kg	1	6/12/23 15:13	
1,1-Dichloroethane	ND	U	0.000257	0.00176	mg/kg	1	6/12/23 15:13	
1,1-Dichloroethene	ND	U	0.000325	0.00176	mg/kg	1	6/12/23 15:13	
1,2,3-Trichlorobenzene	ND	U	0.000380	0.00176	mg/kg	1	6/12/23 15:13	
1,2,4-Trichlorobenzene	ND	U	0.000468	0.00176	mg/kg	1	6/12/23 15:13	
1,2,4-Trimethylbenzene	ND	U	0.000243	0.00176	mg/kg	1	6/12/23 15:13	
1,2-Dibromo-3-chloropropane	ND	U	0.000429	0.00439	mg/kg	1	6/12/23 15:13	
1,2-Dibromoethane	ND	U	0.000221	0.00176	mg/kg	1	6/12/23 15:13	
1,2-Dichlorobenzene	ND	U	0.000310	0.00176	mg/kg	1	6/12/23 15:13	
1,2-Dichloroethane	ND	U	0.000248	0.00176	mg/kg	1	6/12/23 15:13	
1,2-Dichloropropane	ND	U	0.000288	0.00176	mg/kg	1	6/12/23 15:13	
1,3-Dichlorobenzene	ND	U	0.000129	0.00176	mg/kg	1	6/12/23 15:13	
1,4-Dichlorobenzene	ND	U	0.000253	0.00176	mg/kg	1	6/12/23 15:13	
2-Butanone	ND	U	0.000287	0.00879	mg/kg	1	6/12/23 15:13	
2-Hexanone	ND	U	0.000164	0.00176	mg/kg	1	6/12/23 15:13	
4-Methyl-2-pentanone	ND	U	0.000220	0.00176	mg/kg	1	6/12/23 15:13	
Acetone	ND	U	0.000533	0.0439	mg/kg	1	6/12/23 15:13	
Benzene	ND	U	0.000160	0.00176	mg/kg	1	6/12/23 15:13	
Bromochloromethane	ND	U	0.000324	0.00176	mg/kg	1	6/12/23 15:13	
Bromodichloromethane	ND	U	0.000221	0.00176	mg/kg	1	6/12/23 15:13	
Bromoform	ND	U	0.000309	0.00176	mg/kg	1	6/12/23 15:13	
Bromomethane	ND	U	0.000507	0.00176	mg/kg	1	6/12/23 15:13	UJ, RC:SL
Carbon disulfide	ND	U	0.000252	0.00176	mg/kg	1	6/12/23 15:13	
Carbon Tetrachloride	ND	U	0.000265	0.00176	mg/kg	1	6/12/23 15:13	
Chlorobenzene	ND	U	0.000255	0.00176	mg/kg	1	6/12/23 15:13	
Chlorodibromomethane	ND	U	0.000216	0.00176	mg/kg	1	6/12/23 15:13	
Chloroethane	ND	U	0.000300	0.00176	mg/kg	1	6/12/23 15:13	
Chloroform	ND	U	0.000295	0.00176	mg/kg	1	6/12/23 15:13	
Chloromethane	ND	U	0.000677	0.00176	mg/kg	1	6/12/23 15:13	
cis-1,2-Dichloroethene	ND	U	0.0000850	0.00176	mg/kg	1	6/12/23 15:13	
cis-1,3-Dichloropropene	ND	U	0.000222	0.00176	mg/kg	1	6/12/23 15:13	
Cyclohexane	ND	U	0.000389	0.00176	mg/kg	1	6/12/23 15:13	
Dichlorodifluoromethane	ND	U	0.000593	0.00176	mg/kg	1	6/12/23 15:13	
EthylBenzene	ND	U	0.000238	0.00176	mg/kg	1	6/12/23 15:13	
Isopropylbenzene	ND	U	0.000276	0.00176	mg/kg	1	6/12/23 15:13	
m+p-Xylenes	ND	U	0.000444	0.00352	mg/kg	1	6/12/23 15:13	
Methyl Acetate	ND	U	0.000233	0.00176	mg/kg	1	6/12/23 15:13	
Methyl tert-Butyl Ether	ND	U	0.000297	0.00176	mg/kg	1	6/12/23 15:13	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-04 (Soil) Sample Name: **MW-06-66.0-67.0-2023 0601** Collected: **6/1/2023 1:05:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	ND	U	0.000283	0.00176	mg/kg	1	6/12/23 15:13
Methylene Chloride	ND	U	0.000528	0.00439	mg/kg	1	6/12/23 15:13
o-Xylene	ND	U	0.000226	0.00176	mg/kg	1	6/12/23 15:13
Styrene	ND	U	0.000251	0.00176	mg/kg	1	6/12/23 15:13
tert-Butyl alcohol	ND	U	0.00369	0.0176	mg/kg	1	6/12/23 15:13
Tetrachloroethene	ND	U	0.000174	0.00176	mg/kg	1	6/12/23 15:13
Toluene	ND	U	0.000142	0.00176	mg/kg	1	6/12/23 15:13
Total Xylenes	ND	U	0.000226	0.00176	mg/kg	1	6/12/23 15:13
trans-1,2-Dichloroethene	ND	U	0.000238	0.00176	mg/kg	1	6/12/23 15:13
trans-1,3-Dichloropropene	ND	U	0.000336	0.00176	mg/kg	1	6/12/23 15:13
Trichloroethene	ND	U	0.000258	0.00176	mg/kg	1	6/12/23 15:13
Trichlorofluoromethane	ND	U	0.000202	0.00176	mg/kg	1	6/12/23 15:13
Vinyl chloride	ND	U	0.000334	0.00176	mg/kg	1	6/12/23 15:13

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.00852	4.01	J	mg/kg	1	6/12/23 15:13
Lab Contamination	0.0108	3.93	J	mg/kg	1	6/12/23 15:13
TIC Total	**0.019**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**83.7**				**%**	**1**	**6/2/23 11:08**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00855	0.0717	mg/kg	1	6/12/23 17:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-05 (Ground Water) Sample Name: **TB-20230601** Collected: **6/1/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/9/23 23:12	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/9/23 23:12	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/9/23 23:12	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/9/23 23:12	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/9/23 23:12	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/9/23 23:12	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/9/23 23:12	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/9/23 23:12	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/9/23 23:12	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/9/23 23:12	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/9/23 23:12	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/9/23 23:12	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/9/23 23:12	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/9/23 23:12	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/9/23 23:12	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/9/23 23:12	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/9/23 23:12	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/9/23 23:12	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/9/23 23:12	UJ, RC:SL
Acetone	ND	U	10.0	10.0	ug/L	1	6/9/23 23:12	
Benzene	ND	U	0.129	1.00	ug/L	1	6/9/23 23:12	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/9/23 23:12	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/9/23 23:12	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/9/23 23:12	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/9/23 23:12	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/9/23 23:12	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/9/23 23:12	UJ, RC:SL
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/9/23 23:12	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/9/23 23:12	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/9/23 23:12	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/9/23 23:12	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/9/23 23:12	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/9/23 23:12	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/9/23 23:12	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/9/23 23:12	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/9/23 23:12	UJ, RC:6L
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/9/23 23:12	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/9/23 23:12	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0039
Date to Lab: 6/1/2023 2:55:00PM

23F0039-05 (Ground Water) Sample Name: **TB-20230601** Collected: **6/1/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/9/23 23:12	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/9/23 23:12	UJ, RC:SL
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/9/23 23:12	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/9/23 23:12	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/9/23 23:12	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/9/23 23:12	
Styrene	ND	U	0.176	1.00	ug/L	1	6/9/23 23:12	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/9/23 23:12	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/9/23 23:12	
Toluene	ND	U	0.205	1.00	ug/L	1	6/9/23 23:12	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/9/23 23:12	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/9/23 23:12	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/9/23 23:12	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/9/23 23:12	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/9/23 23:12	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/9/23 23:12	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-01	**Date Collected**	: 06/01/23 09:20
Client ID	: MW-06-5.0-6.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/02/23 20:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022309	**Analyst**	: CNC
Sample Amount	: 5.27 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 66
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2100	21.7	6.22	
91-20-3C1	C1-Naphthalenes	786	21.7	6.22	
91-20-3C2	C2-Naphthalenes	1460	21.7	6.22	
91-20-3C3	C3-Naphthalenes	2110	21.7	6.22	
91-20-3C4	C4-Naphthalenes	2160	21.7	6.22	
208-96-8	Acenaphthylene	3000	21.7	4.13	
83-32-9	Acenaphthene	4020	21.7	3.82	
86-73-7	Fluorene	860	21.7	5.78	
86-73-7C1	C1-Fluorenes	1360	21.7	5.78	
86-73-7C2	C2-Fluorenes	3210	21.7	5.78	
86-73-7C3	C3-Fluorenes	3600	21.7	5.78	
85-01-8	Phenanthrene	4120	21.7	7.18	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	5000	21.7	7.18	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	7060	21.7	7.18	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	6340	21.7	7.18	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	3190	21.7	7.18	
120-12-7	Anthracene	5220	21.7	4.46	
206-44-0	Fluoranthene	12300	21.7	6.88	
129-00-0	Pyrene	20600	21.7	5.70	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	16200	21.7	5.70	
56-55-3	Benz(a)anthracene	5570	21.7	4.42	
218-01-9	Chrysene	5920	21.7	4.38	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-01	**Date Collected**	: 06/01/23 09:20
Client ID	: MW-06-5.0-6.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/02/23 20:17
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022309	**Analyst**	: CNC
Sample Amount	: 5.27 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 66
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	7690	21.7	4.38	
218-01-9C2	C2-Chrysenes BS	6440	21.7	4.38	
218-01-9C3	C3-Chrysenes	4900	21.7	4.38	
218-01-9C4	C4-Chrysenes	2320	21.7	4.38	
205-99-2	Benzo(b)fluoranthene	7760	21.7	5.63	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	5760	21.7	4.30	
192-97-2	Benzo(e)pyrene	9780	21.7	4.47	
50-32-8	Benzo(a)pyrene	13300	21.7	6.18	
198-55-0	Perylene	3320	21.7	4.18	
193-39-5	Indeno(1,2,3-cd)pyrene	10000	21.7	5.88	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	2630	21.7	5.85	
191-24-2	Benzo(g,h,i)perylene	15100	21.7	5.75	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2331244
Project Name	: 23F0039	Project Number	: 23F0039
Lab ID	: L2331244-02D	Date Collected	: 06/01/23 10:55
Client ID	: MW-06-41.0-42.0-20230601	Date Received	: 06/05/23
Sample Location	:	Date Analyzed	: 07/03/23 14:33
Sample Matrix	: SOIL	Date Extracted	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 20
Lab File ID	: F207022321	Analyst	: MJS
Sample Amount	: 1.57 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	3560000	4210	1210	J, RC:SL
91-20-3C1	C1-Naphthalenes	2690000	4210	1210	
91-20-3C2	C2-Naphthalenes	1590000	4210	1210	
91-20-3C3	C3-Naphthalenes	580000	4210	1210	
91-20-3C4	C4-Naphthalenes	172000	4210	1210	
208-96-8	Acenaphthylene	757000	4210	804.	
83-32-9	Acenaphthene	616000	4210	743.	
86-73-7	Fluorene	667000	4210	1120	
86-73-7C1	C1-Fluorenes	387000	4210	1120	
86-73-7C2	C2-Fluorenes	260000	4210	1120	
86-73-7C3	C3-Fluorenes	107000	4210	1120	
85-01-8	Phenanthrene	1980000	4210	1400	J, RC:SL
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1410000	4210	1400	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	603000	4210	1400	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	172000	4210	1400	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	37900	4210	1400	
120-12-7	Anthracene	635000	4210	868.	
206-44-0	Fluoranthene	552000	4210	1340	
129-00-0	Pyrene	866000	4210	1110	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	908000	4210	1110	
56-55-3	Benz(a)anthracene	315000	4210	859.	
218-01-9	Chrysene	314000	4210	852.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2331244
Project Name	: 23F0039	Project Number	: 23F0039
Lab ID	: L2331244-02D	Date Collected	: 06/01/23 10:55
Client ID	: MW-06-41.0-42.0-20230601	Date Received	: 06/05/23
Sample Location	:	Date Analyzed	: 07/03/23 14:33
Sample Matrix	: SOIL	Date Extracted	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 20
Lab File ID	: F207022321	Analyst	: MJS
Sample Amount	: 1.57 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 91
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	252000	4210	852.	
218-01-9C2	C2-Chrysenes BS	107000	4210	852.	
218-01-9C3	C3-Chrysenes	44400	4210	852.	
218-01-9C4	C4-Chrysenes	ND	4210	852.	U
205-99-2	Benzo(b)fluoranthene	102000	4210	1100	J, RC:SL
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	156000	4210	836.	
192-97-2	Benzo(e)pyrene	121000	4210	869.	
50-32-8	Benzo(a)pyrene	268000	4210	1200	
198-55-0	Perylene	37400	4210	813.	
193-39-5	Indeno(1,2,3-cd)pyrene	84200	4210	1140	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	27000	4210	1140	
191-24-2	Benzo(g,h,i)perylene	89700	4210	1120	

Results Summary
Form 1
PAHs

Client	: Pace Analytical-Fairfield	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-03	**Date Collected**	: 06/01/23 13:05
Client ID	: MW-06-66.0-67.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/05/23 11:01
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807012347	**Analyst**	: MJS
Sample Amount	: 20.19 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	114	1.82	0.524	
91-20-3C1	C1-Naphthalenes	109	1.82	0.524	
91-20-3C2	C2-Naphthalenes	74.4	1.82	0.524	
91-20-3C3	C3-Naphthalenes	31.8	1.82	0.524	
91-20-3C4	C4-Naphthalenes	11.1	1.82	0.524	
208-96-8	Acenaphthylene	66.2	1.82	0.348	
83-32-9	Acenaphthene	19.8	1.82	0.321	
86-73-7	Fluorene	48.6	1.82	0.486	
86-73-7C1	C1-Fluorenes	31.9	1.82	0.486	
86-73-7C2	C2-Fluorenes	20.1	1.82	0.486	
86-73-7C3	C3-Fluorenes	10.5	1.82	0.486	
85-01-8	Phenanthrene	164	1.82	0.604	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	119	1.82	0.604	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	49.4	1.82	0.604	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	16.5	1.82	0.604	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	4.20	1.82	0.604	
120-12-7	Anthracene	50.3	1.82	0.376	
206-44-0	Fluoranthene	47.0	1.82	0.579	
129-00-0	Pyrene	75.0	1.82	0.479	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	83.8	1.82	0.479	
56-55-3	Benz(a)anthracene	36.4	1.82	0.372	
218-01-9	Chrysene	36.6	1.82	0.368	

Results Summary
Form 1
PAHs

Client	: Pace Analytical-Fairfield	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-03	**Date Collected**	: 06/01/23 13:05
Client ID	: MW-06-66.0-67.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/05/23 11:01
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807012347	**Analyst**	: MJS
Sample Amount	: 20.19 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 82
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	33.0	1.82	0.368	
218-01-9C2	C2-Chrysenes BS	13.5	1.82	0.368	
218-01-9C3	C3-Chrysenes	5.35	1.82	0.368	
218-01-9C4	C4-Chrysenes	ND	1.82	0.368	U
205-99-2	Benzo(b)fluoranthene	11.4	1.82	0.474	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	18.4	1.82	0.362	
192-97-2	Benzo(e)pyrene	15.6	1.82	0.376	
50-32-8	Benzo(a)pyrene	30.1	1.82	0.520	
198-55-0	Perylene	7.14	1.82	0.352	
193-39-5	Indeno(1,2,3-cd)pyrene	8.85	1.82	0.495	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	2.98	1.82	0.492	
191-24-2	Benzo(g,h,i)perylene	11.4	1.82	0.484	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-01	**Date Collected**	: 06/01/23 09:20
Client ID	: MW-06-5.0-6.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 66
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.5	1.5	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-02	**Date Collected**	: 06/01/23 10:55
Client ID	: MW-06-41.0-42.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 91
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331244
Project Name	: 23F0039	**Project Number**	: 23F0039
Lab ID	: L2331244-03	**Date Collected**	: 06/01/23 13:05
Client ID	: MW-06-66.0-67.0-20230601	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2331245 and 23F0123
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 2, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MW-07-1.0-2.0-20230602	23F0123-01	6/2/2023	Soil
MW-07-6.6-7.6-20230602	23F0123-02	6/2/2023	Soil
FB-20230602	23F0123-03	6/2/2023	Water
MW-07-35.0-36.0-20230602	23F0123-04	6/2/2023	Soil
TB-20230602	23F0123-05	6/2/2023	Water

Data validation was performed on the analytical data for (5) samples collected June 2, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. VOCs 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dichlorobenzene and 1,4-Dichlorobenzene associated with sample MW-07-35.0-36.0-20230602 were qualified as rejected due to low internal standard recoveries. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial/continuing calibration, laboratory control samples, surrogates, internal standards, and blanks.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Alkylated PAHs was listed on the COC for FB-20230602 but this analysis was not reported by Alpha laboratories.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	MW-07-35.0-36.0-20230602	4-Bromofluorobenzene Toluene-d8	10% < %R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20230602 TB-20230602	Bromomethane	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Internal Standard	Exceedance	Qualification	Reason Code
8260D	MW-07-35.0-36.0-20230602	1,4-Dichlorobenzene-d4	%R < 20%	J (Detects) R (NDs)	Detects: XH NDs: X
		Chlorobenzene-d5	20% < %R < CL	J (Detects) UJ (NDs)	Detects: XH NDs: X

- Compounds associated with 1,4-Dichlorobenzene-d4 (1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,2-Dibromo-3-chloropropane) are qualified as rejected due to internal standard recovery.
- Compounds associated with Chlorobenzene-d5 (Chlorobenzene, Isopropylbenzene, Bromoform, 1,1,2,2-Tetrachloroethane and 1,3-Dichlorobenzene) are qualified as estimated (J/UJ) due to internal standard recovery. Certain compounds associated with Chlorobenzene-d5 but not listed here were reported from subsequent dilution analyses which exhibited acceptable internal standard recoveries.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MW-07-1.0-2.0-20230602 MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	Tetrachloroethene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	FB-20230602 TB-20230602	Bromomethane Chloroethane Chloromethane Methyl Acetate	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
		Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated VOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, and 4-hydroxy-4-methyl-2-Pentanone. Associated sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for PAHs; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries. The original analysis for sample MW-07-35.0-36.0-20230602 exhibited recoveries above control limits for Nitrobenzene-d5 and 2,4,6-Tribromophenol. No qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for benzaldehyde which exhibited a correlation coefficient below the control limit. Associated non-detections were qualified as estimated, UJ, reason code Q.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230602	2,4-Dimethylphenol 4-Nitrophenol Atrazine Benzaldehyde bis(2-chloroisopropyl)ether n-Nitroso-dimethylamine	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Hexachlorobenzene Hexachlorobutadiene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-07-1.0-2.0-20230602 MW-07-6.6-7.6-20230602	2,4-Dinitrophenol 2,4-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MW-07-6.6-7.6-20230602RE2	Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-07-35.0-36.0-20230602 MW-07-35.0-36.0-20230602RE2	2,3,4,6-Tetrachlorophenol 2,4,6-Trichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol 4-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene Caprolactam	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-SIM	MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	Naphthalene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	DCB	%R > CL	J (Detects) No action (NDs)	3H
8081B	MW-07-6.6-7.6-20230602	DCB	%R > CL	J (Detects) No action (NDs)	3H
	MW-07-1.0-2.0-20230602	TCMX and DCB	%R > CL	J (Detects) No action (NDs)	3H
	MW-07-35.0-36.0-20230602	TCMX	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8082A	MW-07-1.0-2.0-20230602 MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	Aroclor 1016	10% < %R < CL	J (Detects) UJ (NDs)	6L
8151A	MW-07-1.0-2.0-20230602 MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	Silvex (2,4,5-TP)	%R > CL	J (Detects) No action (NDs)	6H
8081B	FB-20230602	Endrin	10% < %R < CL	J (Detects) UJ (NDs)	6L
	MW-07-1.0-2.0-20230602 MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	4,4'-DDE Endosulfan II	10% < %R < CL	J (Detects) UJ (NDs)	6L
		Endrin aldehyde Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8151A	MW-07-1.0-2.0-20230602	2,4-D	>CL	J (Detects) No Action (NDs)	4H
8082A	MW-07-1.0-2.0-20230602	Aroclor 1260	>CL	J (Detects) No Action (NDs)	4H

- The MS/MSD analysis performed on a sample MW-07-1.0-2.0-20230602 exhibited recoveries above the control limit for Aroclor 1260. However, since the sample concentration was greater than four times the spike amount, no qualification was required.
- The MS/MSD analysis performed on a sample MW-07-1.0-2.0-20230602 exhibited recoveries above the control limit for all pesticides; RPDs were outside control limits for certain compounds. This may have been the result of a mis-spike. Since all results were non-detect, no qualification was required.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce

quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230602	Thallium	> CL	J (Detects) No action (NDs)	6H
	MW-07-1.0-2.0-20230602 MW-07-6.6-7.6-20230602 MW-07-35.0-36.0-20230602	Silver	30% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- A MS/MSD analysis was not performed on a sample in this SDG.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- A laboratory duplicate analysis was not performed on a sample in this SDG.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits except for SAF0269-CCV1 which was above control limit; associated sample FB-20230602 was non-detect and no qualification was required.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 2, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0123

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 28, 2023

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Sample Summary

Work Order: 23F0123

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-07-1.0-2.0-20230602	23F0123-01	Soil	06/02/2023 08:45	06/02/2023 17:00
MW-07-6.6-7.6-20230602	23F0123-02	Soil	06/02/2023 10:45	06/02/2023 17:00
FB-20230602	23F0123-03	Ground Water	06/02/2023 12:30	06/02/2023 17:00
MW-07-35.0-36.0-20230602	23F0123-04	Soil	06/02/2023 12:35	06/02/2023 17:00
TB-20230602	23F0123-05	Ground Water	06/02/2023 00:00	06/02/2023 17:00

PN: 23F0123

APL 23F0123

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY 07004

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd fl. Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-773-9621	PHONE: ON.
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus 04 007	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS: Loft.
PROJECT or PO #: 156856	SAMPLED BY: MM.

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ____
  - [ ] 48 hr. date & time required ____
  - [ ] 72 hr. date & time required ____
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

PWSID# ____

✓ NYS Category B.

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0123 -01	MW-01-1.0-2.0-20230602	06/02/23	0845	X		S	5		VOC, SVOC, TAL Metals, PCB, Pesticide, Herbicide, Alkylated PAH, TCN, FCN.
-02	MW-01-6.6-7.6-20230602	06/02/23	1045	X		S	5		" "
-03	~~Hold~~ FB-20230602	06/02/23	1230	X		DI Water	10		" "
-04	MW-01350-36.0-20230602	6/2/23	1235	X		S	5		" "
-05	TB-20230602	6/2/23	LAB	X		DI	2		VOC

RELINQUISHED BY (Print) MA Mackie-/	DATE 6/02/23	RECEIVED BY (Print) Alfonso Rivera	6-02-23 1300pm
Signature	Time ~~1230~~ 1300	Signature	
RELINQUISHED BY (Print) ~~Alfonso Rivera~~	DATE 6-2-23	RECEIVED BY (Print)	
Signature	Time 1700	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.7C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recovery for Silver was outside of the QC limits for the blank spike (slightly low).
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Method 200.7:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 245.1 / 7473 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23F0123-04 has one surrogate (DCAA-2) outside of the QC limits (high), due to matrix interference.

ANALYSIS: PCBs [8082A]
The percent recovery for Aroclor-1016 was outside of the QC limits for the blank spike (low).

Samples 23F0123-02 and -04 have surrogates outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]
Samples 23F0123-01, -02 and -04 have surrogates outside of the QC limits (high), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Samples 23F0123-04, -04RE1 and -04RE2 have surrogates outside of the QC limits (low), due to matrix interferences.
Sample 23F0123-04 has one internal standard (Chlorobenzene-d5) outside of the QC limits (low) and has no internal standard area response for (1,4-Dichlorobenzene-d4), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

Samples 23F0123-04, -04RE1, -04RE2 and -04RE3 have surrogates outside of the QC limits (low and high), due to matrix interferences.

Reviewed By: _____ (SK) 8/28/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	8.38	D	0.0957	0.764	mg/kg dry	20	6/16/23 11:25
Total PCBs	8.38	D	0.0713	0.764	mg/kg dry	20	6/16/23 11:25

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.11		0.00579	0.0232	mg/kg dry	1	6/14/23 13:28

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	9810		0.175	2.94	mg/kg dry	1	6/14/23 11:56
Arsenic	29.4		0.105	1.47	mg/kg dry	1	6/14/23 11:56
Barium	146		0.0444	0.588	mg/kg dry	1	6/14/23 11:56
Beryllium	0.524		0.00340	0.0294	mg/kg dry	1	6/14/23 11:56
Cadmium	2.32		0.0573	0.294	mg/kg dry	1	6/14/23 11:56
Calcium	62300	D	33.1	294	mg/kg dry	10	6/14/23 13:24
Chromium	58.2		0.0332	0.294	mg/kg dry	1	6/14/23 11:56
Cobalt	10.6		0.0300	0.235	mg/kg dry	1	6/14/23 11:56
Copper	544	D	0.822	2.94	mg/kg dry	10	6/14/23 13:24
Iron	54700	D	8.32	58.8	mg/kg dry	10	6/14/23 13:24
Lead	325		0.123	1.47	mg/kg dry	1	6/14/23 11:56
Magnesium	17900		10.4	58.8	mg/kg dry	1	6/14/23 11:56
Manganese	409		0.0366	0.294	mg/kg dry	1	6/14/23 11:56
Nickel	194		0.0258	0.147	mg/kg dry	1	6/14/23 11:56
Potassium	508		34.9	118	mg/kg dry	1	6/14/23 11:56
Silver	0.513		0.0500	0.176	mg/kg dry	1	6/14/23 11:56
Sodium	1110		5.60	58.8	mg/kg dry	1	6/14/23 11:56
Vanadium	1010	D	0.676	5.88	mg/kg dry	10	6/14/23 13:24
Zinc	464	D	0.898	8.82	mg/kg dry	10	6/14/23 13:24

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.809		0.0369	0.232	mg/kg dry	1	6/14/23 18:01
Acenaphthene	0.219		0.00879	0.154	mg/kg dry	1	6/14/23 18:01
Acenaphthylene	0.166		0.00536	0.154	mg/kg dry	1	6/14/23 18:01
Anthracene	0.513		0.0223	0.154	mg/kg dry	1	6/14/23 18:01
Benzo(a)anthracene	1.26		0.0155	0.154	mg/kg dry	1	6/14/23 18:01
Benzo(a)pyrene	1.39		0.0269	0.154	mg/kg dry	1	6/14/23 18:01
Benzo(b)fluoranthene	1.67		0.0216	0.154	mg/kg dry	1	6/14/23 18:01
Benzo(g,h,i)perylene	1.02		0.0125	0.154	mg/kg dry	1	6/14/23 18:01
Benzo(k)fluoranthene	0.685		0.0177	0.154	mg/kg dry	1	6/14/23 18:01
Biphenyl	0.114	J	0.0135	0.154	mg/kg dry	1	6/14/23 18:01

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-ethylhexyl)phthalate	0.888		0.0308	0.154	mg/kg dry	1	6/14/23 18:01
Butylbenzylphthalate	0.879		0.0140	0.154	mg/kg dry	1	6/14/23 18:01
Carbazole	0.132	J	0.0296	0.386	mg/kg dry	1	6/14/23 18:01
Chrysene	1.26		0.0106	0.154	mg/kg dry	1	6/14/23 18:01
Dibenzo(a,h)anthracene	0.270		0.0153	0.154	mg/kg dry	1	6/14/23 18:01
Dibenzofuran	0.165		0.00918	0.154	mg/kg dry	1	6/14/23 18:01
Fluoranthene	2.64		0.0145	0.154	mg/kg dry	1	6/14/23 18:01
Fluorene	0.255		0.0129	0.154	mg/kg dry	1	6/14/23 18:01
Indeno(1,2,3-cd)pyrene	0.845		0.0166	0.154	mg/kg dry	1	6/14/23 18:01
Naphthalene	0.230		0.0114	0.154	mg/kg dry	1	6/14/23 18:01
Phenanthrene	1.31		0.0203	0.154	mg/kg dry	1	6/14/23 18:01
Pyrene	2.08		0.0113	0.154	mg/kg dry	1	6/14/23 18:01
TIC_2-Pentanone, 4-hydroxy-4-methyl-	36.2	J, B			mg/kg dry	1	6/14/23 18:01
TIC_Benzene, 2-butenyl-	0.703	J			mg/kg dry	1	6/14/23 18:01
TIC_Heptacosane	0.690	J			mg/kg dry	1	6/14/23 18:01
TIC_Hexadecane	1.06	J			mg/kg dry	1	6/14/23 18:01
TIC_Hexadecane, 2,6,10,14-tetramethyl-	1.15	J			mg/kg dry	1	6/14/23 18:01
TIC_Hexadecanoic acid, butyl ester	16.4	J, B			mg/kg dry	1	6/14/23 18:01
TIC_Naphthalene, 1,2,3,4-tetrahydro-6-methyl	0.665	J			mg/kg dry	1	6/14/23 18:01
TIC_Naphthalene, 1,6-dimethyl-	0.559	J			mg/kg dry	1	6/14/23 18:01
TIC_Naphthalene, 1,7-dimethyl-	1.86	J			mg/kg dry	1	6/14/23 18:01
TIC_Naphthalene, 2,7-dimethyl-	0.695	J			mg/kg dry	1	6/14/23 18:01
TIC_Nonane, 3-methyl-	1.20	J			mg/kg dry	1	6/14/23 18:01
TIC_Pentadecane	0.829	J			mg/kg dry	1	6/14/23 18:01
TIC_unknown (01)	1.66	J			mg/kg dry	1	6/14/23 18:01
TIC_unknown (02)	1.51	J			mg/kg dry	1	6/14/23 18:01
TIC_unknown (03)	0.853	J			mg/kg dry	1	6/14/23 18:01

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00856		0.000333	0.00241	mg/kg dry	1	6/14/23 16:39
Carbon disulfide	0.00461		0.000346	0.00241	mg/kg dry	1	6/14/23 16:39
Chloromethane	0.0106		0.000929	0.00241	mg/kg dry	1	6/14/23 16:39
TIC_1,1-Bicyclopentyl	0.00911	J			mg/kg dry	1	6/14/23 16:39
TIC_17-Pentatriacontene	0.00715	J			mg/kg dry	1	6/14/23 16:39
TIC_1-Eicosanol	0.00608	J			mg/kg dry	1	6/14/23 16:39

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Acetic acid, methyl ester	0.0206	J			mg/kg dry	1	6/14/23 16:39
TIC_Acrylic acid, 2-phenylethyl ester	0.00652	J			mg/kg dry	1	6/14/23 16:39
TIC_Benzene, 1-methyl-2-(2-propenyl)-	0.0102	J			mg/kg dry	1	6/14/23 16:39
TIC_Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethy	0.0109	J			mg/kg dry	1	6/14/23 16:39
TIC_Cyclopentane	0.0220	J			mg/kg dry	1	6/14/23 16:39
TIC_Cyclopropane, 1-butyl-2-pentyl-, trans-	0.00627	J			mg/kg dry	1	6/14/23 16:39
TIC_Ethyl Chloride	0.00763	J			mg/kg dry	1	6/14/23 16:39
TIC_Naphthalene, 1,2,3,4-tetrahydro-	0.00969	J			mg/kg dry	1	6/14/23 16:39
TIC_Naphthalene, 1,2,3,4-tetrahydro-1,1-dime	0.00769	J			mg/kg dry	1	6/14/23 16:39
TIC_Naphthalene, 1,2,3,4-tetrahydro-6-methyl	0.0118	J			mg/kg dry	1	6/14/23 16:39

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.295		0.00591	0.0236	mg/kg dry	1	6/14/23 13:28

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5990		0.176	2.96	mg/kg dry	1	6/14/23 11:58
Arsenic	12.5		0.105	1.48	mg/kg dry	1	6/14/23 11:58
Barium	73.2		0.0447	0.591	mg/kg dry	1	6/14/23 11:58
Beryllium	0.455		0.00342	0.0296	mg/kg dry	1	6/14/23 11:58
Cadmium	0.612		0.0576	0.296	mg/kg dry	1	6/14/23 11:58
Calcium	14700	D	33.2	296	mg/kg dry	10	6/14/23 13:27
Chromium	24.2		0.0334	0.296	mg/kg dry	1	6/14/23 11:58
Cobalt	5.47		0.0302	0.236	mg/kg dry	1	6/14/23 11:58
Copper	168		0.0827	0.296	mg/kg dry	1	6/14/23 11:58
Iron	19500		0.837	5.91	mg/kg dry	1	6/14/23 11:58
Lead	155		0.123	1.48	mg/kg dry	1	6/14/23 11:58
Magnesium	5700		10.4	59.1	mg/kg dry	1	6/14/23 11:58
Manganese	203		0.0368	0.296	mg/kg dry	1	6/14/23 11:58
Nickel	61.8		0.0260	0.148	mg/kg dry	1	6/14/23 11:58
Potassium	761		35.1	118	mg/kg dry	1	6/14/23 11:58
Silver	0.193		0.0503	0.177	mg/kg dry	1	6/14/23 11:58
Sodium	1160		5.64	59.1	mg/kg dry	1	6/14/23 11:58

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Vanadium	225		0.0680	0.591	mg/kg dry	1	6/14/23 11:58
Zinc	117		0.0903	0.887	mg/kg dry	1	6/14/23 11:58

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aldrin [2C]	0.0155		0.000728	0.00154	mg/kg dry	1	6/15/23 20:38
alpha-BHC	0.00106	J	0.000458	0.00154	mg/kg dry	1	6/15/23 20:38
beta-BHC	0.00332		0.000734	0.00154	mg/kg dry	1	6/15/23 20:38
Chlordane	0.0244		0.000683	0.00154	mg/kg dry	1	6/15/23 20:38
Heptachlor	0.0129		0.000411	0.00154	mg/kg dry	1	6/15/23 20:38
Heptachlor Epoxide	0.0402		0.000776	0.00154	mg/kg dry	1	6/15/23 20:38

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	6.49		0.0377	0.236	mg/kg dry	1	6/14/23 18:32
3+4-Methylphenol	0.285		0.0288	0.157	mg/kg dry	1	6/14/23 18:32
Acenaphthene	43.2	D	0.0897	1.57	mg/kg dry	10	6/15/23 23:17
Acenaphthylene	19.8	D	0.0547	1.57	mg/kg dry	10	6/15/23 23:17
Anthracene	46.7	D	0.228	1.57	mg/kg dry	10	6/15/23 23:17
Benzo(a)anthracene	25.4	D	0.158	1.57	mg/kg dry	10	6/15/23 23:17
Benzo(a)pyrene	30.8	D	0.274	1.57	mg/kg dry	10	6/15/23 23:17
Benzo(b)fluoranthene	30.9	D	0.221	1.57	mg/kg dry	10	6/15/23 23:17
Benzo(g,h,i)perylene	35.6	D	0.128	1.57	mg/kg dry	10	6/15/23 23:17
Benzo(k)fluoranthene	7.07	D	0.181	1.57	mg/kg dry	10	6/15/23 23:17
Biphenyl	1.57		0.0138	0.157	mg/kg dry	1	6/14/23 18:32
bis(2-ethylhexyl)phthalate	0.277		0.0314	0.157	mg/kg dry	1	6/14/23 18:32
Carbazole	2.66		0.0303	0.394	mg/kg dry	1	6/14/23 18:32
Chrysene	26.1	D	0.108	1.57	mg/kg dry	10	6/15/23 23:17
Dibenzo(a,h)anthracene	1.18		0.0156	0.157	mg/kg dry	1	6/14/23 18:32
Dibenzofuran	15.6	D	0.0938	1.57	mg/kg dry	10	6/15/23 23:17
Fluoranthene	96.1	D	0.148	1.57	mg/kg dry	10	6/15/23 23:17
Fluorene	9.27		0.0131	0.157	mg/kg dry	1	6/14/23 18:32
Indeno(1,2,3-cd)pyrene	18.9	D	0.169	1.57	mg/kg dry	10	6/15/23 23:17
Naphthalene	75.7	D	0.117	1.57	mg/kg dry	10	6/15/23 23:17
Phenanthrene	43.4	D	0.207	1.57	mg/kg dry	10	6/15/23 23:17
Pyrene	97.6	D	0.116	1.57	mg/kg dry	10	6/15/23 23:17
TIC_1,3,5,7-Cyclooctatetraene	14.4	J			mg/kg dry	1	6/14/23 18:32
TIC_2-Pentanone, 4-hydroxy-4-methyl-	35.2	J, B			mg/kg dry	1	6/14/23 18:32
TIC_Benzene, 1-ethenyl-3-methyl-	19.6	J			mg/kg dry	1	6/14/23 18:32

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Indene	23.1	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 1,3-dimethyl-	7.01	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 1,4,5-trimethyl-	9.42	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 1,4,6-trimethyl-	8.99	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 2,3,6-trimethyl-	13.0	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 2,3-dimethyl-	22.5	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 2,6-dimethyl-	8.08	J			mg/kg dry	1	6/14/23 18:32
TIC_Naphthalene, 2-ethenyl-	9.16	J			mg/kg dry	1	6/14/23 18:32
TIC_unknown (01)	8.01	J			mg/kg dry	1	6/14/23 18:32
TIC_unknown (02)	5.80	J			mg/kg dry	1	6/14/23 18:32
TIC_unknown (03)	8.67	J			mg/kg dry	1	6/14/23 18:32
TIC_unknown (04)	9.33	J			mg/kg dry	1	6/14/23 18:32

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00264		0.000302	0.00219	mg/kg dry	1	6/14/23 17:09
Chloromethane	0.0260		0.000843	0.00219	mg/kg dry	1	6/14/23 17:09
TIC_Cyclopentane	0.00728	J			mg/kg dry	1	6/14/23 17:09
TIC_Ethyl Chloride	0.00597	J			mg/kg dry	1	6/14/23 17:09
TIC_TIC:Naphthalene	0.0795	J			mg/kg dry	1	6/14/23 17:09

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-20230602**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0348		0.00557	0.0223	mg/kg dry	1	6/14/23 15:49

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5360		0.166	2.80	mg/kg dry	1	6/14/23 12:00
Arsenic	6.20		0.0999	1.40	mg/kg dry	1	6/14/23 12:00
Barium	37.1		0.0423	0.560	mg/kg dry	1	6/14/23 12:00
Beryllium	0.404		0.00324	0.0280	mg/kg dry	1	6/14/23 12:00
Calcium	12800		3.15	28.0	mg/kg dry	1	6/14/23 12:00
Chromium	13.8		0.0316	0.280	mg/kg dry	1	6/14/23 12:00
Cobalt	4.34		0.0286	0.224	mg/kg dry	1	6/14/23 12:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-20230602**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	41.7		0.0783	0.280	mg/kg dry	1	6/14/23 12:00
Iron	11500		0.793	5.60	mg/kg dry	1	6/14/23 12:00
Lead	50.5		0.117	1.40	mg/kg dry	1	6/14/23 12:00
Magnesium	2870		9.89	56.0	mg/kg dry	1	6/14/23 12:00
Manganese	137		0.0348	0.280	mg/kg dry	1	6/14/23 12:00
Nickel	20.6		0.0246	0.140	mg/kg dry	1	6/14/23 12:00
Potassium	953		33.3	112	mg/kg dry	1	6/14/23 12:00
Sodium	716		5.34	56.0	mg/kg dry	1	6/14/23 12:00
Vanadium	50.7		0.0644	0.560	mg/kg dry	1	6/14/23 12:00
Zinc	41.2		0.0855	0.840	mg/kg dry	1	6/14/23 12:00

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.331	D	0.0133	0.0290	mg/kg dry	20	6/15/23 20:56
4,4'-DDT	0.0208		0.00102	0.00145	mg/kg dry	1	6/14/23 21:25
Chlordane	0.704	D	0.0129	0.0290	mg/kg dry	20	6/15/23 20:56

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	908	D	3.56	22.3	mg/kg dry	100	6/20/23 17:23
Acenaphthene	172	D	0.423	7.41	mg/kg dry	50	6/16/23 19:40
Acenaphthylene	383	D	0.258	7.41	mg/kg dry	50	6/16/23 19:40
Anthracene	241	D	1.08	7.41	mg/kg dry	50	6/16/23 19:40
Benzo(a)anthracene	152	D	0.747	7.41	mg/kg dry	50	6/16/23 19:40
Benzo(a)pyrene	130	D	1.29	7.41	mg/kg dry	50	6/16/23 19:40
Benzo(b)fluoranthene	84.0	D	1.04	7.41	mg/kg dry	50	6/16/23 19:40
Benzo(g,h,i)perylene	54.3	D	0.602	7.41	mg/kg dry	50	6/16/23 19:40
Benzo(k)fluoranthene	36.0	D	0.0853	0.741	mg/kg dry	5	6/16/23 13:58
Biphenyl	107	D	0.652	7.41	mg/kg dry	50	6/16/23 19:40
Carbazole	11.0	D	0.143	1.86	mg/kg dry	5	6/16/23 13:58
Chrysene	143	D	0.508	7.41	mg/kg dry	50	6/16/23 19:40
Dibenzo(a,h)anthracene	6.16	D	0.0736	0.741	mg/kg dry	5	6/16/23 13:58
Dibenzofuran	59.3	D	0.442	7.41	mg/kg dry	50	6/16/23 19:40
Fluoranthene	308	D	0.697	7.41	mg/kg dry	50	6/16/23 19:40
Fluorene	322	D	0.619	7.41	mg/kg dry	50	6/16/23 19:40
Indeno(1,2,3-cd)pyrene	44.1	D	0.0797	0.741	mg/kg dry	5	6/16/23 13:58
Naphthalene	3330	D	5.49	74.1	mg/kg dry	500	6/22/23 19:38
Phenanthrene	814	D	1.95	14.8	mg/kg dry	100	6/20/23 17:23
Pyrene	354	D	0.546	7.41	mg/kg dry	50	6/16/23 19:40
TIC_Benzene, 1-ethyl-3-methyl-	26.2	J, D			mg/kg dry	5	6/16/23 13:58

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-20230602**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 2-propenyl-	62.8	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Ethylbenzene	39.6	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Indane	32.3	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Indene	101	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Naphthalene, 1,5-dimethyl-	37.9	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Naphthalene, 1,6-dimethyl-	74.3	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Naphthalene, 1-ethyl-	39.7	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Naphthalene, 2,3,6-trimethyl-	26.4	J, D			mg/kg dry	5	6/16/23 13:58
TIC_Naphthalene, 2,6-dimethyl-	65.8	J, D			mg/kg dry	5	6/16/23 13:58
TIC_unknown (01)	37.8	J, D			mg/kg dry	5	6/16/23 13:58
TIC_unknown (02)	48.8	J, D			mg/kg dry	5	6/16/23 13:58
TIC_unknown (03)	37.3	J, D			mg/kg dry	5	6/16/23 13:58
TIC_unknown (04)	33.5	J, D			mg/kg dry	5	6/16/23 13:58
TIC_unknown (05)	41.4	J, D			mg/kg dry	5	6/16/23 13:58

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	288	D	3.48	25.2	mg/kg dry	10638	6/16/23 6:11
1,2-Dichloroethane	2.10	J, D	0.356	2.52	mg/kg dry	1064	6/16/23 5:41
Benzene	87.0	D	0.230	2.52	mg/kg dry	1064	6/16/23 5:41
Chloromethane	0.00359		0.000650	0.00169	mg/kg dry	1	6/14/23 17:38
Cyclohexane	0.0270		0.000374	0.00169	mg/kg dry	1	6/14/23 17:38
EthylBenzene	503	D	3.42	25.2	mg/kg dry	10638	6/16/23 6:11
Isopropylbenzene	0.329		0.000265	0.00169	mg/kg dry	1	6/14/23 17:38
m+p-Xylenes	369	D	0.637	5.05	mg/kg dry	1064	6/16/23 5:41
Methylcyclohexane	0.205		0.000272	0.00169	mg/kg dry	1	6/14/23 17:38
o-Xylene	170	D	0.324	2.52	mg/kg dry	1064	6/16/23 5:41
Styrene	62.7	D	0.361	2.52	mg/kg dry	1064	6/16/23 5:41
Toluene	295	D	2.03	25.2	mg/kg dry	10638	6/16/23 6:11
Total Xylenes	539	D	0.324	2.52	mg/kg dry	1064	6/16/23 5:41
TIC_3-Heptyne	0.0497	J			mg/kg dry	1	6/14/23 17:38
TIC_Benzene, (1-methylethyl)-	0.0936	J			mg/kg dry	1	6/14/23 17:38
TIC_Benzene, 1-ethyl-2-methyl-	0.113	J			mg/kg dry	1	6/14/23 17:38
TIC_Cyclohexane, ethenyl-	0.0398	J			mg/kg dry	1	6/14/23 17:38
TIC_Cyclohexene, 1,2-dimethyl-	0.0451	J			mg/kg dry	1	6/14/23 17:38
TIC_Cyclohexene, 1-methyl-	0.0742	J			mg/kg dry	1	6/14/23 17:38

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-20230602**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexene, 3-methyl-	0.0422	J			mg/kg dry	1	6/14/23 17:38
TIC_Heptane	0.0518	J			mg/kg dry	1	6/14/23 17:38
TIC_Indene	0.0588	J			mg/kg dry	1	6/14/23 17:38
TIC_Octane	0.140	J			mg/kg dry	1	6/14/23 17:38
TIC_Octane, 2-methyl-	0.0422	J			mg/kg dry	1	6/14/23 17:38
TIC_Thiophene	0.0552	J			mg/kg dry	1	6/14/23 17:38
TIC_Thiophene, 3-methyl-	0.0525	J			mg/kg dry	1	6/14/23 17:38
TIC_TIC:Naphthalene	0.0442	J			mg/kg dry	1	6/14/23 17:38

ND - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602** Collected: **6/2/2023 8:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.102	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1221	ND	U	0.202	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1232	ND	U	0.256	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1242	ND	U	0.150	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1248	ND	U	0.157	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1254	ND	U	0.123	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1260	**8.38**	D	**0.0957**	**0.764**	**mg/kg**	**20**	**6/16/23 11:25**	J, RC:3L
Aroclor-1262	ND	U	0.206	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Aroclor-1268	ND	U	0.0924	0.764	mg/kg	20	6/16/23 11:25	UJ, RC:3L
Total PCBs	**8.38**	D	**0.0713**	**0.764**	**mg/kg**	**20**	**6/16/23 11:25**	J, RC:3L

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0113	0.116	mg/kg	1	6/22/23 17:23
2,4-D	ND	U	0.0192	0.116	mg/kg	1	6/22/23 17:23

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.11**		**0.00579**	**0.0232**	**mg/kg**	**1**	**6/14/23 13:28**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**9810**		**0.175**	**2.94**	**mg/kg**	**1**	**6/14/23 11:56**
Antimony	ND	U	0.160	1.47	mg/kg	1	6/14/23 11:56
Arsenic	**29.4**		**0.105**	**1.47**	**mg/kg**	**1**	**6/14/23 11:56**
Barium	**146**		**0.0444**	**0.588**	**mg/kg**	**1**	**6/14/23 11:56**
Beryllium	**0.524**		**0.00340**	**0.0294**	**mg/kg**	**1**	**6/14/23 11:56**
Cadmium	**2.32**		**0.0573**	**0.294**	**mg/kg**	**1**	**6/14/23 11:56**
Calcium	**62300**	D	**33.1**	**294**	**mg/kg**	**10**	**6/14/23 13:24**
Chromium	**58.2**		**0.0332**	**0.294**	**mg/kg**	**1**	**6/14/23 11:56**
Cobalt	**10.6**		**0.0300**	**0.235**	**mg/kg**	**1**	**6/14/23 11:56**
Copper	**544**	D	**0.822**	**2.94**	**mg/kg**	**10**	**6/14/23 13:24**
Iron	**54700**	D	**8.32**	**58.8**	**mg/kg**	**10**	**6/14/23 13:24**
Lead	**325**		**0.123**	**1.47**	**mg/kg**	**1**	**6/14/23 11:56**
Magnesium	**17900**		**10.4**	**58.8**	**mg/kg**	**1**	**6/14/23 11:56**
Manganese	**409**		**0.0366**	**0.294**	**mg/kg**	**1**	**6/14/23 11:56**
Nickel	**194**		**0.0258**	**0.147**	**mg/kg**	**1**	**6/14/23 11:56**
Potassium	**508**		**34.9**	**118**	**mg/kg**	**1**	**6/14/23 11:56**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602** Collected: **6/2/2023 8:45:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.282	1.47	mg/kg	1	6/14/23 11:56	
Silver	**0.513**		**0.0500**	**0.176**	**mg/kg**	**1**	**6/14/23 11:56**	J, RC:6L
Sodium	**1110**		**5.60**	**58.8**	**mg/kg**	**1**	**6/14/23 11:56**	
Thallium	ND	U	0.0989	1.47	mg/kg	1	6/14/23 11:56	
Vanadium	**1010**	D	**0.676**	**5.88**	**mg/kg**	**10**	**6/14/23 13:24**	
Zinc	**464**	D	**0.898**	**8.82**	**mg/kg**	**10**	**6/14/23 13:24**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000689	0.00151	mg/kg	1	6/15/23 20:20	
4,4'-DDE	ND	U	0.000823	0.00151	mg/kg	1	6/15/23 20:20	UJ, RC:6L
4,4'-DDT	ND	U	0.00106	0.00151	mg/kg	1	6/15/23 20:20	
Aldrin	ND	U	0.000713	0.00151	mg/kg	1	6/15/23 20:20	
alpha-BHC	ND	U	0.000448	0.00151	mg/kg	1	6/15/23 20:20	
beta-BHC	ND	U	0.000719	0.00151	mg/kg	1	6/15/23 20:20	
Chlordane	ND	U	0.000669	0.00151	mg/kg	1	6/15/23 20:20	
delta-BHC	ND	U	0.000699	0.00151	mg/kg	1	6/15/23 20:20	
Dieldrin	ND	U	0.000787	0.00151	mg/kg	1	6/15/23 20:20	
Endosulfan I	ND	U	0.000711	0.00151	mg/kg	1	6/15/23 20:20	
Endosulfan II	ND	U	0.000684	0.00151	mg/kg	1	6/15/23 20:20	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000566	0.00151	mg/kg	1	6/15/23 20:20	
Endosulfans, Total (alpha and beta)	ND	U	0.000684	0.00151	mg/kg	1	6/15/23 20:20	
Endrin	ND	U	0.000520	0.00151	mg/kg	1	6/15/23 20:20	
Endrin aldehyde	ND	U	0.000600	0.00151	mg/kg	1	6/15/23 20:20	
Endrin ketone	ND	U	0.000530	0.00151	mg/kg	1	6/15/23 20:20	
gamma-BHC (Lindane)	ND	U	0.000477	0.00151	mg/kg	1	6/15/23 20:20	
Heptachlor	ND	U	0.000403	0.00151	mg/kg	1	6/15/23 20:20	
Heptachlor Epoxide	ND	U	0.000759	0.00151	mg/kg	1	6/15/23 20:20	
Methoxychlor	ND	U	0.000441	0.00151	mg/kg	1	6/15/23 20:20	
Toxaphene	ND	U	0.0725	0.0764	mg/kg	1	6/15/23 20:20	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00435	0.0386	mg/kg	1	6/14/23 18:01
2,3,4,6-Tetrachlorophenol	ND	U	0.0237	0.154	mg/kg	1	6/14/23 18:01
2,4,5-Trichlorophenol	ND	U	0.0210	0.154	mg/kg	1	6/14/23 18:01
2,4,6-Trichlorophenol	ND	U	0.00964	0.154	mg/kg	1	6/14/23 18:01

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602** Collected: **6/2/2023 8:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0155	0.154	mg/kg	1	6/14/23 18:01	
2,4-Dimethylphenol	ND	U	0.0152	0.154	mg/kg	1	6/14/23 18:01	
2,4-Dinitrophenol	ND	U	0.0222	0.772	mg/kg	1	6/14/23 18:01	
2,4-Dinitrotoluene	ND	U	0.0164	0.154	mg/kg	1	6/14/23 18:01	
2,6-Dinitrotoluene	ND	U	0.0368	0.154	mg/kg	1	6/14/23 18:01	
2-Chloronaphthalene	ND	U	0.0177	0.154	mg/kg	1	6/14/23 18:01	
2-Chlorophenol	ND	U	0.0204	0.154	mg/kg	1	6/14/23 18:01	
2-Methylnaphthalene	**0.809**		**0.0369**	**0.232**	**mg/kg**	**1**	**6/14/23 18:01**	
2-Methylphenol	ND	U	0.0304	0.154	mg/kg	1	6/14/23 18:01	
2-Nitroaniline	ND	U	0.0124	0.154	mg/kg	1	6/14/23 18:01	
2-Nitrophenol	ND	U	0.0171	0.154	mg/kg	1	6/14/23 18:01	
3,3'-Dichlorobenzidine	ND	U	0.0162	0.154	mg/kg	1	6/14/23 18:01	
3+4-Methylphenol	ND	U	0.0282	0.154	mg/kg	1	6/14/23 18:01	
3-Nitroaniline	ND	U	0.0286	0.154	mg/kg	1	6/14/23 18:01	
4,6-Dinitro-2-methylphenol	ND	U	0.0291	0.386	mg/kg	1	6/14/23 18:01	
4-Bromophenyl-phenyl ether	ND	U	0.0220	0.154	mg/kg	1	6/14/23 18:01	
4-Chloro-3-methylphenol	ND	U	0.0243	0.154	mg/kg	1	6/14/23 18:01	
4-Chloroaniline	ND	U	0.00539	0.154	mg/kg	1	6/14/23 18:01	
4-Chlorophenyl phenyl ether	ND	U	0.00832	0.154	mg/kg	1	6/14/23 18:01	
4-Nitroaniline	ND	U	0.0771	0.154	mg/kg	1	6/14/23 18:01	
4-Nitrophenol	ND	U	0.00986	0.154	mg/kg	1	6/14/23 18:01	
Acenaphthene	**0.219**		**0.00879**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Acenaphthylene	**0.166**		**0.00536**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Acetophenone	ND	U	0.0153	0.154	mg/kg	1	6/14/23 18:01	
Anthracene	**0.513**		**0.0223**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Atrazine	ND	U	0.0145	0.154	mg/kg	1	6/14/23 18:01	
Benzaldehyde	ND	U	0.0474	0.154	mg/kg	1	6/14/23 18:01	UJ, RC:SL
Benzo(a)anthracene	**1.26**		**0.0155**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Benzo(a)pyrene	**1.39**		**0.0269**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Benzo(b)fluoranthene	**1.67**		**0.0216**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Benzo(g,h,i)perylene	**1.02**		**0.0125**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	J, RC:SH
Benzo(k)fluoranthene	**0.685**		**0.0177**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Biphenyl	**0.114**	J	**0.0135**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
bis(2-chloroethoxy)methane	ND	U	0.0213	0.154	mg/kg	1	6/14/23 18:01	
bis(2-chloroethyl)ether	ND	U	0.0169	0.154	mg/kg	1	6/14/23 18:01	
bis(2-chloroisopropyl)ether	ND	U	0.0555	0.154	mg/kg	1	6/14/23 18:01	
bis(2-ethylhexyl)phthalate	**0.888**		**0.0308**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Butylbenzylphthalate	**0.879**		**0.0140**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602** Collected: **6/2/2023 8:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0199	0.154	mg/kg	1	6/14/23 18:01	
Carbazole	**0.132**	J	**0.0296**	**0.386**	**mg/kg**	**1**	**6/14/23 18:01**	
Chrysene	**1.26**		**0.0106**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Dibenzo(a,h)anthracene	**0.270**		**0.0153**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	J, RC:SH
Dibenzofuran	**0.165**		**0.00918**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Diethylphthalate	ND	U	0.0299	0.154	mg/kg	1	6/14/23 18:01	
Dimethylphthalate	ND	U	0.00956	0.154	mg/kg	1	6/14/23 18:01	
Di-n-butylphthalate	ND	U	0.0630	0.154	mg/kg	1	6/14/23 18:01	
Di-n-octylphthalate	ND	U	0.0316	0.154	mg/kg	1	6/14/23 18:01	
Fluoranthene	**2.64**		**0.0145**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Fluorene	**0.255**		**0.0129**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Hexachlorobenzene	ND	U	0.0201	0.154	mg/kg	1	6/14/23 18:01	
Hexachlorobutadiene	ND	U	0.0740	0.154	mg/kg	1	6/14/23 18:01	
Hexachlorocyclopentadiene	ND	U	0.0643	0.386	mg/kg	1	6/14/23 18:01	
Hexachloroethane	ND	U	0.0169	0.154	mg/kg	1	6/14/23 18:01	
Indeno(1,2,3-cd)pyrene	**0.845**		**0.0166**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	J, RC:SH
Isophorone	ND	U	0.0101	0.154	mg/kg	1	6/14/23 18:01	
Naphthalene	**0.230**		**0.0114**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Nitrobenzene	ND	U	0.0262	0.154	mg/kg	1	6/14/23 18:01	
n-Nitroso-di-n-propylamine	ND	U	0.00825	0.154	mg/kg	1	6/14/23 18:01	
n-Nitrosodiphenylamine	ND	U	0.0329	0.154	mg/kg	1	6/14/23 18:01	
Pentachlorophenol	ND	U	0.0212	0.386	mg/kg	1	6/14/23 18:01	UJ, RC:SL
Phenanthrene	**1.31**		**0.0203**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	
Phenol	ND	U	0.0125	0.154	mg/kg	1	6/14/23 18:01	
Pyrene	**2.08**		**0.0113**	**0.154**	**mg/kg**	**1**	**6/14/23 18:01**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
2-Pentanone, 4-hydroxy-4-methyl-	~~36.2~~	5.22	J, B	mg/kg	1	6/14/23 18:01	R, RC:2
Benzene, 2-butenyl-	0.703	7.93	J	mg/kg	1	6/14/23 18:01	
Heptacosane	0.690	12.08	J	mg/kg	1	6/14/23 18:01	
Hexadecane	1.06	10.33	J	mg/kg	1	6/14/23 18:01	
Hexadecane, 2,6,10,14-tetramethyl-	1.15	11.28	J	mg/kg	1	6/14/23 18:01	
Hexadecanoic acid, butyl ester	~~16.4~~	12.83	J, B	mg/kg	1	6/14/23 18:01	R, RC:2
Naphthalene, 1,2,3,4-tetrahydro-6-methyl	0.665	8.70	J	mg/kg	1	6/14/23 18:01	
Naphthalene, 1,6-dimethyl-	0.559	9.66	J	mg/kg	1	6/14/23 18:01	
Naphthalene, 1,7-dimethyl-	1.86	9.63	J	mg/kg	1	6/14/23 18:01	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602** Collected: **6/2/2023 8:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 2,7-dimethyl-	0.695	9.55	J	mg/kg	1	6/14/23 18:01
Nonane, 3-methyl-	1.20	8.57	J	mg/kg	1	6/14/23 18:01
Pentadecane	0.829	11.25	J	mg/kg	1	6/14/23 18:01
unknown (01)	1.66	5.98	J	mg/kg	1	6/14/23 18:01
unknown (02)	1.51	9.02	J	mg/kg	1	6/14/23 18:01
unknown (03)	0.853	9.17	J	mg/kg	1	6/14/23 18:01
TIC Total	~~66.0~~ 13.4					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000352	0.00241	mg/kg	1	6/14/23 16:39
1,1,2,2-Tetrachloroethane	ND	U	0.000333	0.00241	mg/kg	1	6/14/23 16:39
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00103	0.00241	mg/kg	1	6/14/23 16:39
1,1,2-Trichloroethane	ND	U	0.000406	0.00241	mg/kg	1	6/14/23 16:39
1,1-Dichloroethane	ND	U	0.000352	0.00241	mg/kg	1	6/14/23 16:39
1,1-Dichloroethene	ND	U	0.000446	0.00241	mg/kg	1	6/14/23 16:39
1,2,3-Trichlorobenzene	ND	U	0.000521	0.00241	mg/kg	1	6/14/23 16:39
1,2,4-Trichlorobenzene	ND	U	0.000643	0.00241	mg/kg	1	6/14/23 16:39
1,2,4-Trimethylbenzene	**0.00856**		**0.000333**	**0.00241**	**mg/kg**	**1**	**6/14/23 16:39**
1,2-Dibromo-3-chloropropane	ND	U	0.000589	0.00603	mg/kg	1	6/14/23 16:39
1,2-Dibromoethane	ND	U	0.000304	0.00241	mg/kg	1	6/14/23 16:39
1,2-Dichlorobenzene	ND	U	0.000426	0.00241	mg/kg	1	6/14/23 16:39
1,2-Dichloroethane	ND	U	0.000340	0.00241	mg/kg	1	6/14/23 16:39
1,2-Dichloropropane	ND	U	0.000396	0.00241	mg/kg	1	6/14/23 16:39
1,3-Dichlorobenzene	ND	U	0.000177	0.00241	mg/kg	1	6/14/23 16:39
1,4-Dichlorobenzene	ND	U	0.000347	0.00241	mg/kg	1	6/14/23 16:39
2-Butanone	ND	U	0.000393	0.0121	mg/kg	1	6/14/23 16:39
2-Hexanone	ND	U	0.000226	0.00241	mg/kg	1	6/14/23 16:39
4-Methyl-2-pentanone	ND	U	0.000301	0.00241	mg/kg	1	6/14/23 16:39
Acetone	ND	U	0.000731	0.0603	mg/kg	1	6/14/23 16:39
Benzene	ND	U	0.000219	0.00241	mg/kg	1	6/14/23 16:39
Bromochloromethane	ND	U	0.000445	0.00241	mg/kg	1	6/14/23 16:39
Bromodichloromethane	ND	U	0.000303	0.00241	mg/kg	1	6/14/23 16:39
Bromoform	ND	U	0.000423	0.00241	mg/kg	1	6/14/23 16:39
Bromomethane	ND	U	0.000696	0.00241	mg/kg	1	6/14/23 16:39
Carbon disulfide	**0.00461**		**0.000346**	**0.00241**	**mg/kg**	**1**	**6/14/23 16:39**
Carbon Tetrachloride	ND	U	0.000363	0.00241	mg/kg	1	6/14/23 16:39

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: **MW-07-1.0-2.0-20230602** Collected: **6/2/2023 8:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.000350	0.00241	mg/kg	1	6/14/23 16:39
Chlorodibromomethane	ND	U	0.000297	0.00241	mg/kg	1	6/14/23 16:39
Chloroethane	ND	U	0.000411	0.00241	mg/kg	1	6/14/23 16:39
Chloroform	ND	U	0.000405	0.00241	mg/kg	1	6/14/23 16:39
Chloromethane	**0.0106**		**0.000929**	**0.00241**	**mg/kg**	**1**	**6/14/23 16:39**
cis-1,2-Dichloroethene	ND	U	0.000117	0.00241	mg/kg	1	6/14/23 16:39
cis-1,3-Dichloropropene	ND	U	0.000305	0.00241	mg/kg	1	6/14/23 16:39
Cyclohexane	ND	U	0.000534	0.00241	mg/kg	1	6/14/23 16:39
Dichlorodifluoromethane	ND	U	0.000814	0.00241	mg/kg	1	6/14/23 16:39
EthylBenzene	ND	U	0.000327	0.00241	mg/kg	1	6/14/23 16:39
Isopropylbenzene	ND	U	0.000379	0.00241	mg/kg	1	6/14/23 16:39
m+p-Xylenes	ND	U	0.000609	0.00482	mg/kg	1	6/14/23 16:39
Methyl Acetate	ND	U	0.000320	0.00241	mg/kg	1	6/14/23 16:39
Methyl tert-Butyl Ether	ND	U	0.000408	0.00241	mg/kg	1	6/14/23 16:39
Methylcyclohexane	ND	U	0.000388	0.00241	mg/kg	1	6/14/23 16:39
Methylene Chloride	ND	U	0.000725	0.00603	mg/kg	1	6/14/23 16:39
o-Xylene	ND	U	0.000310	0.00241	mg/kg	1	6/14/23 16:39
Styrene	ND	U	0.000345	0.00241	mg/kg	1	6/14/23 16:39
tert-Butyl alcohol	ND	U	0.00507	0.0241	mg/kg	1	6/14/23 16:39
Tetrachloroethene	ND	U	0.000239	0.00241	mg/kg	1	6/14/23 16:39
Toluene	ND	U	0.000194	0.00241	mg/kg	1	6/14/23 16:39
Total Xylenes	ND	U	0.000310	0.00241	mg/kg	1	6/14/23 16:39
trans-1,2-Dichloroethene	ND	U	0.000327	0.00241	mg/kg	1	6/14/23 16:39
trans-1,3-Dichloropropene	ND	U	0.000461	0.00241	mg/kg	1	6/14/23 16:39
Trichloroethene	ND	U	0.000355	0.00241	mg/kg	1	6/14/23 16:39
Trichlorofluoromethane	ND	U	0.000277	0.00241	mg/kg	1	6/14/23 16:39
Vinyl chloride	ND	U	0.000458	0.00241	mg/kg	1	6/14/23 16:39

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,1-Bicyclopentyl	0.00911	18.50	J	mg/kg	1	6/14/23 16:39
17-Pentatriacontene	0.00715	16.74	J	mg/kg	1	6/14/23 16:39
1-Eicosanol	0.00608	18.75	J	mg/kg	1	6/14/23 16:39
Acetic acid, methyl ester	0.0206	3.76	J	mg/kg	1	6/14/23 16:39
Acrylic acid, 2-phenylethyl ester	0.00652	21.76	J	mg/kg	1	6/14/23 16:39
Benzene, 1-methyl-2-(2-propenyl)-	0.0102	20.54	J	mg/kg	1	6/14/23 16:39
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethy	0.0109	15.62	J	mg/kg	1	6/14/23 16:39

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-01 (Soil) Sample Name: MW-07-1.0-2.0-20230602 Collected: 6/2/2023 8:45:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.0220	4.04	J	mg/kg	1	6/14/23 16:39
Cyclopropane, 1-butyl-2-pentyl-, trans-	0.00627	16.23	J	mg/kg	1	6/14/23 16:39
Ethyl Chloride	0.00763	3.95	J	mg/kg	1	6/14/23 16:39
Naphthalene, 1,2,3,4-tetrahydro-	0.00969	20.82	J	mg/kg	1	6/14/23 16:39
Naphthalene, 1,2,3,4-tetrahydro-1,1-dime	0.00769	23.26	J	mg/kg	1	6/14/23 16:39
Naphthalene, 1,2,3,4-tetrahydro-6-methyl	0.0118	22.52	J	mg/kg	1	6/14/23 16:39
TIC Total	**0.136**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.4**				**%**	**1**	**6/5/23 11:29**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00673	0.0565	mg/kg	1	6/12/23 17:07

23F0123-02 (Soil) Sample Name: MW-07-6.6-7.6-20230602 Collected: 6/2/2023 10:45:00AM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00523	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1221	ND	U	0.0103	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1232	ND	U	0.0131	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1242	ND	U	0.00767	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1248	ND	U	0.00802	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1254	ND	U	0.00630	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1260	ND	U	0.00489	0.0390	mg/kg	1	6/18/23 5:36	J, RC:3L
Aroclor-1262	ND	U	0.0105	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Aroclor-1268	ND	U	0.00472	0.0390	mg/kg	1	6/18/23 5:36	UJ, RC:3L
Total PCBs	ND	U	0.00364	0.0390	mg/kg	1	6/18/23 5:36	J, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602** Collected: **6/2/2023 10:45:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0116	0.118	mg/kg	1	6/22/23 17:32	
2,4-D	ND	U	0.0196	0.118	mg/kg	1	6/22/23 17:32	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.295**		**0.00591**	**0.0236**	**mg/kg**	**1**	**6/14/23 13:28**	

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**5990**		**0.176**	**2.96**	**mg/kg**	**1**	**6/14/23 11:58**	
Antimony	ND	U	0.161	1.48	mg/kg	1	6/14/23 11:58	
Arsenic	**12.5**		**0.105**	**1.48**	**mg/kg**	**1**	**6/14/23 11:58**	
Barium	**73.2**		**0.0447**	**0.591**	**mg/kg**	**1**	**6/14/23 11:58**	
Beryllium	**0.455**		**0.00342**	**0.0296**	**mg/kg**	**1**	**6/14/23 11:58**	
Cadmium	**0.612**		**0.0576**	**0.296**	**mg/kg**	**1**	**6/14/23 11:58**	
Calcium	**14700**	D	**33.2**	**296**	**mg/kg**	**10**	**6/14/23 13:27**	
Chromium	**24.2**		**0.0334**	**0.296**	**mg/kg**	**1**	**6/14/23 11:58**	
Cobalt	**5.47**		**0.0302**	**0.236**	**mg/kg**	**1**	**6/14/23 11:58**	
Copper	**168**		**0.0827**	**0.296**	**mg/kg**	**1**	**6/14/23 11:58**	
Iron	**19500**		**0.837**	**5.91**	**mg/kg**	**1**	**6/14/23 11:58**	
Lead	**155**		**0.123**	**1.48**	**mg/kg**	**1**	**6/14/23 11:58**	
Magnesium	**5700**		**10.4**	**59.1**	**mg/kg**	**1**	**6/14/23 11:58**	
Manganese	**203**		**0.0368**	**0.296**	**mg/kg**	**1**	**6/14/23 11:58**	
Nickel	**61.8**		**0.0260**	**0.148**	**mg/kg**	**1**	**6/14/23 11:58**	
Potassium	**761**		**35.1**	**118**	**mg/kg**	**1**	**6/14/23 11:58**	
Selenium	ND	U	0.284	1.48	mg/kg	1	6/14/23 11:58	
Silver	**0.193**		**0.0503**	**0.177**	**mg/kg**	**1**	**6/14/23 11:58**	J, RC:6L
Sodium	**1160**		**5.64**	**59.1**	**mg/kg**	**1**	**6/14/23 11:58**	
Thallium	ND	U	0.0995	1.48	mg/kg	1	6/14/23 11:58	
Vanadium	**225**		**0.0680**	**0.591**	**mg/kg**	**1**	**6/14/23 11:58**	
Zinc	**117**		**0.0903**	**0.887**	**mg/kg**	**1**	**6/14/23 11:58**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000703	0.00154	mg/kg	1	6/15/23 20:38	
4,4'-DDE	ND	U	0.000841	0.00154	mg/kg	1	6/15/23 20:38	UJ, RC:6L
4,4'-DDT	ND	U	0.00109	0.00154	mg/kg	1	6/15/23 20:38	
Aldrin [2C]	**0.0155**		**0.000728**	**0.00154**	**mg/kg**	**1**	**6/15/23 20:38**	J, RC:3H

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602** Collected: **6/2/2023 10:45:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	**0.00106**	J	**0.000458**	**0.00154**	**mg/kg**	**1**	**6/15/23 20:38**	
beta-BHC	**0.00332**		**0.000734**	**0.00154**	**mg/kg**	**1**	**6/15/23 20:38**	
Chlordane	**0.0244**		**0.000683**	**0.00154**	**mg/kg**	**1**	**6/15/23 20:38**	
delta-BHC	ND	U	0.000714	0.00154	mg/kg	1	6/15/23 20:38	
Dieldrin	ND	U	0.000804	0.00154	mg/kg	1	6/15/23 20:38	
Endosulfan I	ND	U	0.000726	0.00154	mg/kg	1	6/15/23 20:38	
Endosulfan II	ND	U	0.000699	0.00154	mg/kg	1	6/15/23 20:38	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000578	0.00154	mg/kg	1	6/15/23 20:38	
Endosulfans, Total (alpha and beta)	ND	U	0.000699	0.00154	mg/kg	1	6/15/23 20:38	
Endrin	ND	U	0.000531	0.00154	mg/kg	1	6/15/23 20:38	
Endrin aldehyde	ND	U	0.000612	0.00154	mg/kg	1	6/15/23 20:38	
Endrin ketone	ND	U	0.000541	0.00154	mg/kg	1	6/15/23 20:38	
gamma-BHC (Lindane)	ND	U	0.000487	0.00154	mg/kg	1	6/15/23 20:38	
Heptachlor	**0.0129**		**0.000411**	**0.00154**	**mg/kg**	**1**	**6/15/23 20:38**	
Heptachlor Epoxide	**0.0402**		**0.000776**	**0.00154**	**mg/kg**	**1**	**6/15/23 20:38**	
Methoxychlor	ND	U	0.000450	0.00154	mg/kg	1	6/15/23 20:38	
Toxaphene	ND	U	0.0740	0.0780	mg/kg	1	6/15/23 20:38	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00445	0.0394	mg/kg	1	6/14/23 18:32
2,3,4,6-Tetrachlorophenol	ND	U	0.0242	0.157	mg/kg	1	6/14/23 18:32
2,4,5-Trichlorophenol	ND	U	0.0214	0.157	mg/kg	1	6/14/23 18:32
2,4,6-Trichlorophenol	ND	U	0.00985	0.157	mg/kg	1	6/14/23 18:32
2,4-Dichlorophenol	ND	U	0.0158	0.157	mg/kg	1	6/14/23 18:32
2,4-Dimethylphenol	ND	U	0.0155	0.157	mg/kg	1	6/14/23 18:32
2,4-Dinitrophenol	ND	U	0.0227	0.789	mg/kg	1	6/14/23 18:32
2,4-Dinitrotoluene	ND	U	0.0168	0.157	mg/kg	1	6/14/23 18:32
2,6-Dinitrotoluene	ND	U	0.0376	0.157	mg/kg	1	6/14/23 18:32
2-Chloronaphthalene	ND	U	0.0181	0.157	mg/kg	1	6/14/23 18:32
2-Chlorophenol	ND	U	0.0208	0.157	mg/kg	1	6/14/23 18:32
2-Methylnaphthalene	**6.49**		**0.0377**	**0.236**	**mg/kg**	**1**	**6/14/23 18:32**
2-Methylphenol	ND	U	0.0311	0.157	mg/kg	1	6/14/23 18:32
2-Nitroaniline	ND	U	0.0127	0.157	mg/kg	1	6/14/23 18:32
2-Nitrophenol	ND	U	0.0175	0.157	mg/kg	1	6/14/23 18:32
3,3'-Dichlorobenzidine	ND	U	0.0166	0.157	mg/kg	1	6/14/23 18:32
3+4-Methylphenol	**0.285**		**0.0288**	**0.157**	**mg/kg**	**1**	**6/14/23 18:32**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602** Collected: **6/2/2023 10:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.0292	0.157	mg/kg	1	6/14/23 18:32	
4,6-Dinitro-2-methylphenol	ND	U	0.0297	0.394	mg/kg	1	6/14/23 18:32	
4-Bromophenyl-phenyl ether	ND	U	0.0225	0.157	mg/kg	1	6/14/23 18:32	
4-Chloro-3-methylphenol	ND	U	0.0248	0.157	mg/kg	1	6/14/23 18:32	
4-Chloroaniline	ND	U	0.00551	0.157	mg/kg	1	6/14/23 18:32	
4-Chlorophenyl phenyl ether	ND	U	0.00850	0.157	mg/kg	1	6/14/23 18:32	
4-Nitroaniline	ND	U	0.0787	0.157	mg/kg	1	6/14/23 18:32	
4-Nitrophenol	ND	U	0.0101	0.157	mg/kg	1	6/14/23 18:32	
Acenaphthene	**43.2**	D	**0.0897**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Acenaphthylene	**19.8**	D	**0.0547**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Acetophenone	ND	U	0.0156	0.157	mg/kg	1	6/14/23 18:32	
Anthracene	**46.7**	D	**0.228**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Atrazine	ND	U	0.0148	0.157	mg/kg	1	6/14/23 18:32	
Benzaldehyde	ND	U	0.0484	0.157	mg/kg	1	6/14/23 18:32	UJ, RC:SL
Benzo(a)anthracene	**25.4**	D	**0.158**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Benzo(a)pyrene	**30.8**	D	**0.274**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Benzo(b)fluoranthene	**30.9**	D	**0.221**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Benzo(g,h,i)perylene	**35.6**	D	**0.128**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	J, RC:SH
Benzo(k)fluoranthene	**7.07**	D	**0.181**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Biphenyl	**1.57**		**0.0138**	**0.157**	**mg/kg**	**1**	**6/14/23 18:32**	
bis(2-chloroethoxy)methane	ND	U	0.0218	0.157	mg/kg	1	6/14/23 18:32	
bis(2-chloroethyl)ether	ND	U	0.0173	0.157	mg/kg	1	6/14/23 18:32	
bis(2-chloroisopropyl)ether	ND	U	0.0566	0.157	mg/kg	1	6/14/23 18:32	
bis(2-ethylhexyl)phthalate	**0.277**		**0.0314**	**0.157**	**mg/kg**	**1**	**6/14/23 18:32**	
Butylbenzylphthalate	ND	U	0.0143	0.157	mg/kg	1	6/14/23 18:32	
Caprolactam	ND	U	0.0203	0.157	mg/kg	1	6/14/23 18:32	
Carbazole	**2.66**		**0.0303**	**0.394**	**mg/kg**	**1**	**6/14/23 18:32**	
Chrysene	**26.1**	D	**0.108**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Dibenzo(a,h)anthracene	**1.18**		**0.0156**	**0.157**	**mg/kg**	**1**	**6/14/23 18:32**	J, RC:SH
Dibenzofuran	**15.6**	D	**0.0938**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Diethylphthalate	ND	U	0.0305	0.157	mg/kg	1	6/14/23 18:32	
Dimethylphthalate	ND	U	0.00977	0.157	mg/kg	1	6/14/23 18:32	
Di-n-butylphthalate	ND	U	0.0643	0.157	mg/kg	1	6/14/23 18:32	
Di-n-octylphthalate	ND	U	0.0323	0.157	mg/kg	1	6/14/23 18:32	
Fluoranthene	**96.1**	D	**0.148**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Fluorene	**9.27**		**0.0131**	**0.157**	**mg/kg**	**1**	**6/14/23 18:32**	
Hexachlorobenzene	ND	U	0.0206	0.157	mg/kg	1	6/14/23 18:32	
Hexachlorobutadiene	ND	U	0.0755	0.157	mg/kg	1	6/14/23 18:32	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602** Collected: **6/2/2023 10:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorocyclopentadiene	ND	U	0.0656	0.394	mg/kg	1	6/14/23 18:32	
Hexachloroethane	ND	U	0.0173	0.157	mg/kg	1	6/14/23 18:32	
Indeno(1,2,3-cd)pyrene	**18.9**	D	**0.169**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	J, RC:SH
Isophorone	ND	U	0.0103	0.157	mg/kg	1	6/14/23 18:32	
Naphthalene	**75.7**	D	**0.117**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Nitrobenzene	ND	U	0.0267	0.157	mg/kg	1	6/14/23 18:32	
n-Nitroso-di-n-propylamine	ND	U	0.00843	0.157	mg/kg	1	6/14/23 18:32	
n-Nitrosodiphenylamine	ND	U	0.0336	0.157	mg/kg	1	6/14/23 18:32	
Pentachlorophenol	ND	U	0.0216	0.394	mg/kg	1	6/14/23 18:32	UJ, RC:SL
Phenanthrene	**43.4**	D	**0.207**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	
Phenol	ND	U	0.0128	0.157	mg/kg	1	6/14/23 18:32	
Pyrene	**97.6**	D	**0.116**	**1.57**	**mg/kg**	**10**	**6/15/23 23:17**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed	
1,3,5,7-Cyclooctatetraene	14.4	5.81	J	mg/kg	1	6/14/23 18:32	
2-Pentanone, 4-hydroxy-4-methyl-	~~35.2~~	5.22	J, B	mg/kg	1	6/14/23 18:32	R, RC:2
Benzene, 1-ethenyl-3-methyl-	19.6	6.74	J	mg/kg	1	6/14/23 18:32	
Indene	23.1	7.19	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 1,3-dimethyl-	7.01	9.76	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 1,4,5-trimethyl-	9.42	10.39	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 1,4,6-trimethyl-	8.99	10.33	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 2,3,6-trimethyl-	13.0	10.29	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 2,3-dimethyl-	22.5	9.64	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 2,6-dimethyl-	8.08	9.55	J	mg/kg	1	6/14/23 18:32	
Naphthalene, 2-ethenyl-	9.16	9.70	J	mg/kg	1	6/14/23 18:32	
unknown (01)	8.01	6.78	J	mg/kg	1	6/14/23 18:32	
unknown (02)	5.80	9.19	J	mg/kg	1	6/14/23 18:32	
unknown (03)	8.67	10.62	J	mg/kg	1	6/14/23 18:32	
unknown (04)	9.33	16.76	J	mg/kg	1	6/14/23 18:32	
TIC Total	~~202~~ 166.8						

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000320	0.00219	mg/kg	1	6/14/23 17:09
1,1,2,2-Tetrachloroethane	ND	U	0.000302	0.00219	mg/kg	1	6/14/23 17:09
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000937	0.00219	mg/kg	1	6/14/23 17:09

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602** Collected: **6/2/2023 10:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,2-Trichloroethane	ND	U	0.000369	0.00219	mg/kg	1	6/14/23 17:09
1,1-Dichloroethane	ND	U	0.000320	0.00219	mg/kg	1	6/14/23 17:09
1,1-Dichloroethene	ND	U	0.000405	0.00219	mg/kg	1	6/14/23 17:09
1,2,3-Trichlorobenzene	ND	U	0.000473	0.00219	mg/kg	1	6/14/23 17:09
1,2,4-Trichlorobenzene	ND	U	0.000583	0.00219	mg/kg	1	6/14/23 17:09
1,2,4-Trimethylbenzene	**0.00264**		**0.000302**	**0.00219**	**mg/kg**	**1**	**6/14/23 17:09**
1,2-Dibromo-3-chloropropane	ND	U	0.000534	0.00547	mg/kg	1	6/14/23 17:09
1,2-Dibromoethane	ND	U	0.000276	0.00219	mg/kg	1	6/14/23 17:09
1,2-Dichlorobenzene	ND	U	0.000386	0.00219	mg/kg	1	6/14/23 17:09
1,2-Dichloroethane	ND	U	0.000309	0.00219	mg/kg	1	6/14/23 17:09
1,2-Dichloropropane	ND	U	0.000359	0.00219	mg/kg	1	6/14/23 17:09
1,3-Dichlorobenzene	ND	U	0.000161	0.00219	mg/kg	1	6/14/23 17:09
1,4-Dichlorobenzene	ND	U	0.000315	0.00219	mg/kg	1	6/14/23 17:09
2-Butanone	ND	U	0.000357	0.0109	mg/kg	1	6/14/23 17:09
2-Hexanone	ND	U	0.000205	0.00219	mg/kg	1	6/14/23 17:09
4-Methyl-2-pentanone	ND	U	0.000274	0.00219	mg/kg	1	6/14/23 17:09
Acetone	ND	U	0.000663	0.0547	mg/kg	1	6/14/23 17:09
Benzene	ND	U	0.000199	0.00219	mg/kg	1	6/14/23 17:09
Bromochloromethane	ND	U	0.000404	0.00219	mg/kg	1	6/14/23 17:09
Bromodichloromethane	ND	U	0.000275	0.00219	mg/kg	1	6/14/23 17:09
Bromoform	ND	U	0.000384	0.00219	mg/kg	1	6/14/23 17:09
Bromomethane	ND	U	0.000632	0.00219	mg/kg	1	6/14/23 17:09
Carbon disulfide	ND	U	0.000314	0.00219	mg/kg	1	6/14/23 17:09
Carbon Tetrachloride	ND	U	0.000330	0.00219	mg/kg	1	6/14/23 17:09
Chlorobenzene	ND	U	0.000317	0.00219	mg/kg	1	6/14/23 17:09
Chlorodibromomethane	ND	U	0.000269	0.00219	mg/kg	1	6/14/23 17:09
Chloroethane	ND	U	0.000373	0.00219	mg/kg	1	6/14/23 17:09
Chloroform	ND	U	0.000368	0.00219	mg/kg	1	6/14/23 17:09
Chloromethane	**0.0260**		**0.000843**	**0.00219**	**mg/kg**	**1**	**6/14/23 17:09**
cis-1,2-Dichloroethene	ND	U	0.000106	0.00219	mg/kg	1	6/14/23 17:09
cis-1,3-Dichloropropene	ND	U	0.000277	0.00219	mg/kg	1	6/14/23 17:09
Cyclohexane	ND	U	0.000485	0.00219	mg/kg	1	6/14/23 17:09
Dichlorodifluoromethane	ND	U	0.000739	0.00219	mg/kg	1	6/14/23 17:09
EthylBenzene	ND	U	0.000297	0.00219	mg/kg	1	6/14/23 17:09
Isopropylbenzene	ND	U	0.000344	0.00219	mg/kg	1	6/14/23 17:09
m+p-Xylenes	ND	U	0.000553	0.00438	mg/kg	1	6/14/23 17:09
Methyl Acetate	ND	U	0.000290	0.00219	mg/kg	1	6/14/23 17:09
Methyl tert-Butyl Ether	ND	U	0.000370	0.00219	mg/kg	1	6/14/23 17:09

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-02 (Soil) Sample Name: **MW-07-6.6-7.6-20230602** Collected: **6/2/2023 10:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methylcyclohexane	ND	U	0.000352	0.00219	mg/kg	1	6/14/23 17:09
Methylene Chloride	ND	U	0.000658	0.00547	mg/kg	1	6/14/23 17:09
o-Xylene	ND	U	0.000281	0.00219	mg/kg	1	6/14/23 17:09
Styrene	ND	U	0.000313	0.00219	mg/kg	1	6/14/23 17:09
tert-Butyl alcohol	ND	U	0.00460	0.0219	mg/kg	1	6/14/23 17:09
Tetrachloroethene	ND	U	0.000217	0.00219	mg/kg	1	6/14/23 17:09
Toluene	ND	U	0.000176	0.00219	mg/kg	1	6/14/23 17:09
Total Xylenes	ND	U	0.000281	0.00219	mg/kg	1	6/14/23 17:09
trans-1,2-Dichloroethene	ND	U	0.000297	0.00219	mg/kg	1	6/14/23 17:09
trans-1,3-Dichloropropene	ND	U	0.000418	0.00219	mg/kg	1	6/14/23 17:09
Trichloroethene	ND	U	0.000322	0.00219	mg/kg	1	6/14/23 17:09
Trichlorofluoromethane	ND	U	0.000252	0.00219	mg/kg	1	6/14/23 17:09
Vinyl chloride	ND	U	0.000416	0.00219	mg/kg	1	6/14/23 17:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.00728	4.04	J	mg/kg	1	6/14/23 17:09
Ethyl Chloride	0.00597	3.95	J	mg/kg	1	6/14/23 17:09
TIC:Naphthalene	0.0795	21.60	J	mg/kg	1	6/14/23 17:09
TIC Total	**0.093**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**84.6**				**%**	**1**	**6/5/23 11:29**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00863	0.0724	mg/kg	1	6/12/23 17:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-03 (Ground Water) Sample Name: **FB-20230602** Collected: **6/2/2023 12:30:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/9/23 22:39	J, RC:3L
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/9/23 22:39	UJ, RC:3L
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/9/23 22:39	J, RC:3L

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 21:01
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 21:01
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 21:01

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/14/23 15:25

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/14/23 14:17
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/14/23 14:17
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/14/23 14:17
Barium	ND	U	0.000558	0.0200	mg/L	1	6/14/23 14:17
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/14/23 14:17
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/14/23 14:17
Calcium	ND	U	0.256	1.00	mg/L	1	6/14/23 14:17
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/14/23 14:17
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/14/23 14:17
Copper	ND	U	0.00177	0.0100	mg/L	1	6/14/23 14:17
Iron	ND	U	0.0580	0.200	mg/L	1	6/14/23 14:17
Lead	ND	U	0.00510	0.0500	mg/L	1	6/14/23 14:17
Magnesium	ND	U	0.681	2.00	mg/L	1	6/14/23 14:17
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/14/23 14:17
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/14/23 14:17
Potassium	ND	U	2.41	4.00	mg/L	1	6/14/23 14:17

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-03 (Ground Water) Sample Name: **FB-20230602** Collected: **6/2/2023 12:30:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/14/23 14:17
Silver	ND	U	0.00465	0.0200	mg/L	1	6/14/23 14:17 UJ, RC:6L
Sodium	ND	U	0.205	2.00	mg/L	1	6/14/23 14:17
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/14/23 14:17
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/14/23 14:17
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/14/23 14:17

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 19:04
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 19:04
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/13/23 19:04
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 19:04
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 19:04
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 19:04
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 19:04
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 19:04
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 19:04
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 19:04
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 19:04
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 19:04
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/13/23 19:04
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 19:04
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 19:04
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 19:04
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 19:04
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 19:04
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 19:04
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 19:04

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/7/23 19:06
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/7/23 19:06
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/7/23 19:06
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/7/23 19:06
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/7/23 19:06 UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/7/23 19:06
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/7/23 19:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-03 (Ground Water) Sample Name: **FB-20230602** Collected: **6/2/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/7/23 19:06	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/7/23 19:06	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/7/23 19:06	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/7/23 19:06	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/7/23 19:06	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/7/23 19:06	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/7/23 19:06	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/7/23 19:06	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/7/23 19:06	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/7/23 19:06	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/7/23 19:06	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/7/23 19:06	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/7/23 19:06	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/7/23 19:06	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/7/23 19:06	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/7/23 19:06	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/7/23 19:06	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/7/23 19:06	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/7/23 19:06	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/7/23 19:06	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/7/23 19:06	
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/7/23 19:06	UJ, RC:SL
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/7/23 19:06	UJ, RC:SL,Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/7/23 19:06	
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/7/23 19:06	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/7/23 19:06	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/7/23 19:06	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/7/23 19:06	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/7/23 19:06	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/7/23 19:06	
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/7/23 19:06	
Carbazole	ND	U	0.188	2.00	ug/L	1	6/7/23 19:06	
Chrysene	ND	U	0.129	2.00	ug/L	1	6/7/23 19:06	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/7/23 19:06	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/7/23 19:06	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/7/23 19:06	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/7/23 19:06	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/7/23 19:06	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/7/23 19:06	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-03 (Ground Water) Sample Name: **FB-20230602** Collected: **6/2/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	ND	U	0.109	2.00	ug/L	1	6/7/23 19:06
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/7/23 19:06
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/7/23 19:06
Isophorone	ND	U	0.111	2.00	ug/L	1	6/7/23 19:06
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/7/23 19:06
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/7/23 19:06
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/7/23 19:06
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/7/23 19:06
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/7/23 19:06
Phenol	ND	U	0.0973	2.00	ug/L	1	6/7/23 19:06
Pyrene	ND	U	0.115	2.00	ug/L	1	6/7/23 19:06

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/13/23 13:37
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/13/23 13:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/13/23 13:37
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/13/23 13:37
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/13/23 13:37
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/13/23 13:37
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/13/23 13:37
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/13/23 13:37
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/13/23 13:37
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/13/23 13:37
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/13/23 13:37
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/13/23 13:37
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/13/23 13:37
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/13/23 13:37
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/13/23 13:37
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/13/23 13:37
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/13/23 13:37
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/13/23 13:37
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/13/23 13:37
Acetone	ND	U	10.0	10.0	ug/L	1	6/13/23 13:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-03 (Ground Water) Sample Name: **FB-20230602** Collected: **6/2/2023 12:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzene	ND	U	0.129	1.00	ug/L	1	6/13/23 13:37	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/13/23 13:37	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/13/23 13:37	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/13/23 13:37	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/13/23 13:37	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/13/23 13:37	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/13/23 13:37	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/13/23 13:37	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/13/23 13:37	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/13/23 13:37	UJ, RC:SL
Chloroform	ND	U	0.365	1.00	ug/L	1	6/13/23 13:37	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/13/23 13:37	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/13/23 13:37	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/13/23 13:37	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/13/23 13:37	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/13/23 13:37	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/13/23 13:37	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/13/23 13:37	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/13/23 13:37	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/13/23 13:37	UJ, RC:SL
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/13/23 13:37	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/13/23 13:37	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/13/23 13:37	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/13/23 13:37	
Styrene	ND	U	0.176	1.00	ug/L	1	6/13/23 13:37	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/13/23 13:37	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/13/23 13:37	
Toluene	ND	U	0.205	1.00	ug/L	1	6/13/23 13:37	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/13/23 13:37	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/13/23 13:37	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/13/23 13:37	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/13/23 13:37	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/13/23 13:37	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/13/23 13:37	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-03 (Ground Water) Sample Name: **FB-20230602** Collected: **6/2/2023 12:30:00PM**

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/9/23 17:05

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00493	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1221	ND	U	0.00970	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1232	ND	U	0.0123	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1242	ND	U	0.00723	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1248	ND	U	0.00756	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1254	ND	U	0.00594	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1260	ND	U	0.00461	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1262	ND	U	0.00990	0.0368	mg/kg	1	6/15/23 14:46
Aroclor-1268	ND	U	0.00445	0.0368	mg/kg	1	6/15/23 14:46
Total PCBs	ND	U	0.00343	0.0368	mg/kg	1	6/15/23 14:46

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	6/22/23 17:41
2,4-D	ND	U	0.0185	0.111	mg/kg	1	6/22/23 17:41

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0348**		**0.00557**	**0.0223**	**mg/kg**	**1**	**6/14/23 15:49**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5360**		**0.166**	**2.80**	**mg/kg**	**1**	**6/14/23 12:00**
Antimony	ND	U	0.153	1.40	mg/kg	1	6/14/23 12:00
Arsenic	**6.20**		**0.0999**	**1.40**	**mg/kg**	**1**	**6/14/23 12:00**
Barium	**37.1**		**0.0423**	**0.560**	**mg/kg**	**1**	**6/14/23 12:00**
Beryllium	**0.404**		**0.00324**	**0.0280**	**mg/kg**	**1**	**6/14/23 12:00**
Cadmium	ND	U	0.0546	0.280	mg/kg	1	6/14/23 12:00
Calcium	**12800**		**3.15**	**28.0**	**mg/kg**	**1**	**6/14/23 12:00**
Chromium	**13.8**		**0.0316**	**0.280**	**mg/kg**	**1**	**6/14/23 12:00**
Cobalt	**4.34**		**0.0286**	**0.224**	**mg/kg**	**1**	**6/14/23 12:00**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**41.7**		**0.0783**	**0.280**	**mg/kg**	**1**	**6/14/23 12:00**
Iron	**11500**		**0.793**	**5.60**	**mg/kg**	**1**	**6/14/23 12:00**
Lead	**50.5**		**0.117**	**1.40**	**mg/kg**	**1**	**6/14/23 12:00**
Magnesium	**2870**		**9.89**	**56.0**	**mg/kg**	**1**	**6/14/23 12:00**
Manganese	**137**		**0.0348**	**0.280**	**mg/kg**	**1**	**6/14/23 12:00**
Nickel	**20.6**		**0.0246**	**0.140**	**mg/kg**	**1**	**6/14/23 12:00**
Potassium	**953**		**33.3**	**112**	**mg/kg**	**1**	**6/14/23 12:00**
Selenium	ND	U	0.269	1.40	mg/kg	1	6/14/23 12:00
Silver	ND	U	0.0476	0.168	mg/kg	1	6/14/23 12:00
Sodium	**716**		**5.34**	**56.0**	**mg/kg**	**1**	**6/14/23 12:00**
Thallium	ND	U	0.0942	1.40	mg/kg	1	6/14/23 12:00
Vanadium	**50.7**		**0.0644**	**0.560**	**mg/kg**	**1**	**6/14/23 12:00**
Zinc	**41.2**		**0.0855**	**0.840**	**mg/kg**	**1**	**6/14/23 12:00**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.331**	D	**0.0133**	**0.0290**	**mg/kg**	**20**	**6/15/23 20:56**	J, RC:3H
4,4'-DDE	ND	U	0.000792	0.00145	mg/kg	1	6/14/23 21:25	UJ, RC:6L
4,4'-DDT	**0.0208**		**0.00102**	**0.00145**	**mg/kg**	**1**	**6/14/23 21:25**	J, RC:3H
Aldrin	ND	U	0.000687	0.00145	mg/kg	1	6/14/23 21:25	
alpha-BHC	ND	U	0.000431	0.00145	mg/kg	1	6/14/23 21:25	
beta-BHC	ND	U	0.000692	0.00145	mg/kg	1	6/14/23 21:25	
Chlordane	**0.704**	D	**0.0129**	**0.0290**	**mg/kg**	**20**	**6/15/23 20:56**	J, RC:3H
delta-BHC	ND	U	0.000673	0.00145	mg/kg	1	6/14/23 21:25	
Dieldrin	ND	U	0.000758	0.00145	mg/kg	1	6/14/23 21:25	
Endosulfan I	ND	U	0.000684	0.00145	mg/kg	1	6/14/23 21:25	
Endosulfan II	ND	U	0.000659	0.00145	mg/kg	1	6/14/23 21:25	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000545	0.00145	mg/kg	1	6/14/23 21:25	
Endosulfans, Total (alpha and beta)	ND	U	0.000659	0.00145	mg/kg	1	6/14/23 21:25	
Endrin	ND	U	0.000500	0.00145	mg/kg	1	6/14/23 21:25	
Endrin aldehyde	ND	U	0.000577	0.00145	mg/kg	1	6/14/23 21:25	
Endrin ketone	ND	U	0.000510	0.00145	mg/kg	1	6/14/23 21:25	
gamma-BHC (Lindane)	ND	U	0.000459	0.00145	mg/kg	1	6/14/23 21:25	
Heptachlor	ND	U	0.000388	0.00145	mg/kg	1	6/14/23 21:25	
Heptachlor Epoxide	ND	U	0.000731	0.00145	mg/kg	1	6/14/23 21:25	
Methoxychlor	ND	U	0.000425	0.00145	mg/kg	1	6/14/23 21:25	
Toxaphene	ND	U	0.0698	0.0736	mg/kg	1	6/14/23 21:25	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.0210	0.186	mg/kg	5	6/16/23 13:58	
2,3,4,6-Tetrachlorophenol	ND	U	0.114	0.741	mg/kg	5	6/16/23 13:58	
2,4,5-Trichlorophenol	ND	U	0.101	0.741	mg/kg	5	6/16/23 13:58	
2,4,6-Trichlorophenol	ND	U	0.0464	0.741	mg/kg	5	6/16/23 13:58	
2,4-Dichlorophenol	ND	U	0.0747	0.741	mg/kg	5	6/16/23 13:58	
2,4-Dimethylphenol	ND	U	0.0730	0.741	mg/kg	5	6/16/23 13:58	
2,4-Dinitrophenol	ND	U	0.107	3.72	mg/kg	5	6/16/23 13:58	
2,4-Dinitrotoluene	ND	U	0.0791	0.741	mg/kg	5	6/16/23 13:58	
2,6-Dinitrotoluene	ND	U	0.177	0.741	mg/kg	5	6/16/23 13:58	
2-Chloronaphthalene	ND	U	0.0853	0.741	mg/kg	5	6/16/23 13:58	
2-Chlorophenol	ND	U	0.0981	0.741	mg/kg	5	6/16/23 13:58	
2-Methylnaphthalene	**908**	D	**3.56**	**22.3**	**mg/kg**	**100**	**6/20/23 17:23**	
2-Methylphenol	ND	U	0.147	0.741	mg/kg	5	6/16/23 13:58	
2-Nitroaniline	ND	U	0.0596	0.741	mg/kg	5	6/16/23 13:58	
2-Nitrophenol	ND	U	0.0825	0.741	mg/kg	5	6/16/23 13:58	
3,3'-Dichlorobenzidine	ND	U	0.0780	0.741	mg/kg	5	6/16/23 13:58	
3+4-Methylphenol	ND	U	0.136	0.741	mg/kg	5	6/16/23 13:58	
3-Nitroaniline	ND	U	0.138	0.741	mg/kg	5	6/16/23 13:58	
4,6-Dinitro-2-methylphenol	ND	U	0.140	1.86	mg/kg	5	6/16/23 13:58	
4-Bromophenyl-phenyl ether	ND	U	0.106	0.741	mg/kg	5	6/16/23 13:58	
4-Chloro-3-methylphenol	ND	U	0.117	0.741	mg/kg	5	6/16/23 13:58	
4-Chloroaniline	ND	U	0.0260	0.741	mg/kg	5	6/16/23 13:58	
4-Chlorophenyl phenyl ether	ND	U	0.0401	0.741	mg/kg	5	6/16/23 13:58	
4-Nitroaniline	ND	U	0.371	0.741	mg/kg	5	6/16/23 13:58	
4-Nitrophenol	ND	U	0.0475	0.741	mg/kg	5	6/16/23 13:58	
Acenaphthene	**172**	D	**0.423**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Acenaphthylene	**383**	D	**0.258**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Acetophenone	ND	U	0.0736	0.741	mg/kg	5	6/16/23 13:58	
Anthracene	**241**	D	**1.08**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Atrazine	ND	U	0.0697	0.741	mg/kg	5	6/16/23 13:58	
Benzaldehyde	ND	U	0.228	0.741	mg/kg	5	6/16/23 13:58	UJ, RC:SL
Benzo(a)anthracene	**152**	D	**0.747**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Benzo(a)pyrene	**130**	D	**1.29**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Benzo(b)fluoranthene	**84.0**	D	**1.04**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Benzo(g,h,i)perylene	**54.3**	D	**0.602**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	J, RC:SH
Benzo(k)fluoranthene	**36.0**	D	**0.0853**	**0.741**	**mg/kg**	**5**	**6/16/23 13:58**	
Biphenyl	**107**	D	**0.652**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
bis(2-chloroethoxy)methane	ND	U	0.103	0.741	mg/kg	5	6/16/23 13:58	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0814	0.741	mg/kg	5	6/16/23 13:58	
bis(2-chloroisopropyl)ether	ND	U	0.267	0.741	mg/kg	5	6/16/23 13:58	
bis(2-ethylhexyl)phthalate	ND	U	0.148	0.741	mg/kg	5	6/16/23 13:58	
Butylbenzylphthalate	ND	U	0.0674	0.741	mg/kg	5	6/16/23 13:58	
Caprolactam	ND	U	0.0958	0.741	mg/kg	5	6/16/23 13:58	
Carbazole	**11.0**	D	**0.143**	**1.86**	**mg/kg**	**5**	**6/16/23 13:58**	
Chrysene	**143**	D	**0.508**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Dibenzo(a,h)anthracene	**6.16**	D	**0.0736**	**0.741**	**mg/kg**	**5**	**6/16/23 13:58**	J, RC:SH
Dibenzofuran	**59.3**	D	**0.442**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Diethylphthalate	ND	U	0.144	0.741	mg/kg	5	6/16/23 13:58	
Dimethylphthalate	ND	U	0.0460	0.741	mg/kg	5	6/16/23 13:58	
Di-n-butylphthalate	ND	U	0.303	0.741	mg/kg	5	6/16/23 13:58	
Di-n-octylphthalate	ND	U	0.152	0.741	mg/kg	5	6/16/23 13:58	
Fluoranthene	**308**	D	**0.697**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Fluorene	**322**	D	**0.619**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	
Hexachlorobenzene	ND	U	0.0970	0.741	mg/kg	5	6/16/23 13:58	
Hexachlorobutadiene	ND	U	0.356	0.741	mg/kg	5	6/16/23 13:58	
Hexachlorocyclopentadiene	ND	U	0.309	1.86	mg/kg	5	6/16/23 13:58	UJ, RC:SL
Hexachloroethane	ND	U	0.0814	0.741	mg/kg	5	6/16/23 13:58	
Indeno(1,2,3-cd)pyrene	**44.1**	D	**0.0797**	**0.741**	**mg/kg**	**5**	**6/16/23 13:58**	J, RC:SH
Isophorone	ND	U	0.0486	0.741	mg/kg	5	6/16/23 13:58	
Naphthalene	**3330**	D	**5.49**	**74.1**	**mg/kg**	**500**	**6/22/23 19:38**	
Nitrobenzene	ND	U	0.126	0.741	mg/kg	5	6/16/23 13:58	
n-Nitroso-di-n-propylamine	ND	U	0.0397	0.741	mg/kg	5	6/16/23 13:58	
n-Nitrosodiphenylamine	ND	U	0.158	0.741	mg/kg	5	6/16/23 13:58	
Pentachlorophenol	ND	U	0.102	1.86	mg/kg	5	6/16/23 13:58	
Phenanthrene	**814**	D	**1.95**	**14.8**	**mg/kg**	**100**	**6/20/23 17:23**	
Phenol	ND	U	0.0602	0.741	mg/kg	5	6/16/23 13:58	
Pyrene	**354**	D	**0.546**	**7.41**	**mg/kg**	**50**	**6/16/23 19:40**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethyl-3-methyl-	26.2	6.44	J, D	mg/kg	5	6/16/23 13:58
Benzene, 2-propenyl-	62.8	6.74	J, D	mg/kg	5	6/16/23 13:58
Ethylbenzene	39.6	5.49	J, D	mg/kg	5	6/16/23 13:58
Indane	32.3	7.10	J, D	mg/kg	5	6/16/23 13:58
Indene	101	7.19	J, D	mg/kg	5	6/16/23 13:58
Naphthalene, 1,5-dimethyl-	37.9	9.67	J, D	mg/kg	5	6/16/23 13:58

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Naphthalene, 1,6-dimethyl-	74.3	9.64	J, D	mg/kg	5	6/16/23 13:58
Naphthalene, 1-ethyl-	39.7	9.49	J, D	mg/kg	5	6/16/23 13:58
Naphthalene, 2,3,6-trimethyl-	26.4	10.33	J, D	mg/kg	5	6/16/23 13:58
Naphthalene, 2,6-dimethyl-	65.8	9.56	J, D	mg/kg	5	6/16/23 13:58
unknown (01)	37.8	9.71	J, D	mg/kg	5	6/16/23 13:58
unknown (02)	48.8	9.76	J, D	mg/kg	5	6/16/23 13:58
unknown (03)	37.3	10.29	J, D	mg/kg	5	6/16/23 13:58
unknown (04)	33.5	10.45	J, D	mg/kg	5	6/16/23 13:58
unknown (05)	41.4	16.75	J, D	mg/kg	5	6/16/23 13:58
TIC Total	**705**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000247	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000233	0.00169	mg/kg	1	6/14/23 17:38	RC:X
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000723	0.00169	mg/kg	1	6/14/23 17:38	
1,1,2-Trichloroethane	ND	U	0.000285	0.00169	mg/kg	1	6/14/23 17:38	
1,1-Dichloroethane	ND	U	0.000247	0.00169	mg/kg	1	6/14/23 17:38	
1,1-Dichloroethene	ND	U	0.000312	0.00169	mg/kg	1	6/14/23 17:38	
1,2,3-Trichlorobenzene	~~ND~~	~~U~~	0.000365	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:R
1,2,4-Trichlorobenzene	~~ND~~	~~U~~	0.000450	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:R
1,2,4-Trimethylbenzene	**288**	D	**3.48**	**25.2**	**mg/kg**	**10638**	**6/16/23 6:11**	J, RC:3L
1,2-Dibromo-3-chloropropane	~~ND~~	~~U~~	0.000412	0.00422	mg/kg	1	6/14/23 17:38	UJ, RC:R
1,2-Dibromoethane	ND	U	0.000213	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
1,2-Dichlorobenzene	~~ND~~	~~U~~	0.000298	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:R
1,2-Dichloroethane	**2.10**	J, D	**0.356**	**2.52**	**mg/kg**	**1064**	**6/16/23 5:41**	J, RC:3L
1,2-Dichloropropane	ND	U	0.000277	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
1,3-Dichlorobenzene	ND	U	0.000124	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L,X
1,4-Dichlorobenzene	~~ND~~	~~U~~	0.000243	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:R
2-Butanone	ND	U	0.000275	0.00844	mg/kg	1	6/14/23 17:38	UJ, RC:3L
2-Hexanone	ND	U	0.000158	0.00169	mg/kg	1	6/14/23 17:38	
4-Methyl-2-pentanone	ND	U	0.000211	0.00169	mg/kg	1	6/14/23 17:38	
Acetone	ND	U	0.000512	0.0422	mg/kg	1	6/14/23 17:38	
Benzene	**87.0**	D	**0.230**	**2.52**	**mg/kg**	**1064**	**6/16/23 5:41**	J, RC:3L
Bromochloromethane	ND	U	0.000312	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Bromodichloromethane	ND	U	0.000212	0.00169	mg/kg	1	6/14/23 17:38	
Bromoform	ND	U	0.000296	0.00169	mg/kg	1	6/14/23 17:38	RC:X

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromomethane	ND	U	0.000487	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Carbon disulfide	ND	U	0.000242	0.00169	mg/kg	1	6/14/23 17:38	
Carbon Tetrachloride	ND	U	0.000254	0.00169	mg/kg	1	6/14/23 17:38	
Chlorobenzene	ND	U	0.000245	0.00169	mg/kg	1	6/14/23 17:38	RC:X
Chlorodibromomethane	ND	U	0.000208	0.00169	mg/kg	1	6/14/23 17:38	
Chloroethane	ND	U	0.000288	0.00169	mg/kg	1	6/14/23 17:38	
Chloroform	ND	U	0.000284	0.00169	mg/kg	1	6/14/23 17:38	
Chloromethane	**0.00359**		**0.000650**	**0.00169**	**mg/kg**	**1**	**6/14/23 17:38**	J, RC:3L
cis-1,2-Dichloroethene	ND	U	0.0000816	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
cis-1,3-Dichloropropene	ND	U	0.000214	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Cyclohexane	**0.0270**		**0.000374**	**0.00169**	**mg/kg**	**1**	**6/14/23 17:38**	J, RC:3L
Dichlorodifluoromethane	ND	U	0.000570	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
EthylBenzene	**503**	D	**3.42**	**25.2**	**mg/kg**	**10638**	**6/16/23 6:11**	J, RC:3L
Isopropylbenzene	**0.329**		**0.000265**	**0.00169**	**mg/kg**	**1**	**6/14/23 17:38**	J, RC:3L
m+p-Xylenes	**369**	D	**0.637**	**5.05**	**mg/kg**	**1064**	**6/16/23 5:41**	J, RC:3L
Methyl Acetate	ND	U	0.000224	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000285	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Methylcyclohexane	**0.205**		**0.000272**	**0.00169**	**mg/kg**	**1**	**6/14/23 17:38**	J, RC:3L
Methylene Chloride	ND	U	0.000507	0.00422	mg/kg	1	6/14/23 17:38	UJ, RC:3L
o-Xylene	**170**	D	**0.324**	**2.52**	**mg/kg**	**1064**	**6/16/23 5:41**	J, RC:3L
Styrene	**62.7**	D	**0.361**	**2.52**	**mg/kg**	**1064**	**6/16/23 5:41**	J, RC:3L
tert-Butyl alcohol	ND	U	0.00355	0.0169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Tetrachloroethene	ND	U	0.000167	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
Toluene	**295**	D	**2.03**	**25.2**	**mg/kg**	**10638**	**6/16/23 6:11**	J, RC:3L
Total Xylenes	**539**	D	**0.324**	**2.52**	**mg/kg**	**1064**	**6/16/23 5:41**	J, RC:3L
trans-1,2-Dichloroethene	ND	U	0.000229	0.00169	mg/kg	1	6/14/23 17:38	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000323	0.00169	mg/kg	1	6/14/23 17:38	
Trichloroethene	ND	U	0.000248	0.00169	mg/kg	1	6/14/23 17:38	
Trichlorofluoromethane	ND	U	0.000194	0.00169	mg/kg	1	6/14/23 17:38	
Vinyl chloride	ND	U	0.000321	0.00169	mg/kg	1	6/14/23 17:38	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
3-Heptyne	0.0497	10.32	J	mg/kg	1	6/14/23 17:38
Benzene, (1-methylethyl)-	0.0936	16.58	J	mg/kg	1	6/14/23 17:38
Benzene, 1-ethyl-2-methyl-	0.113	16.52	J	mg/kg	1	6/14/23 17:38
Cyclohexane, ethenyl-	0.0398	12.82	J	mg/kg	1	6/14/23 17:38
Cyclohexene, 1,2-dimethyl-	0.0451	12.23	J	mg/kg	1	6/14/23 17:38

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-04 (Soil) Sample Name: **MW-07-35.0-36.0-2023 0602** Collected: **6/2/2023 12:35:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexene, 1-methyl-	0.0742	11.16	J	mg/kg	1	6/14/23 17:38
Cyclohexene, 3-methyl-	0.0422	8.85	J	mg/kg	1	6/14/23 17:38
Heptane	0.0518	8.54	J	mg/kg	1	6/14/23 17:38
Indene	0.0588	18.66	J	mg/kg	1	6/14/23 17:38
Octane	0.140	11.87	J	mg/kg	1	6/14/23 17:38
Octane, 2-methyl-	0.0422	13.61	J	mg/kg	1	6/14/23 17:38
Thiophene	0.0552	8.27	J	mg/kg	1	6/14/23 17:38
Thiophene, 3-methyl-	0.0525	12.03	J	mg/kg	1	6/14/23 17:38
TIC:Naphthalene	0.0442	21.61	J	mg/kg	1	6/14/23 17:38
TIC Total	**0.903**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.7**				**%**	**1**	**6/5/23 11:29**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00832	0.0698	mg/kg	1	6/12/23 17:07

23F0123-05 (Ground Water) Sample Name: **TB-20230602** Collected: **6/2/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/13/23 14:03
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/13/23 14:03
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/13/23 14:03
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/13/23 14:03
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/13/23 14:03
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/13/23 14:03
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/13/23 14:03
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/13/23 14:03
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/13/23 14:03
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/13/23 14:03
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/13/23 14:03
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/13/23 14:03
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/13/23 14:03

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-05 (Ground Water) Sample Name: **TB-20230602** Collected: **6/2/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/13/23 14:03	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/13/23 14:03	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/13/23 14:03	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/13/23 14:03	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/13/23 14:03	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/13/23 14:03	
Acetone	ND	U	10.0	10.0	ug/L	1	6/13/23 14:03	
Benzene	ND	U	0.129	1.00	ug/L	1	6/13/23 14:03	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/13/23 14:03	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/13/23 14:03	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/13/23 14:03	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/13/23 14:03	UJ, RC:SL,6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/13/23 14:03	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/13/23 14:03	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/13/23 14:03	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/13/23 14:03	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/13/23 14:03	UJ, RC:SL
Chloroform	ND	U	0.365	1.00	ug/L	1	6/13/23 14:03	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/13/23 14:03	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/13/23 14:03	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/13/23 14:03	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/13/23 14:03	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/13/23 14:03	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/13/23 14:03	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/13/23 14:03	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/13/23 14:03	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/13/23 14:03	UJ, RC:SL
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/13/23 14:03	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/13/23 14:03	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/13/23 14:03	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/13/23 14:03	
Styrene	ND	U	0.176	1.00	ug/L	1	6/13/23 14:03	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/13/23 14:03	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/13/23 14:03	
Toluene	ND	U	0.205	1.00	ug/L	1	6/13/23 14:03	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/13/23 14:03	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/13/23 14:03	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/13/23 14:03	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/13/23 14:03	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0123
Date to Lab: 6/2/2023 5:00:00PM

23F0123-05 (Ground Water) Sample Name: **TB-20230602** Collected: **6/2/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/13/23 14:03
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/13/23 14:03

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-01	**Date Collected**	: 06/02/23 08:45
Client ID	: MW-07-1.0-2.0-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/03/23 00:29
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022312	**Analyst**	: CNC
Sample Amount	: 2.73 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	269	16.2	4.67	
91-20-3C1	C1-Naphthalenes	1120	16.2	4.67	
91-20-3C2	C2-Naphthalenes	3010	16.2	4.67	
91-20-3C3	C3-Naphthalenes	3520	16.2	4.67	
91-20-3C4	C4-Naphthalenes	2350	16.2	4.67	
208-96-8	Acenaphthylene	458	16.2	3.10	
83-32-9	Acenaphthene	246	16.2	2.86	
86-73-7	Fluorene	522	16.2	4.33	
86-73-7C1	C1-Fluorenes	864	16.2	4.33	
86-73-7C2	C2-Fluorenes	1480	16.2	4.33	
86-73-7C3	C3-Fluorenes	1350	16.2	4.33	
85-01-8	Phenanthrene	4300	16.2	5.38	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	3700	16.2	5.38	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	3080	16.2	5.38	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	1470	16.2	5.38	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	519	16.2	5.38	
120-12-7	Anthracene	1660	16.2	3.35	
206-44-0	Fluoranthene	7550	16.2	5.16	
129-00-0	Pyrene	6600	16.2	4.27	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	4280	16.2	4.27	
56-55-3	Benz(a)anthracene	3710	16.2	3.31	
218-01-9	Chrysene	3460	16.2	3.28	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-01	**Date Collected**	: 06/02/23 08:45
Client ID	: MW-07-1.0-2.0-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/03/23 00:29
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022312	**Analyst**	: CNC
Sample Amount	: 2.73 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1730	16.2	3.28	
218-01-9C2	C2-Chrysenes BS	982	16.2	3.28	
218-01-9C3	C3-Chrysenes	871	16.2	3.28	
218-01-9C4	C4-Chrysenes	479	16.2	3.28	
205-99-2	Benzo(b)fluoranthene	3060	16.2	4.22	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2960	16.2	3.22	
192-97-2	Benzo(e)pyrene	2320	16.2	3.35	
50-32-8	Benzo(a)pyrene	3540	16.2	4.64	
198-55-0	Perylene	958	16.2	3.13	
193-39-5	Indeno(1,2,3-cd)pyrene	2250	16.2	4.41	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	657	16.2	4.39	
191-24-2	Benzo(g,h,i)perylene	2120	16.2	4.31	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-02D	**Date Collected**	: 06/02/23 10:45
Client ID	: MW-07-6.6-7.6-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/03/23 10:19
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F207022319	**Analyst**	: CNC
Sample Amount	: 1.09 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 69
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	8630000	7990	2300	
91-20-3C1	C1-Naphthalenes	1120000	7990	2300	
91-20-3C2	C2-Naphthalenes	1060000	7990	2300	
91-20-3C3	C3-Naphthalenes	494000	7990	2300	
91-20-3C4	C4-Naphthalenes	153000	7990	2300	
208-96-8	Acenaphthylene	64000	7990	1520	
83-32-9	Acenaphthene	1310000	7990	1410	
86-73-7	Fluorene	1250000	7990	2130	
86-73-7C1	C1-Fluorenes	232000	7990	2130	
86-73-7C2	C2-Fluorenes	136000	7990	2130	
86-73-7C3	C3-Fluorenes	135000	7990	2130	
85-01-8	Phenanthrene	3700000	7990	2650	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	876000	7990	2650	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	396000	7990	2650	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	125000	7990	2650	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	37600	7990	2650	
120-12-7	Anthracene	780000	7990	1650	
206-44-0	Fluoranthene	1560000	7990	2540	
129-00-0	Pyrene	1320000	7990	2100	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	525000	7990	2100	
56-55-3	Benz(a)anthracene	374000	7990	1630	
218-01-9	Chrysene	366000	7990	1610	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-02D	**Date Collected**	: 06/02/23 10:45
Client ID	: MW-07-6.6-7.6-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/03/23 10:19
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F207022319	**Analyst**	: CNC
Sample Amount	: 1.09 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 69
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	148000	7990	1610	
218-01-9C2	C2-Chrysenes BS	72600	7990	1610	
218-01-9C3	C3-Chrysenes	65900	7990	1610	
218-01-9C4	C4-Chrysenes	ND	7990	1610	U
205-99-2	Benzo(b)fluoranthene	195000	7990	2080	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	243000	7990	1580	
192-97-2	Benzo(e)pyrene	173000	7990	1650	
50-32-8	Benzo(a)pyrene	302000	7990	2280	
198-55-0	Perylene	74100	7990	1540	
193-39-5	Indeno(1,2,3-cd)pyrene	160000	7990	2170	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	37500	7990	2160	
191-24-2	Benzo(g,h,i)perylene	164000	7990	2120	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-03D	**Date Collected**	: 06/02/23 12:35
Client ID	: MW-07-35.0-36.0-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/03/23 11:44
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F207022319A	**Analyst**	: CNC
Sample Amount	: 2.28 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1940000	1930	555.	
91-20-3C1	C1-Naphthalenes	1160000	1930	555.	
91-20-3C2	C2-Naphthalenes	637000	1930	555.	
91-20-3C3	C3-Naphthalenes	240000	1930	555.	
91-20-3C4	C4-Naphthalenes	68100	1930	555.	
208-96-8	Acenaphthylene	152000	1930	368.	
83-32-9	Acenaphthene	525000	1930	340.	
86-73-7	Fluorene	350000	1930	515.	
86-73-7C1	C1-Fluorenes	170000	1930	515.	
86-73-7C2	C2-Fluorenes	112000	1930	515.	
86-73-7C3	C3-Fluorenes	49100	1930	515.	
85-01-8	Phenanthrene	1040000	1930	639.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	689000	1930	639.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	295000	1930	639.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	83700	1930	639.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	17900	1930	639.	
120-12-7	Anthracene	325000	1930	398.	
206-44-0	Fluoranthene	310000	1930	613.	
129-00-0	Pyrene	478000	1930	508.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	466000	1930	508.	
56-55-3	Benz(a)anthracene	182000	1930	393.	
218-01-9	Chrysene	177000	1930	390.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-03D	**Date Collected**	: 06/02/23 12:35
Client ID	: MW-07-35.0-36.0-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 07/03/23 11:44
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F207022319A	**Analyst**	: CNC
Sample Amount	: 2.28 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 91
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	133000	1930	390.	
218-01-9C2	C2-Chrysenes BS	52800	1930	390.	
218-01-9C3	C3-Chrysenes	20400	1930	390.	
218-01-9C4	C4-Chrysenes	ND	1930	390.	U
205-99-2	Benzo(b)fluoranthene	62300	1930	502.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	90100	1930	383.	
192-97-2	Benzo(e)pyrene	75600	1930	398.	
50-32-8	Benzo(a)pyrene	161000	1930	551.	
198-55-0	Perylene	25800	1930	372.	
193-39-5	Indeno(1,2,3-cd)pyrene	52100	1930	524.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	17800	1930	521.	
191-24-2	Benzo(g,h,i)perylene	59200	1930	513.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: WG1791654-1	**Date Collected**	: NA
Client ID	: WG1791654-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/02/23 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	ND	1.00	0.287	U
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	0.304	1.00	0.263	J
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: WG1791654-1	**Date Collected**	: NA
Client ID	: WG1791654-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/02/23 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-01	**Date Collected**	: 06/02/23 08:45
Client ID	: MW-07-1.0-2.0-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-02	**Date Collected**	: 06/02/23 10:45
Client ID	: MW-07-6.6-7.6-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 69
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.4	1.4	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331245
Project Name	: 23F0123	**Project Number**	: 23F0123
Lab ID	: L2331245-03	**Date Collected**	: 06/02/23 12:35
Client ID	: MW-07-35.0-36.0-20230602	**Date Received**	: 06/05/23
Sample Location	:	**Date Analyzed**	: 06/07/23 01:00
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 91
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2331680 and 23F0169
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 29, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MW-07-66.5-67.5-20230605	23F0169-01	06/05/2023	Soil
FB-20230605	23F0169-02	06/05/2023	Water
MW-05-1.0-2.0-20230605	23F0169-03	06/05/2023	Soil
MW-05-1.0-2.0-20230605MS	23F0169-04	06/05/2023	Soil
MW-05-1.0-2.0-20230605MSD	23F0169-05	06/05/2023	Soil
MW-05-5.0-6.0-20230605	23F0169-06	06/05/2023	Soil
TB-20230605	23F0169-07	06/05/2023	Water

Data validation was performed on the analytical data for seven (7) samples collected June 5, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, laboratory control samples, matrix spike samples, serial dilutions.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha laboratories.
- Sample FB-20230605 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- All surrogates exhibited acceptable recoveries within QC limits.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20230605 TB-20230605	Acetone	%R > CL	J (Detects) No Action (NDs)	6H
	FB-20230605 TB-20230605	Bromomethane	%R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	FB-20230605 TB-20230605	Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-1.0-2.0-20230605MS	Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-05-1.0-2.0-20230605MSD MW-05-5.0-6.0-20230605	Tetrachloroethene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, 4-hydroxy-4-methyl-2-Pentanone and unknown. Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The 8270E-SIM method blank had low-level detections for C1-Fluoranthenes/Pyrenes; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230605	2,4-Dimethylphenol 2,4-Dinitrophenol 4-Nitrophenol Atrazine bis(2-chloroisopropyl)ether Butylbenzylphthalate Hexachlorocyclopentadiene n-Nitroso-dimethylamine Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (NDs)	SL
	MW-07-66.5-67.5-20230605	2,4-Dimethylphenol 2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MW-05-1.0-2.0-20230605MS MW-05-1.0-2.0-20230605MSD	2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde bis(2-chloroethoxy)methane Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E	MW-05-1.0-2.0-20230605	4-Nitrophenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde bis(2-chloroethoxy)methane Hexachlorocyclopentadiene Isophorone Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
	MW-05-5.0-6.0-20230605	2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Benzaldehyde	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Method 8082: Surrogates exhibited acceptable recoveries.
- Method 8081: Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230605	Endrin	10% < %R < CL	J (Detects) UJ (NDs)	6L
	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605	Endosulfan sulfate 4,4'-DDE	10% < %R < CL	J (Detects) UJ (NDs)	6L
	MW-05-1.0-2.0-20230605MS MW-05-1.0-2.0-20230605MSD MW-05-5.0-6.0-20230605	Endrin aldehyde	%R > CL	J (Detects) No action (NDs)	6H
8082A	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-1.0-2.0-20230605MS MW-05-1.0-2.0-20230605MSD MW-05-5.0-6.0-20230605	Aroclor-1016	10% < %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8151A	FB-20230605 MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-1.0-2.0-20230605MS MW-05-1.0-2.0-20230605MSD MW-05-5.0-6.0-20230605	2,4,5-T Silvex (2,4,5-TP)	CCV %D > 20% (decrease in response)	J (detects) UJ (NDs)	SL

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-1.0-2.0-20230605MS MW-05-1.0-2.0-20230605MSD MW-05-5.0-6.0-20230605	Zinc	%R > CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-5.0-6.0-20230605	Copper Calcium	%R > CL	J (Detects) No action (NDs)	4H
		Aluminum Antimony Chromium Cobalt Magnesium Nickel Thallium Vanadium Zinc	10% < %R < CL	J (detects) UJ (non-detects)	4L
		Vanadium	10% > %R < CL	J (detects) UJ (non-detects)	4L
		Antimony Copper Thallium Zinc	RPD > 20%	J (Detects) No action (NDs)	5

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- Laboratory duplicate analysis exhibited acceptable RPDs except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-5.0-6.0-20230605	Barium Beryllium Cadmium Lead Magnesium Nickel Vanadium Zinc	RPD > 20%	J (Detects) No action (NDs)	D

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- Serial dilution exhibited acceptable RPDs except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	MW-07-66.5-67.5-20230605 MW-05-1.0-2.0-20230605 MW-05-5.0-6.0-20230605	Aluminum Barium Beryllium Chromium Cobalt Copper Iron Lead Manganese Nickel Sodium Vanadium Zinc	RPD > 20%	J (Detects) No action (NDs)	AA

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 29, 2024 Peer Review: JLD

Corey Strauss
Project Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial dilution problem

APL

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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0169

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 28, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23F0169

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-07-66.5-67.5-20230605	23F0169-01	Soil	06/05/2023 10:54	06/05/2023 14:48
FB-20230605	23F0169-02	Ground Water	06/05/2023 12:00	06/05/2023 14:48
MW-05-1.0-2.0-20230605	23F0169-03	Soil	06/05/2023 12:05	06/05/2023 14:48
MW-05-1.0-2.0-20230605MS	23F0169-04	Soil	06/05/2023 12:10	06/05/2023 14:48
MW-05-1.0-2.0-20230605MSD	23F0169-05	Soil	06/05/2023 12:15	06/05/2023 14:48
MW-05-5.0-6.0-20230605	23F0169-06	Soil	06/05/2023 13:00	06/05/2023 14:48
TB-20230605	23F0169-07	Ground Water	06/05/2023 00:00	06/05/2023 14:48

PN: 23F0169

APL 23F0169

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CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd Fl. Elmwood Park, NJ, 07407	ADDRESS:
PHONE: 201-703-9621	PHONE:
E-MAIL: Swang@yu-associates.com	FAX: QS
PROJECT NAME: Gowanus OMM - Sixuan Wang	SEND INVOICE TO:
PROJECT MGR:	ADDRESS: Left.
PROJECT or PO #: 156854	SAMPLED BY: VP

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#____

PWSID#____

[X] NYS Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0169 -01	MW-07-66.5-67.5-20230605	06/05/23	1054	X		S	5		VOC, SVOC, PCB, Pesticide, Herbicide, TAL Metals, Alkylated PAH, TCN, FCN.
-02	FB-20230605	06/05/23	1200	X		DI Water	10		"
-03	MW-05-1.0-2.0-20230605	06/05/23	1205	X		S	5		"
-04	MW-05-1.0-2.0-20230605MS	06/05/23	1210	X		S	5		"
-05	MW-05-1.0-2.0-20230605MSD	06/05/23	1215	X		S	5		"
-06	MW-05-50.0-60.0-20230605	06/05/23	1300	X		S	5		"
-07	TB-20230605	06/05/23	LAB	X		DI Water	2		VOC

RELINQUISHED BY (Print) Vinod A	DATE 06/05/23	RECEIVED BY (Print) Alfonso Rivera (AAL)	6-5-2023
Signature	Time 1325.	Signature	1325
RELINQUISHED BY (Print) Alfonso Rivera (AAL)	DATE 6-5-23	RECEIVED BY (Print) Rick Nap	
Signature	Time 1448	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.1°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or
NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

Method 200.7:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 245.1 / 7473 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23F0169-06 has one surrogate (DCAA) outside of the QC limits (high), due to matrix interference.

ANALYSIS: PCBs [8082A]
The percent recovery for Aroclor-1016 was outside of the QC limits for the blank spike (low).

ANALYSIS: PESTICIDES [8081B]
Samples 23F0169-05 and -06 have one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interferences.

The percent recoveries for some compounds were outside of the QC limits for the blank spikes (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (lhigh).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).
The blank spikes met all QC criteria.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Reviewed By: _____ (SK) 8/29/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-20230605**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6930		0.167	2.81	mg/kg dry	1	6/16/23 15:30
Barium	64.4		0.0425	0.562	mg/kg dry	1	6/16/23 15:30
Beryllium	0.564		0.00326	0.0281	mg/kg dry	1	6/16/23 15:30
Calcium	11700		3.16	28.1	mg/kg dry	1	6/16/23 15:30
Chromium	13.7		0.0317	0.281	mg/kg dry	1	6/16/23 15:30
Cobalt	4.39		0.0287	0.225	mg/kg dry	1	6/16/23 15:30
Copper	13.0		0.0787	0.281	mg/kg dry	1	6/16/23 15:30
Iron	12100		0.796	5.62	mg/kg dry	1	6/16/23 15:30
Lead	5.06		0.117	1.41	mg/kg dry	1	6/16/23 15:30
Magnesium	6990		9.93	56.2	mg/kg dry	1	6/16/23 15:30
Manganese	270		0.0350	0.281	mg/kg dry	1	6/16/23 15:30
Nickel	19.4		0.0247	0.141	mg/kg dry	1	6/16/23 15:30
Potassium	1560		33.4	112	mg/kg dry	1	6/16/23 15:30
Sodium	1020		5.36	56.2	mg/kg dry	1	6/16/23 15:30
Vanadium	21.7		0.0647	0.562	mg/kg dry	1	6/16/23 15:30
Zinc	26.4		0.0859	0.843	mg/kg dry	1	6/16/23 15:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0447	J	0.0357	0.224	mg/kg dry	1	6/14/23 19:04
Acenaphthene	0.0296	J	0.00849	0.149	mg/kg dry	1	6/14/23 19:04
Acenaphthylene	0.100	J	0.00518	0.149	mg/kg dry	1	6/14/23 19:04
Fluoranthene	0.0337	J	0.0140	0.149	mg/kg dry	1	6/14/23 19:04
Fluorene	0.0406	J	0.0124	0.149	mg/kg dry	1	6/14/23 19:04
Naphthalene	0.170		0.0110	0.149	mg/kg dry	1	6/14/23 19:04
Phenanthrene	0.0328	J	0.0196	0.149	mg/kg dry	1	6/14/23 19:04
TIC_2-Pentanone, 4-hydroxy-4-methyl-	39.0	J, B			mg/kg dry	1	6/14/23 19:04
TIC_Ethanol, 2-butoxy-	0.469	J			mg/kg dry	1	6/14/23 19:04
TIC_Octadecanoic acid, butyl ester	3.96	J, B			mg/kg dry	1	6/14/23 19:04
TIC_unknown	1.86	J, B			mg/kg dry	1	6/14/23 19:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopentane	0.00647	J			mg/kg dry	1	6/13/23 16:36

23F0169-02 (Ground Water) Sample Name: **FB-20230605**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-02 (Ground Water) Sample Name: **FB-20230605**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclohexasiloxane, dodecamethyl-	9.41	J, B			ug/L	1	6/9/23 18:32
TIC_Cyclopentasiloxane, decamethyl-	5.80	J, B			ug/L	1	6/9/23 18:32
TIC_unknown	4.40	J			ug/L	1	6/9/23 18:32

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	0.404		0.00460	0.0367	mg/kg dry	1	6/15/23 15:30
Total PCBs	0.404		0.00343	0.0367	mg/kg dry	1	6/15/23 15:30

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.144		0.00556	0.0223	mg/kg dry	1	6/15/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8450		0.169	2.84	mg/kg dry	1	6/18/23 9:51
Antimony	5.64		0.155	1.42	mg/kg dry	1	6/18/23 9:51
Arsenic	5.16		0.101	1.42	mg/kg dry	1	6/18/23 9:51
Barium	95.3		0.0429	0.568	mg/kg dry	1	6/18/23 9:51
Beryllium	0.434		0.00329	0.0284	mg/kg dry	1	6/18/23 9:51
Cadmium	0.724		0.0554	0.284	mg/kg dry	1	6/18/23 9:51
Calcium	106000	D	31.9	284	mg/kg dry	10	6/19/23 11:36
Chromium	29.0		0.0321	0.284	mg/kg dry	1	6/18/23 9:51
Cobalt	5.91		0.0290	0.227	mg/kg dry	1	6/18/23 9:51
Copper	940	D	0.794	2.84	mg/kg dry	10	6/19/23 11:36
Iron	23900		0.804	5.68	mg/kg dry	1	6/18/23 9:51
Lead	483		0.118	1.42	mg/kg dry	1	6/18/23 9:51
Magnesium	25200		10.0	56.8	mg/kg dry	1	6/18/23 9:51
Manganese	242		0.0353	0.284	mg/kg dry	1	6/18/23 9:51
Nickel	34.1		0.0249	0.142	mg/kg dry	1	6/18/23 9:51
Potassium	694		33.8	114	mg/kg dry	1	6/18/23 9:51
Silver	0.478		0.0483	0.170	mg/kg dry	1	6/18/23 9:51
Sodium	1370		5.41	56.8	mg/kg dry	1	6/18/23 9:51
Vanadium	32.9		0.0653	0.568	mg/kg dry	1	6/18/23 9:51
Zinc	173		0.0867	0.852	mg/kg dry	1	6/18/23 9:51

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.00309		0.000643	0.00145	mg/kg dry	1	6/15/23 23:05
Heptachlor Epoxide	0.00105	J	0.000730	0.00145	mg/kg dry	1	6/15/23 23:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	0.177		0.0215	0.148	mg/kg dry	1	6/15/23 21:05
Benzo(a)anthracene	0.346		0.0149	0.148	mg/kg dry	1	6/15/23 21:05
Benzo(a)pyrene	0.504		0.0258	0.148	mg/kg dry	1	6/15/23 21:05
Benzo(b)fluoranthene	0.297		0.0208	0.148	mg/kg dry	1	6/15/23 21:05
Benzo(g,h,i)perylene	0.742		0.0120	0.148	mg/kg dry	1	6/15/23 21:05
Benzo(k)fluoranthene	0.482		0.0170	0.148	mg/kg dry	1	6/15/23 21:05
bis(2-ethylhexyl)phthalate	4.51		0.0296	0.148	mg/kg dry	1	6/15/23 21:05
Chrysene	0.562		0.0102	0.148	mg/kg dry	1	6/15/23 21:05
Fluoranthene	0.834		0.0139	0.148	mg/kg dry	1	6/15/23 21:05
Indeno(1,2,3-cd)pyrene	0.486		0.0159	0.148	mg/kg dry	1	6/15/23 21:05
Phenanthrene	0.549		0.0195	0.148	mg/kg dry	1	6/15/23 21:05
Pyrene	0.910		0.0109	0.148	mg/kg dry	1	6/15/23 21:05
TIC_1H-Indene-1,2,3-trione	0.967	J			mg/kg dry	1	6/15/23 21:05
TIC_Hexadecanoic acid, butyl ester	10.2	J, B			mg/kg dry	1	6/15/23 21:05
TIC_n-Butyl myristate	4.84	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (01)	0.581	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (02)	0.562	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (03)	0.568	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (04)	0.729	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (05)	0.950	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (06)	0.678	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (07)	0.693	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (08)	0.611	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (09)	2.97	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (10)	2.82	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (11)	2.63	J			mg/kg dry	1	6/15/23 21:05
TIC_unknown (12)	2.57	J			mg/kg dry	1	6/15/23 21:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.00108	J	0.000195	0.00214	mg/kg dry	1	6/13/23 17:35
Carbon disulfide	0.00346		0.000307	0.00214	mg/kg dry	1	6/13/23 17:35
Chloromethane	0.00842		0.000824	0.00214	mg/kg dry	1	6/13/23 17:35
Toluene	0.000610	J	0.000172	0.00214	mg/kg dry	1	6/13/23 17:35
TIC_Cyclopropane, ethyl-	0.00914	J			mg/kg dry	1	6/13/23 17:35

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MS**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	0.531		0.00463	0.0370	mg/kg dry	1	6/15/23 15:52
Total PCBs	0.531		0.00345	0.0370	mg/kg dry	1	6/15/23 15:52

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.173		0.00560	0.0224	mg/kg dry	1	6/15/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8020		0.163	2.75	mg/kg dry	1	6/18/23 9:53
Arsenic	2.22		0.0980	1.37	mg/kg dry	1	6/18/23 9:53
Barium	56.8		0.0415	0.549	mg/kg dry	1	6/18/23 9:53
Beryllium	0.463		0.00318	0.0275	mg/kg dry	1	6/18/23 9:53
Cadmium	0.972		0.0535	0.275	mg/kg dry	1	6/18/23 9:53
Calcium	145000	D	30.9	275	mg/kg dry	10	6/19/23 11:38
Chromium	16.8		0.0310	0.275	mg/kg dry	1	6/18/23 9:53
Cobalt	4.15		0.0281	0.220	mg/kg dry	1	6/18/23 9:53
Copper	81.3		0.0768	0.275	mg/kg dry	1	6/18/23 9:53
Iron	11800		0.778	5.49	mg/kg dry	1	6/18/23 9:53
Lead	67.4		0.115	1.37	mg/kg dry	1	6/18/23 9:53
Magnesium	48000	D	97.0	549	mg/kg dry	10	6/19/23 11:38
Manganese	211		0.0342	0.275	mg/kg dry	1	6/18/23 9:53
Nickel	22.7		0.0241	0.137	mg/kg dry	1	6/18/23 9:53
Potassium	378		32.7	110	mg/kg dry	1	6/18/23 9:53
Silver	0.407		0.0467	0.165	mg/kg dry	1	6/18/23 9:53
Sodium	709		5.24	54.9	mg/kg dry	1	6/18/23 9:53
Vanadium	43.7		0.0632	0.549	mg/kg dry	1	6/18/23 9:53
Zinc	81.6		0.0839	0.824	mg/kg dry	1	6/18/23 9:53

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlordane [2C]	0.00524		0.000648	0.00146	mg/kg dry	1	6/15/23 23:23

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.114	J	0.0357	0.224	mg/kg dry	1	6/14/23 21:57
Anthracene	0.304		0.0216	0.149	mg/kg dry	1	6/14/23 21:57
Benzo(a)anthracene	0.798		0.0150	0.149	mg/kg dry	1	6/14/23 21:57
Benzo(a)pyrene	0.696		0.0260	0.149	mg/kg dry	1	6/14/23 21:57
Benzo(b)fluoranthene	0.828		0.0210	0.149	mg/kg dry	1	6/14/23 21:57
Benzo(g,h,i)perylene	0.794		0.0121	0.149	mg/kg dry	1	6/14/23 21:57

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MS**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(k)fluoranthene	0.315		0.0171	0.149	mg/kg dry	1	6/14/23 21:57
bis(2-ethylhexyl)phthalate	0.916		0.0298	0.149	mg/kg dry	1	6/14/23 21:57
Chrysene	0.471		0.0102	0.149	mg/kg dry	1	6/14/23 21:57
Fluoranthene	0.927		0.0140	0.149	mg/kg dry	1	6/14/23 21:57
Indeno(1,2,3-cd)pyrene	0.510		0.0160	0.149	mg/kg dry	1	6/14/23 21:57
Naphthalene	0.0831	J	0.0110	0.149	mg/kg dry	1	6/14/23 21:57
Phenanthrene	0.790		0.0196	0.149	mg/kg dry	1	6/14/23 21:57
Pyrene	1.15		0.0110	0.149	mg/kg dry	1	6/14/23 21:57
TIC_1-Cyclohexanol, 4-tert.butyl-1-methyl-	0.886	J			mg/kg dry	1	6/14/23 21:57
TIC_2-Ethyl-1-dodecanol	1.22	J			mg/kg dry	1	6/14/23 21:57
TIC_D-Homoandrostane, (5.alpha.,13.alpha.)-	2.88	J			mg/kg dry	1	6/14/23 21:57
TIC_Hexadecanoic acid, butyl ester	11.9	J, B			mg/kg dry	1	6/14/23 21:57
TIC_Octadecanoic acid, butyl ester	2.99	J			mg/kg dry	1	6/14/23 21:57
TIC_Tricyclo[4.4.0.0(3,8)]decan-2-one	0.529	J			mg/kg dry	1	6/14/23 21:57
TIC_Undecane, 5-ethyl-	1.14	J			mg/kg dry	1	6/14/23 21:57
TIC_unknown (01)	0.692	J, B			mg/kg dry	1	6/14/23 21:57
TIC_unknown (02)	0.801	J, B			mg/kg dry	1	6/14/23 21:57
TIC_unknown (03)	0.766	J, B			mg/kg dry	1	6/14/23 21:57
TIC_unknown (04)	0.826	J, B			mg/kg dry	1	6/14/23 21:57
TIC_unknown (05)	0.500	J, B			mg/kg dry	1	6/14/23 21:57
TIC_unknown (06)	2.99	J			mg/kg dry	1	6/14/23 21:57
TIC_unknown (07)	2.72	J			mg/kg dry	1	6/14/23 21:57
TIC_unknown (08)	3.29	J			mg/kg dry	1	6/14/23 21:57

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MSD**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1260	0.378		0.00456	0.0364	mg/kg dry	1	6/15/23 16:14
Total PCBs	0.378		0.00340	0.0364	mg/kg dry	1	6/15/23 16:14

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.126		0.00552	0.0221	mg/kg dry	1	6/15/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MSD**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	11100		0.165	2.77	mg/kg dry	1	6/16/23 15:43
Arsenic	2.19		0.0989	1.39	mg/kg dry	1	6/16/23 15:43
Barium	69.4		0.0419	0.554	mg/kg dry	1	6/16/23 15:43
Beryllium	0.457		0.00321	0.0277	mg/kg dry	1	6/16/23 15:43
Cadmium	0.524		0.0540	0.277	mg/kg dry	1	6/16/23 15:43
Calcium	66200	D	15.6	139	mg/kg dry	5	6/16/23 15:41
Chromium	19.2		0.0313	0.277	mg/kg dry	1	6/16/23 15:43
Cobalt	4.88		0.0283	0.222	mg/kg dry	1	6/16/23 15:43
Copper	83.2		0.0776	0.277	mg/kg dry	1	6/16/23 15:43
Iron	13100		0.785	5.54	mg/kg dry	1	6/16/23 15:43
Lead	86.9		0.116	1.39	mg/kg dry	1	6/16/23 15:43
Magnesium	20800		9.79	55.4	mg/kg dry	1	6/16/23 15:43
Manganese	222		0.0345	0.277	mg/kg dry	1	6/16/23 15:43
Nickel	26.2		0.0243	0.139	mg/kg dry	1	6/16/23 15:43
Potassium	664		33.0	111	mg/kg dry	1	6/16/23 15:43
Sodium	902		5.29	55.4	mg/kg dry	1	6/16/23 15:43
Vanadium	53.8		0.0638	0.554	mg/kg dry	1	6/16/23 15:43
Zinc	77.3		0.0847	0.832	mg/kg dry	1	6/16/23 15:43

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.0444		0.00101	0.00143	mg/kg dry	1	6/14/23 22:36

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	0.169		0.0213	0.147	mg/kg dry	1	6/14/23 22:29
Benzo(a)anthracene	0.419		0.0148	0.147	mg/kg dry	1	6/14/23 22:29
Benzo(a)pyrene	0.527		0.0256	0.147	mg/kg dry	1	6/14/23 22:29
Benzo(b)fluoranthene	0.381		0.0206	0.147	mg/kg dry	1	6/14/23 22:29
Benzo(g,h,i)perylene	0.591		0.0119	0.147	mg/kg dry	1	6/14/23 22:29
Benzo(k)fluoranthene	0.596		0.0169	0.147	mg/kg dry	1	6/14/23 22:29
Chrysene	0.417		0.0101	0.147	mg/kg dry	1	6/14/23 22:29
Di-n-butylphthalate	2.59		0.0600	0.147	mg/kg dry	1	6/14/23 22:29
Fluoranthene	0.759		0.0138	0.147	mg/kg dry	1	6/14/23 22:29
Indeno(1,2,3-cd)pyrene	0.360		0.0158	0.147	mg/kg dry	1	6/14/23 22:29
Naphthalene	0.0877	J	0.0109	0.147	mg/kg dry	1	6/14/23 22:29
Phenanthrene	0.545		0.0193	0.147	mg/kg dry	1	6/14/23 22:29
Pyrene	0.969		0.0108	0.147	mg/kg dry	1	6/14/23 22:29
TIC_Hexadecane	0.546	J			mg/kg dry	1	6/14/23 22:29
TIC_Hexadecanoic acid, butyl ester	14.4	J, B			mg/kg dry	1	6/14/23 22:29

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MSD**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Octadecanoic acid, butyl ester	2.94	J			mg/kg dry	1	6/14/23 22:29
TIC_unknown (01)	0.828	J, B			mg/kg dry	1	6/14/23 22:29
TIC_unknown (02)	0.694	J, B			mg/kg dry	1	6/14/23 22:29
TIC_unknown (03)	1.05	J, B			mg/kg dry	1	6/14/23 22:29
TIC_unknown (04)	0.528	J, B			mg/kg dry	1	6/14/23 22:29
TIC_unknown (05)	0.497	J, B			mg/kg dry	1	6/14/23 22:29
TIC_unknown (06)	2.94	J			mg/kg dry	1	6/14/23 22:29
TIC_unknown (07)	1.31	J			mg/kg dry	1	6/14/23 22:29

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Butanone	0.0125		0.000400	0.0123	mg/kg dry	1	6/14/23 15:11
Acetone	0.159		0.000743	0.0613	mg/kg dry	1	6/14/23 15:11
Benzene	0.00153	J	0.000223	0.00245	mg/kg dry	1	6/14/23 15:11
Carbon disulfide	0.00414		0.000352	0.00245	mg/kg dry	1	6/14/23 15:11
Toluene	0.000849	J	0.000197	0.00245	mg/kg dry	1	6/14/23 15:11
TIC_Cyclopropane, ethyl-	0.0111	J			mg/kg dry	1	6/14/23 15:11

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.28		0.00636	0.0255	mg/kg dry	1	6/15/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8280		0.185	3.12	mg/kg dry	1	6/18/23 9:49
Antimony	28.8		0.170	1.56	mg/kg dry	1	6/18/23 9:49
Arsenic	14.2		0.111	1.56	mg/kg dry	1	6/18/23 9:49
Barium	277		0.0472	0.624	mg/kg dry	1	6/18/23 9:49
Beryllium	0.412		0.00361	0.0312	mg/kg dry	1	6/18/23 9:49
Cadmium	0.967		0.0608	0.312	mg/kg dry	1	6/18/23 9:49
Calcium	15100		3.51	31.2	mg/kg dry	1	6/18/23 9:49
Chromium	52.7		0.0352	0.312	mg/kg dry	1	6/18/23 9:49
Cobalt	9.30		0.0319	0.250	mg/kg dry	1	6/18/23 9:49
Copper	3340	D	8.73	31.2	mg/kg dry	100	6/19/23 11:33
Iron	71800	D	8.84	62.4	mg/kg dry	10	6/19/23 11:33
Lead	4020	D	1.30	15.6	mg/kg dry	10	6/19/23 11:33
Magnesium	4230		11.0	62.4	mg/kg dry	1	6/18/23 9:49
Manganese	329		0.0388	0.312	mg/kg dry	1	6/18/23 9:49

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nickel	25.2		0.0274	0.156	mg/kg dry	1	6/18/23 9:49
Potassium	1940		37.1	125	mg/kg dry	1	6/18/23 9:49
Silver	1.02		0.0531	0.187	mg/kg dry	1	6/18/23 9:49
Sodium	3860		5.95	62.4	mg/kg dry	1	6/18/23 9:49
Vanadium	22.7		0.0718	0.624	mg/kg dry	1	6/18/23 9:49
Zinc	1190	D	0.953	9.36	mg/kg dry	10	6/19/23 11:33

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	0.00276		0.000757	0.00165	mg/kg dry	1	6/14/23 22:58
4,4'-DDE	0.0118		0.000905	0.00165	mg/kg dry	1	6/14/23 22:58
4,4'-DDT [2C]	0.00268		0.00117	0.00165	mg/kg dry	1	6/14/23 22:58
Chlordane	0.0119		0.000736	0.00165	mg/kg dry	1	6/14/23 22:58

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.609	J, D	0.203	1.27	mg/kg dry	5	6/16/23 14:30
3+4-Methylphenol	0.174	J, D	0.155	0.847	mg/kg dry	5	6/16/23 14:30
Acenaphthene	1.38	D	0.0483	0.847	mg/kg dry	5	6/16/23 14:30
Acenaphthylene	1.50	D	0.0295	0.847	mg/kg dry	5	6/16/23 14:30
Anthracene	1.09	D	0.123	0.847	mg/kg dry	5	6/16/23 14:30
Benzo(a)anthracene	3.15	D	0.0853	0.847	mg/kg dry	5	6/16/23 14:30
Benzo(a)pyrene	3.97	D	0.148	0.847	mg/kg dry	5	6/16/23 14:30
Benzo(b)fluoranthene	4.89	D	0.119	0.847	mg/kg dry	5	6/16/23 14:30
Benzo(g,h,i)perylene	4.75	D	0.0687	0.847	mg/kg dry	5	6/16/23 14:30
Benzo(k)fluoranthene	1.29	D	0.0974	0.847	mg/kg dry	5	6/16/23 14:30
Biphenyl	0.209	J, D	0.0745	0.847	mg/kg dry	5	6/16/23 14:30
Carbazole	0.279	J, D	0.163	2.12	mg/kg dry	5	6/16/23 14:30
Chrysene	3.53	D	0.0580	0.847	mg/kg dry	5	6/16/23 14:30
Dibenzo(a,h)anthracene	0.244	J, D	0.0840	0.847	mg/kg dry	5	6/16/23 14:30
Dibenzofuran	0.344	J, D	0.0505	0.847	mg/kg dry	5	6/16/23 14:30
Fluoranthene	6.92	D	0.0796	0.847	mg/kg dry	5	6/16/23 14:30
Fluorene	0.596	J, D	0.0707	0.847	mg/kg dry	5	6/16/23 14:30
Indeno(1,2,3-cd)pyrene	2.80	D	0.0910	0.847	mg/kg dry	5	6/16/23 14:30
Naphthalene	1.70	D	0.0628	0.847	mg/kg dry	5	6/16/23 14:30
Phenanthrene	4.07	D	0.111	0.847	mg/kg dry	5	6/16/23 14:30
Pyrene	6.10	D	0.0623	0.847	mg/kg dry	5	6/16/23 14:30
TIC_2-Pentanone, 4-hydroxy-4-methyl-	54.5	J, D			mg/kg dry	5	6/16/23 14:30
TIC_Benzene, 1-propynyl-	3.48	J, D			mg/kg dry	5	6/16/23 14:30

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	6.24	J, D, B			mg/kg dry	5	6/16/23 14:30
TIC_Octadecanoic acid, butyl ester	3.33	J, D			mg/kg dry	5	6/16/23 14:30
TIC_unknown (01)	1.71	J, D, B			mg/kg dry	5	6/16/23 14:30
TIC_unknown (02)	2.35	J, D, B			mg/kg dry	5	6/16/23 14:30

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopropane, ethyl-	0.0106	J			mg/kg dry	1	6/14/23 15:40

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-2023 0605** Collected: **6/5/2023 10:54:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00495	0.0369	mg/kg	1	6/15/23 15:08	UJ, RC:6L
Aroclor-1221	ND	U	0.00974	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1232	ND	U	0.0124	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1242	ND	U	0.00726	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1248	ND	U	0.00759	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1254	ND	U	0.00596	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1260	ND	U	0.00462	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1262	ND	U	0.00994	0.0369	mg/kg	1	6/15/23 15:08	
Aroclor-1268	ND	U	0.00447	0.0369	mg/kg	1	6/15/23 15:08	
Total PCBs	ND	U	0.00345	0.0369	mg/kg	1	6/15/23 15:08	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0110	0.112	mg/kg	1	6/22/23 17:51	UJ, RC:SL
2,4-D	ND	U	0.0186	0.112	mg/kg	1	6/22/23 17:51	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00559	0.0224	mg/kg	1	6/15/23 12:55

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**6930**		**0.167**	**2.81**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,AA
Antimony	ND	U	0.153	1.41	mg/kg	1	6/16/23 15:30	UJ, RC:4L
Arsenic	ND	U	0.100	1.41	mg/kg	1	6/16/23 15:30	
Barium	**64.4**		**0.0425**	**0.562**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:AA,D
Beryllium	**0.564**		**0.00326**	**0.0281**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:AA,D
Cadmium	ND	U	0.0548	0.281	mg/kg	1	6/16/23 15:30	
Calcium	**11700**		**3.16**	**28.1**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4H,5,AA
Chromium	**13.7**		**0.0317**	**0.281**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,AA
Cobalt	**4.39**		**0.0287**	**0.225**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,AA
Copper	**13.0**		**0.0787**	**0.281**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4H,5,AA
Iron	**12100**		**0.796**	**5.62**	**mg/kg**	**1**	**6/16/23 15:30**	
Lead	**5.06**		**0.117**	**1.41**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:D
Magnesium	**6990**		**9.93**	**56.2**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,D,AA
Manganese	**270**		**0.0350**	**0.281**	**mg/kg**	**1**	**6/16/23 15:30**	
Nickel	**19.4**		**0.0247**	**0.141**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,D,AA
Potassium	**1560**		**33.4**	**112**	**mg/kg**	**1**	**6/16/23 15:30**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-2023 0605** Collected: **6/5/2023 10:54:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Selenium	ND	U	0.270	1.41	mg/kg	1	6/16/23 15:30	
Silver	ND	U	0.0478	0.169	mg/kg	1	6/16/23 15:30	
Sodium	**1020**		**5.36**	**56.2**	**mg/kg**	**1**	**6/16/23 15:30**	
Thallium	ND	U	0.0946	1.41	mg/kg	1	6/16/23 15:30	UJ, RC:4L
Vanadium	**21.7**		**0.0647**	**0.562**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,D,AA
Zinc	**26.4**		**0.0859**	**0.843**	**mg/kg**	**1**	**6/16/23 15:30**	J, RC:4L,5,6H,AA,D

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000666	0.00145	mg/kg	1	6/15/23 22:46	
4,4'-DDE	ND	U	0.000796	0.00145	mg/kg	1	6/15/23 22:46	UJ, RC:6L
4,4'-DDT	ND	U	0.00103	0.00145	mg/kg	1	6/15/23 22:46	
Aldrin	ND	U	0.000689	0.00145	mg/kg	1	6/15/23 22:46	
alpha-BHC	ND	U	0.000433	0.00145	mg/kg	1	6/15/23 22:46	
beta-BHC	ND	U	0.000695	0.00145	mg/kg	1	6/15/23 22:46	
Chlordane	ND	U	0.000647	0.00145	mg/kg	1	6/15/23 22:46	
delta-BHC	ND	U	0.000676	0.00145	mg/kg	1	6/15/23 22:46	
Dieldrin	ND	U	0.000761	0.00145	mg/kg	1	6/15/23 22:46	
Endosulfan I	ND	U	0.000687	0.00145	mg/kg	1	6/15/23 22:46	
Endosulfan II	ND	U	0.000661	0.00145	mg/kg	1	6/15/23 22:46	
Endosulfan sulfate	ND	U	0.000547	0.00145	mg/kg	1	6/15/23 22:46	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000661	0.00145	mg/kg	1	6/15/23 22:46	
Endrin	ND	U	0.000502	0.00145	mg/kg	1	6/15/23 22:46	
Endrin aldehyde	ND	U	0.000580	0.00145	mg/kg	1	6/15/23 22:46	
Endrin ketone	ND	U	0.000512	0.00145	mg/kg	1	6/15/23 22:46	
gamma-BHC (Lindane)	ND	U	0.000461	0.00145	mg/kg	1	6/15/23 22:46	
Heptachlor	ND	U	0.000389	0.00145	mg/kg	1	6/15/23 22:46	
Heptachlor Epoxide	ND	U	0.000734	0.00145	mg/kg	1	6/15/23 22:46	
Methoxychlor	ND	U	0.000426	0.00145	mg/kg	1	6/15/23 22:46	
Toxaphene	ND	U	0.0701	0.0739	mg/kg	1	6/15/23 22:46	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00421	0.0373	mg/kg	1	6/14/23 19:04
2,3,4,6-Tetrachlorophenol	ND	U	0.0229	0.149	mg/kg	1	6/14/23 19:04
2,4,5-Trichlorophenol	ND	U	0.0203	0.149	mg/kg	1	6/14/23 19:04
2,4,6-Trichlorophenol	ND	U	0.00932	0.149	mg/kg	1	6/14/23 19:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-2023 0605** Collected: **6/5/2023 10:54:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0150	0.149	mg/kg	1	6/14/23 19:04	
2,4-Dimethylphenol	ND	U	0.0147	0.149	mg/kg	1	6/14/23 19:04	
2,4-Dinitrophenol	ND	U	0.0215	0.746	mg/kg	1	6/14/23 19:04	
2,4-Dinitrotoluene	ND	U	0.0159	0.149	mg/kg	1	6/14/23 19:04	
2,6-Dinitrotoluene	ND	U	0.0356	0.149	mg/kg	1	6/14/23 19:04	
2-Chloronaphthalene	ND	U	0.0171	0.149	mg/kg	1	6/14/23 19:04	
2-Chlorophenol	ND	U	0.0197	0.149	mg/kg	1	6/14/23 19:04	
2-Methylnaphthalene	**0.0447**	J	**0.0357**	**0.224**	**mg/kg**	**1**	**6/14/23 19:04**	
2-Methylphenol	ND	U	0.0294	0.149	mg/kg	1	6/14/23 19:04	
2-Nitroaniline	ND	U	0.0120	0.149	mg/kg	1	6/14/23 19:04	
2-Nitrophenol	ND	U	0.0166	0.149	mg/kg	1	6/14/23 19:04	
3,3'-Dichlorobenzidine	ND	U	0.0157	0.149	mg/kg	1	6/14/23 19:04	
3+4-Methylphenol	ND	U	0.0273	0.149	mg/kg	1	6/14/23 19:04	
3-Nitroaniline	ND	U	0.0276	0.149	mg/kg	1	6/14/23 19:04	
4,6-Dinitro-2-methylphenol	ND	U	0.0281	0.373	mg/kg	1	6/14/23 19:04	
4-Bromophenyl-phenyl ether	ND	U	0.0213	0.149	mg/kg	1	6/14/23 19:04	
4-Chloro-3-methylphenol	ND	U	0.0235	0.149	mg/kg	1	6/14/23 19:04	
4-Chloroaniline	ND	U	0.00521	0.149	mg/kg	1	6/14/23 19:04	
4-Chlorophenyl phenyl ether	ND	U	0.00805	0.149	mg/kg	1	6/14/23 19:04	
4-Nitroaniline	ND	U	0.0745	0.149	mg/kg	1	6/14/23 19:04	
4-Nitrophenol	ND	U	0.00953	0.149	mg/kg	1	6/14/23 19:04	
Acenaphthene	**0.0296**	J	**0.00849**	**0.149**	**mg/kg**	**1**	**6/14/23 19:04**	
Acenaphthylene	**0.100**	J	**0.00518**	**0.149**	**mg/kg**	**1**	**6/14/23 19:04**	
Acetophenone	ND	U	0.0148	0.149	mg/kg	1	6/14/23 19:04	
Anthracene	ND	U	0.0216	0.149	mg/kg	1	6/14/23 19:04	
Atrazine	ND	U	0.0140	0.149	mg/kg	1	6/14/23 19:04	
Benzaldehyde	ND	U	0.0458	0.149	mg/kg	1	6/14/23 19:04	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0150	0.149	mg/kg	1	6/14/23 19:04	
Benzo(a)pyrene	ND	U	0.0260	0.149	mg/kg	1	6/14/23 19:04	
Benzo(b)fluoranthene	ND	U	0.0209	0.149	mg/kg	1	6/14/23 19:04	
Benzo(g,h,i)perylene	ND	U	0.0121	0.149	mg/kg	1	6/14/23 19:04	
Benzo(k)fluoranthene	ND	U	0.0171	0.149	mg/kg	1	6/14/23 19:04	
Biphenyl	ND	U	0.0131	0.149	mg/kg	1	6/14/23 19:04	
bis(2-chloroethoxy)methane	ND	U	0.0206	0.149	mg/kg	1	6/14/23 19:04	
bis(2-chloroethyl)ether	ND	U	0.0163	0.149	mg/kg	1	6/14/23 19:04	
bis(2-chloroisopropyl)ether	ND	U	0.0536	0.149	mg/kg	1	6/14/23 19:04	
bis(2-ethylhexyl)phthalate	ND	U	0.0298	0.149	mg/kg	1	6/14/23 19:04	
Butylbenzylphthalate	ND	U	0.0135	0.149	mg/kg	1	6/14/23 19:04	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-2023 0605** Collected: **6/5/2023 10:54:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0192	0.149	mg/kg	1	6/14/23 19:04
Carbazole	ND	U	0.0286	0.373	mg/kg	1	6/14/23 19:04
Chrysene	ND	U	0.0102	0.149	mg/kg	1	6/14/23 19:04
Dibenzo(a,h)anthracene	ND	U	0.0148	0.149	mg/kg	1	6/14/23 19:04
Dibenzofuran	ND	U	0.00887	0.149	mg/kg	1	6/14/23 19:04
Diethylphthalate	ND	U	0.0289	0.149	mg/kg	1	6/14/23 19:04
Dimethylphthalate	ND	U	0.00924	0.149	mg/kg	1	6/14/23 19:04
Di-n-butylphthalate	ND	U	0.0609	0.149	mg/kg	1	6/14/23 19:04
Di-n-octylphthalate	ND	U	0.0305	0.149	mg/kg	1	6/14/23 19:04
Fluoranthene	**0.0337**	J	**0.0140**	**0.149**	**mg/kg**	**1**	**6/14/23 19:04**
Fluorene	**0.0406**	J	**0.0124**	**0.149**	**mg/kg**	**1**	**6/14/23 19:04**
Hexachlorobenzene	ND	U	0.0195	0.149	mg/kg	1	6/14/23 19:04
Hexachlorobutadiene	ND	U	0.0715	0.149	mg/kg	1	6/14/23 19:04
Hexachlorocyclopentadiene	ND	U	0.0621	0.373	mg/kg	1	6/14/23 19:04
Hexachloroethane	ND	U	0.0163	0.149	mg/kg	1	6/14/23 19:04
Indeno(1,2,3-cd)pyrene	ND	U	0.0160	0.149	mg/kg	1	6/14/23 19:04
Isophorone	ND	U	0.00976	0.149	mg/kg	1	6/14/23 19:04
Naphthalene	**0.170**		**0.0110**	**0.149**	**mg/kg**	**1**	**6/14/23 19:04**
Nitrobenzene	ND	U	0.0253	0.149	mg/kg	1	6/14/23 19:04
n-Nitroso-di-n-propylamine	ND	U	0.00798	0.149	mg/kg	1	6/14/23 19:04
n-Nitrosodiphenylamine	ND	U	0.0318	0.149	mg/kg	1	6/14/23 19:04
Pentachlorophenol	ND	U	0.0205	0.373	mg/kg	1	6/14/23 19:04
Phenanthrene	**0.0328**	J	**0.0196**	**0.149**	**mg/kg**	**1**	**6/14/23 19:04**
Phenol	ND	U	0.0121	0.149	mg/kg	1	6/14/23 19:04
Pyrene	ND	U	0.0110	0.149	mg/kg	1	6/14/23 19:04

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	~~39.0~~ R, RC:2	5.22	J, B	mg/kg	1	6/14/23 19:04
Ethanol, 2-butoxy-	0.469	5.86	J	mg/kg	1	6/14/23 19:04
Octadecanoic acid, butyl ester	~~3.96~~ R, RC:2	13.64	J, B	mg/kg	1	6/14/23 19:04
unknown	~~1.86~~ R, RC:2	5.98	J, B	mg/kg	1	6/14/23 19:04
TIC Total	~~45.3~~ 0.469					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-2023 0605** Collected: **6/5/2023 10:54:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000224	0.00153	mg/kg	1	6/13/23 16:36
1,1,2,2-Tetrachloroethane	ND	U	0.000212	0.00153	mg/kg	1	6/13/23 16:36
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000656	0.00153	mg/kg	1	6/13/23 16:36
1,1,2-Trichloroethane	ND	U	0.000258	0.00153	mg/kg	1	6/13/23 16:36
1,1-Dichloroethane	ND	U	0.000224	0.00153	mg/kg	1	6/13/23 16:36
1,1-Dichloroethene	ND	U	0.000284	0.00153	mg/kg	1	6/13/23 16:36
1,2,3-Trichlorobenzene	ND	U	0.000331	0.00153	mg/kg	1	6/13/23 16:36
1,2,4-Trichlorobenzene	ND	U	0.000409	0.00153	mg/kg	1	6/13/23 16:36
1,2,4-Trimethylbenzene	ND	U	0.000212	0.00153	mg/kg	1	6/13/23 16:36
1,2-Dibromo-3-chloropropane	ND	U	0.000374	0.00383	mg/kg	1	6/13/23 16:36
1,2-Dibromoethane	ND	U	0.000193	0.00153	mg/kg	1	6/13/23 16:36
1,2-Dichlorobenzene	ND	U	0.000271	0.00153	mg/kg	1	6/13/23 16:36
1,2-Dichloroethane	ND	U	0.000216	0.00153	mg/kg	1	6/13/23 16:36
1,2-Dichloropropane	ND	U	0.000251	0.00153	mg/kg	1	6/13/23 16:36
1,3-Dichlorobenzene	ND	U	0.000113	0.00153	mg/kg	1	6/13/23 16:36
1,4-Dichlorobenzene	ND	U	0.000221	0.00153	mg/kg	1	6/13/23 16:36
2-Butanone	ND	U	0.000250	0.00766	mg/kg	1	6/13/23 16:36
2-Hexanone	ND	U	0.000143	0.00153	mg/kg	1	6/13/23 16:36
4-Methyl-2-pentanone	ND	U	0.000192	0.00153	mg/kg	1	6/13/23 16:36
Acetone	ND	U	0.000464	0.0383	mg/kg	1	6/13/23 16:36
Benzene	ND	U	0.000139	0.00153	mg/kg	1	6/13/23 16:36
Bromochloromethane	ND	U	0.000283	0.00153	mg/kg	1	6/13/23 16:36
Bromodichloromethane	ND	U	0.000192	0.00153	mg/kg	1	6/13/23 16:36
Bromoform	ND	U	0.000269	0.00153	mg/kg	1	6/13/23 16:36
Bromomethane	ND	U	0.000442	0.00153	mg/kg	1	6/13/23 16:36
Carbon disulfide	ND	U	0.000220	0.00153	mg/kg	1	6/13/23 16:36
Carbon Tetrachloride	ND	U	0.000231	0.00153	mg/kg	1	6/13/23 16:36
Chlorobenzene	ND	U	0.000222	0.00153	mg/kg	1	6/13/23 16:36
Chlorodibromomethane	ND	U	0.000189	0.00153	mg/kg	1	6/13/23 16:36
Chloroethane	ND	U	0.000261	0.00153	mg/kg	1	6/13/23 16:36
Chloroform	ND	U	0.000258	0.00153	mg/kg	1	6/13/23 16:36
Chloromethane	ND	U	0.000590	0.00153	mg/kg	1	6/13/23 16:36
cis-1,2-Dichloroethene	ND	U	0.0000741	0.00153	mg/kg	1	6/13/23 16:36
cis-1,3-Dichloropropene	ND	U	0.000194	0.00153	mg/kg	1	6/13/23 16:36
Cyclohexane	ND	U	0.000340	0.00153	mg/kg	1	6/13/23 16:36
Dichlorodifluoromethane	ND	U	0.000517	0.00153	mg/kg	1	6/13/23 16:36
EthylBenzene	ND	U	0.000208	0.00153	mg/kg	1	6/13/23 16:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-01 (Soil) Sample Name: **MW-07-66.5-67.5-2023 0605** Collected: **6/5/2023 10:54:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000241	0.00153	mg/kg	1	6/13/23 16:36
m+p-Xylenes	ND	U	0.000387	0.00307	mg/kg	1	6/13/23 16:36
Methyl Acetate	ND	U	0.000203	0.00153	mg/kg	1	6/13/23 16:36
Methyl tert-Butyl Ether	ND	U	0.000259	0.00153	mg/kg	1	6/13/23 16:36
Methylcyclohexane	ND	U	0.000247	0.00153	mg/kg	1	6/13/23 16:36
Methylene Chloride	ND	U	0.000461	0.00383	mg/kg	1	6/13/23 16:36
o-Xylene	ND	U	0.000197	0.00153	mg/kg	1	6/13/23 16:36
Styrene	ND	U	0.000219	0.00153	mg/kg	1	6/13/23 16:36
tert-Butyl alcohol	ND	U	0.00322	0.0153	mg/kg	1	6/13/23 16:36
Tetrachloroethene	ND	U	0.000152	0.00153	mg/kg	1	6/13/23 16:36
Toluene	ND	U	0.000123	0.00153	mg/kg	1	6/13/23 16:36
Total Xylenes	ND	U	0.000197	0.00153	mg/kg	1	6/13/23 16:36
trans-1,2-Dichloroethene	ND	U	0.000208	0.00153	mg/kg	1	6/13/23 16:36
trans-1,3-Dichloropropene	ND	U	0.000293	0.00153	mg/kg	1	6/13/23 16:36
Trichloroethene	ND	U	0.000225	0.00153	mg/kg	1	6/13/23 16:36
Trichlorofluoromethane	ND	U	0.000176	0.00153	mg/kg	1	6/13/23 16:36
Vinyl chloride	ND	U	0.000291	0.00153	mg/kg	1	6/13/23 16:36

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane	0.00647	4.02	J	mg/kg	1	6/13/23 16:36
TIC Total	**0.006**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.4**				**%**	**1**	**6/6/23 11:16**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00739	0.0620	mg/kg	1	6/12/23 17:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-02 (Ground Water) Sample Name: **FB-20230605** Collected: **6/5/2023 12:00:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/9/23 14:32
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/9/23 14:32
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/9/23 14:32
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/9/23 14:32
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/9/23 14:32
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/9/23 14:32
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/9/23 14:32
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/9/23 14:32
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/9/23 14:32
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/9/23 14:32

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 21:25 UJ, RC:SL
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 21:25 UJ, RC:SL
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 21:25

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/14/23 15:28

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/19/23 13:59
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/19/23 13:59
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/19/23 13:59
Barium	ND	U	0.000558	0.0200	mg/L	1	6/19/23 13:59
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/19/23 13:59
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/19/23 13:59
Calcium	ND	U	0.256	1.00	mg/L	1	6/19/23 13:59
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/19/23 13:59
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/19/23 13:59
Copper	ND	U	0.00177	0.0100	mg/L	1	6/19/23 13:59
Iron	ND	U	0.0580	0.200	mg/L	1	6/19/23 13:59
Lead	ND	U	0.00510	0.0500	mg/L	1	6/19/23 13:59
Magnesium	ND	U	0.681	2.00	mg/L	1	6/19/23 13:59
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/19/23 13:59
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/19/23 13:59
Potassium	ND	U	2.41	4.00	mg/L	1	6/19/23 13:59

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-02 (Ground Water) Sample Name: **FB-20230605** Collected: **6/5/2023 12:00:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/19/23 13:59
Silver	ND	U	0.00465	0.0200	mg/L	1	6/19/23 13:59
Sodium	ND	U	0.205	2.00	mg/L	1	6/19/23 13:59
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/19/23 13:59
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/19/23 13:59
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/19/23 13:59

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 19:26	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 19:26	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/13/23 19:26	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 19:26	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 19:26	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 19:26	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 19:26	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 19:26	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 19:26	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 19:26	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 19:26	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 19:26	
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/13/23 19:26	UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 19:26	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 19:26	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 19:26	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 19:26	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 19:26	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 19:26	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 19:26	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/9/23 18:32	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/9/23 18:32	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/9/23 18:32	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/9/23 18:32	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/9/23 18:32	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/9/23 18:32	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/9/23 18:32	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-02 (Ground Water) Sample Name: **FB-20230605** Collected: **6/5/2023 12:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/9/23 18:32	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/9/23 18:32	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/9/23 18:32	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/9/23 18:32	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/9/23 18:32	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/9/23 18:32	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/9/23 18:32	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/9/23 18:32	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/9/23 18:32	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/9/23 18:32	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/9/23 18:32	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/9/23 18:32	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/9/23 18:32	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/9/23 18:32	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/9/23 18:32	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/9/23 18:32	UJ, RC:SL
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/9/23 18:32	
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/9/23 18:32	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/9/23 18:32	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/9/23 18:32	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/9/23 18:32	
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/9/23 18:32	UJ, RC:SL
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/9/23 18:32	
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/9/23 18:32	
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/9/23 18:32	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/9/23 18:32	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/9/23 18:32	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/9/23 18:32	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/9/23 18:32	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/9/23 18:32	
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/9/23 18:32	
Carbazole	ND	U	0.188	2.00	ug/L	1	6/9/23 18:32	
Chrysene	ND	U	0.129	2.00	ug/L	1	6/9/23 18:32	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/9/23 18:32	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/9/23 18:32	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/9/23 18:32	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/9/23 18:32	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/9/23 18:32	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/9/23 18:32	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-02 (Ground Water) Sample Name: **FB-20230605** Collected: **6/5/2023 12:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Fluorene	ND	U	0.109	2.00	ug/L	1	6/9/23 18:32
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/9/23 18:32 UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/9/23 18:32
Isophorone	ND	U	0.111	2.00	ug/L	1	6/9/23 18:32
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/9/23 18:32
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/9/23 18:32
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/9/23 18:32
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/9/23 18:32
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/9/23 18:32
Phenol	ND	U	0.0973	2.00	ug/L	1	6/9/23 18:32
Pyrene	ND	U	0.115	2.00	ug/L	1	6/9/23 18:32

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexasiloxane, dodecamethyl-	~~9.41~~ R, RC:2	7.62	J, B	ug/L	1	6/9/23 18:32
Cyclopentasiloxane, decamethyl-	~~5.60~~ R, RC:2	6.58	J, B	ug/L	1	6/9/23 18:32
unknown	~~4.40~~ R, RC:2	8.55	J	ug/L	1	6/9/23 18:32
TIC Total	~~19.6~~ 0					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/12/23 19:05
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/12/23 19:05
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/12/23 19:05
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/12/23 19:05
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/12/23 19:05
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/12/23 19:05
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/12/23 19:05
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/12/23 19:05
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/12/23 19:05
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/12/23 19:05
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/12/23 19:05
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/12/23 19:05
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/12/23 19:05
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/12/23 19:05
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/12/23 19:05
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/12/23 19:05
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/12/23 19:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-02 (Ground Water) Sample Name: **FB-20230605** Collected: **6/5/2023 12:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/12/23 19:05	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/12/23 19:05	
Acetone	ND	U	10.0	10.0	ug/L	1	6/12/23 19:05	
Benzene	ND	U	0.129	1.00	ug/L	1	6/12/23 19:05	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/12/23 19:05	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/12/23 19:05	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/12/23 19:05	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/12/23 19:05	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/12/23 19:05	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/12/23 19:05	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/12/23 19:05	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/12/23 19:05	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/12/23 19:05	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/12/23 19:05	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/12/23 19:05	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/12/23 19:05	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/12/23 19:05	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/12/23 19:05	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/12/23 19:05	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/12/23 19:05	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/12/23 19:05	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/12/23 19:05	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/12/23 19:05	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/12/23 19:05	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/12/23 19:05	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/12/23 19:05	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/12/23 19:05	
Styrene	ND	U	0.176	1.00	ug/L	1	6/12/23 19:05	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/12/23 19:05	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/12/23 19:05	
Toluene	ND	U	0.205	1.00	ug/L	1	6/12/23 19:05	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/12/23 19:05	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/12/23 19:05	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/12/23 19:05	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/12/23 19:05	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/12/23 19:05	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/12/23 19:05	

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-02 (Ground Water) Sample Name: FB-20230605 Collected: 6/5/2023 12:00:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/9/23 17:05

23F0169-03 (Soil) Sample Name: MW-05-1.0-2.0-20230605 Collected: 6/5/2023 12:05:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00493	0.0367	mg/kg	1	6/15/23 15:30	UJ, RC:6L
Aroclor-1221	ND	U	0.00969	0.0367	mg/kg	1	6/15/23 15:30	
Aroclor-1232	ND	U	0.0123	0.0367	mg/kg	1	6/15/23 15:30	
Aroclor-1242	ND	U	0.00722	0.0367	mg/kg	1	6/15/23 15:30	
Aroclor-1248	ND	U	0.00755	0.0367	mg/kg	1	6/15/23 15:30	
Aroclor-1254	ND	U	0.00593	0.0367	mg/kg	1	6/15/23 15:30	
Aroclor-1260	**0.404**		**0.00460**	**0.0367**	**mg/kg**	**1**	**6/15/23 15:30**	
Aroclor-1262	ND	U	0.00988	0.0367	mg/kg	1	6/15/23 15:30	
Aroclor-1268	ND	U	0.00444	0.0367	mg/kg	1	6/15/23 15:30	
Total PCBs	**0.404**		**0.00343**	**0.0367**	**mg/kg**	**1**	**6/15/23 15:30**	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	6/22/23 18:00	UJ, RC:SL
2,4-D	ND	U	0.0185	0.111	mg/kg	1	6/22/23 18:00	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.144**		**0.00556**	**0.0223**	**mg/kg**	**1**	**6/15/23 12:55**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8450**		**0.169**	**2.84**	**mg/kg**	**1**	**6/18/23 9:51**	J, RC:4L,AA
Antimony	**5.64**		**0.155**	**1.42**	**mg/kg**	**1**	**6/18/23 9:51**	UJ, RC:4L
Arsenic	**5.16**		**0.101**	**1.42**	**mg/kg**	**1**	**6/18/23 9:51**	
Barium	**95.3**		**0.0429**	**0.568**	**mg/kg**	**1**	**6/18/23 9:51**	J, RC:AA,D
Beryllium	**0.434**		**0.00329**	**0.0284**	**mg/kg**	**1**	**6/18/23 9:51**	J, RC:AA,D
Cadmium	**0.724**		**0.0554**	**0.284**	**mg/kg**	**1**	**6/18/23 9:51**	J, RC:AA,D

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605** Collected: **6/5/2023 12:05:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Calcium	**106000**	D	**31.9**	**284**	**mg/kg**	**10**	**6/19/23 11:36**	**J, RC:4H,5,AA**
Chromium	**29.0**		**0.0321**	**0.284**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:4L,AA**
Cobalt	**5.91**		**0.0290**	**0.227**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:4L,AA**
Copper	**940**	D	**0.794**	**2.84**	**mg/kg**	**10**	**6/19/23 11:36**	**J, RC:4H,5**
Iron	**23900**		**0.804**	**5.68**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:AA**
Lead	**483**		**0.118**	**1.42**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:4L,AA,D**
Magnesium	**25200**		**10.0**	**56.8**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:4L,D**
Manganese	**242**		**0.0353**	**0.284**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:AA**
Nickel	**34.1**		**0.0249**	**0.142**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:D**
Potassium	**694**		**33.8**	**114**	**mg/kg**	**1**	**6/18/23 9:51**	
Selenium	ND	U	0.273	1.42	mg/kg	1	6/18/23 9:51	
Silver	**0.478**		**0.0483**	**0.170**	**mg/kg**	**1**	**6/18/23 9:51**	
Sodium	**1370**		**5.41**	**56.8**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:AA**
Thallium	ND	U	0.0955	1.42	mg/kg	1	6/18/23 9:51	**UJ, RC:4L**
Vanadium	**32.9**		**0.0653**	**0.568**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:4L,AA,D**
Zinc	**173**		**0.0867**	**0.852**	**mg/kg**	**1**	**6/18/23 9:51**	**J, RC:4L,5,6H,AA,D**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000662	0.00145	mg/kg	1	6/15/23 23:05	
4,4'-DDE	ND	U	0.000791	0.00145	mg/kg	1	6/15/23 23:05	**UJ, RC:6L**
4,4'-DDT	ND	U	0.00102	0.00145	mg/kg	1	6/15/23 23:05	
Aldrin	ND	U	0.000686	0.00145	mg/kg	1	6/15/23 23:05	
alpha-BHC	ND	U	0.000431	0.00145	mg/kg	1	6/15/23 23:05	
beta-BHC	ND	U	0.000691	0.00145	mg/kg	1	6/15/23 23:05	
Chlordane [2C]	**0.00309**		**0.000643**	**0.00145**	**mg/kg**	**1**	**6/15/23 23:05**	
delta-BHC	ND	U	0.000672	0.00145	mg/kg	1	6/15/23 23:05	
Dieldrin	ND	U	0.000757	0.00145	mg/kg	1	6/15/23 23:05	
Endosulfan I	ND	U	0.000683	0.00145	mg/kg	1	6/15/23 23:05	
Endosulfan II	ND	U	0.000658	0.00145	mg/kg	1	6/15/23 23:05	
Endosulfan sulfate	ND	U	0.000544	0.00145	mg/kg	1	6/15/23 23:05	**UJ, RC:6L**
Endosulfans, Total (alpha and beta)	ND	U	0.000658	0.00145	mg/kg	1	6/15/23 23:05	
Endrin	ND	U	0.000500	0.00145	mg/kg	1	6/15/23 23:05	
Endrin aldehyde	ND	U	0.000577	0.00145	mg/kg	1	6/15/23 23:05	
Endrin ketone	ND	U	0.000510	0.00145	mg/kg	1	6/15/23 23:05	
gamma-BHC (Lindane)	ND	U	0.000459	0.00145	mg/kg	1	6/15/23 23:05	
Heptachlor	ND	U	0.000387	0.00145	mg/kg	1	6/15/23 23:05	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605** Collected: **6/5/2023 12:05:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Heptachlor Epoxide	**0.00105**	J	**0.000730**	**0.00145**	**mg/kg**	**1**	**6/15/23 23:05**	
Methoxychlor	ND	U	0.000424	0.00145	mg/kg	1	6/15/23 23:05	
Toxaphene	ND	U	0.0697	0.0735	mg/kg	1	6/15/23 23:05	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00418	0.0371	mg/kg	1	6/15/23 21:05	
2,3,4,6-Tetrachlorophenol	ND	U	0.0228	0.148	mg/kg	1	6/15/23 21:05	
2,4,5-Trichlorophenol	ND	U	0.0201	0.148	mg/kg	1	6/15/23 21:05	
2,4,6-Trichlorophenol	ND	U	0.00927	0.148	mg/kg	1	6/15/23 21:05	
2,4-Dichlorophenol	ND	U	0.0149	0.148	mg/kg	1	6/15/23 21:05	
2,4-Dimethylphenol	ND	U	0.0146	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.0214	0.742	mg/kg	1	6/15/23 21:05	
2,4-Dinitrotoluene	ND	U	0.0158	0.148	mg/kg	1	6/15/23 21:05	
2,6-Dinitrotoluene	ND	U	0.0354	0.148	mg/kg	1	6/15/23 21:05	
2-Chloronaphthalene	ND	U	0.0170	0.148	mg/kg	1	6/15/23 21:05	
2-Chlorophenol	ND	U	0.0196	0.148	mg/kg	1	6/15/23 21:05	
2-Methylnaphthalene	ND	U	0.0355	0.223	mg/kg	1	6/15/23 21:05	
2-Methylphenol	ND	U	0.0293	0.148	mg/kg	1	6/15/23 21:05	
2-Nitroaniline	ND	U	0.0119	0.148	mg/kg	1	6/15/23 21:05	
2-Nitrophenol	ND	U	0.0165	0.148	mg/kg	1	6/15/23 21:05	
3,3'-Dichlorobenzidine	ND	U	0.0156	0.148	mg/kg	1	6/15/23 21:05	
3+4-Methylphenol	ND	U	0.0272	0.148	mg/kg	1	6/15/23 21:05	
3-Nitroaniline	ND	U	0.0275	0.148	mg/kg	1	6/15/23 21:05	
4,6-Dinitro-2-methylphenol	ND	U	0.0279	0.371	mg/kg	1	6/15/23 21:05	
4-Bromophenyl-phenyl ether	ND	U	0.0211	0.148	mg/kg	1	6/15/23 21:05	
4-Chloro-3-methylphenol	ND	U	0.0234	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
4-Chloroaniline	ND	U	0.00519	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
4-Chlorophenyl phenyl ether	ND	U	0.00800	0.148	mg/kg	1	6/15/23 21:05	
4-Nitroaniline	ND	U	0.0741	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
4-Nitrophenol	ND	U	0.00948	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
Acenaphthene	ND	U	0.00845	0.148	mg/kg	1	6/15/23 21:05	
Acenaphthylene	ND	U	0.00515	0.148	mg/kg	1	6/15/23 21:05	
Acetophenone	ND	U	0.0147	0.148	mg/kg	1	6/15/23 21:05	
Anthracene	**0.177**		**0.0215**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Atrazine	ND	U	0.0139	0.148	mg/kg	1	6/15/23 21:05	
Benzaldehyde	ND	U	0.0455	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
Benzo(a)anthracene	**0.346**		**0.0149**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605** Collected: **6/5/2023 12:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)pyrene	**0.504**		**0.0258**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Benzo(b)fluoranthene	**0.297**		**0.0208**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Benzo(g,h,i)perylene	**0.742**		**0.0120**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Benzo(k)fluoranthene	**0.482**		**0.0170**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Biphenyl	ND	U	0.0130	0.148	mg/kg	1	6/15/23 21:05	
bis(2-chloroethoxy)methane	ND	U	0.0205	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0162	0.148	mg/kg	1	6/15/23 21:05	
bis(2-chloroisopropyl)ether	ND	U	0.0533	0.148	mg/kg	1	6/15/23 21:05	
bis(2-ethylhexyl)phthalate	**4.51**		**0.0296**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Butylbenzylphthalate	ND	U	0.0135	0.148	mg/kg	1	6/15/23 21:05	
Caprolactam	ND	U	0.0191	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
Carbazole	ND	U	0.0285	0.371	mg/kg	1	6/15/23 21:05	
Chrysene	**0.562**		**0.0102**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Dibenzo(a,h)anthracene	ND	U	0.0147	0.148	mg/kg	1	6/15/23 21:05	
Dibenzofuran	ND	U	0.00883	0.148	mg/kg	1	6/15/23 21:05	
Diethylphthalate	ND	U	0.0287	0.148	mg/kg	1	6/15/23 21:05	
Dimethylphthalate	ND	U	0.00919	0.148	mg/kg	1	6/15/23 21:05	
Di-n-butylphthalate	ND	U	0.0605	0.148	mg/kg	1	6/15/23 21:05	
Di-n-octylphthalate	ND	U	0.0304	0.148	mg/kg	1	6/15/23 21:05	
Fluoranthene	**0.834**		**0.0139**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Fluorene	ND	U	0.0124	0.148	mg/kg	1	6/15/23 21:05	
Hexachlorobenzene	ND	U	0.0194	0.148	mg/kg	1	6/15/23 21:05	
Hexachlorobutadiene	ND	U	0.0711	0.148	mg/kg	1	6/15/23 21:05	
Hexachlorocyclopentadiene	ND	U	0.0618	0.371	mg/kg	1	6/15/23 21:05	UJ, RC:SL
Hexachloroethane	ND	U	0.0162	0.148	mg/kg	1	6/15/23 21:05	
Indeno(1,2,3-cd)pyrene	**0.486**		**0.0159**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Isophorone	ND	U	0.00970	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
Naphthalene	ND	U	0.0110	0.148	mg/kg	1	6/15/23 21:05	
Nitrobenzene	ND	U	0.0252	0.148	mg/kg	1	6/15/23 21:05	UJ, RC:SL
n-Nitroso-di-n-propylamine	ND	U	0.00794	0.148	mg/kg	1	6/15/23 21:05	
n-Nitrosodiphenylamine	ND	U	0.0316	0.148	mg/kg	1	6/15/23 21:05	
Pentachlorophenol	ND	U	0.0204	0.371	mg/kg	1	6/15/23 21:05	
Phenanthrene	**0.549**		**0.0195**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	
Phenol	ND	U	0.0120	0.148	mg/kg	1	6/15/23 21:05	
Pyrene	**0.910**		**0.0109**	**0.148**	**mg/kg**	**1**	**6/15/23 21:05**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0169
Project: Owls Head Phase 2 **Date to Lab:** 6/5/2023 2:48:00PM

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605** Collected: **6/5/2023 12:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene-1,2,3-trione	0.967	8.03	J	mg/kg	1	6/15/23 21:05
Hexadecanoic acid, butyl ester	~~10.2~~ R, RC:2	11.85	J, B	mg/kg	1	6/15/23 21:05
n-Butyl myristate	4.84	12.63	J	mg/kg	1	6/15/23 21:05
unknown (01)	0.581	8.60	J	mg/kg	1	6/15/23 21:05
unknown (02)	0.562	8.87	J	mg/kg	1	6/15/23 21:05
unknown (03)	0.568	9.37	J	mg/kg	1	6/15/23 21:05
unknown (04)	0.729	9.42	J	mg/kg	1	6/15/23 21:05
unknown (05)	0.950	10.11	J	mg/kg	1	6/15/23 21:05
unknown (06)	0.678	10.32	J	mg/kg	1	6/15/23 21:05
unknown (07)	0.693	10.67	J	mg/kg	1	6/15/23 21:05
unknown (08)	0.611	10.98	J	mg/kg	1	6/15/23 21:05
unknown (09)	2.97	16.39	J	mg/kg	1	6/15/23 21:05
unknown (10)	2.82	16.85	J	mg/kg	1	6/15/23 21:05
unknown (11)	2.63	20.36	J	mg/kg	1	6/15/23 21:05
unknown (12)	2.57	20.39	J	mg/kg	1	6/15/23 21:05
TIC Total	~~32.3~~ 22.1					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000312	0.00214	mg/kg	1	6/13/23 17:35
1,1,2,2-Tetrachloroethane	ND	U	0.000295	0.00214	mg/kg	1	6/13/23 17:35
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000916	0.00214	mg/kg	1	6/13/23 17:35
1,1,2-Trichloroethane	ND	U	0.000361	0.00214	mg/kg	1	6/13/23 17:35
1,1-Dichloroethane	ND	U	0.000312	0.00214	mg/kg	1	6/13/23 17:35
1,1-Dichloroethene	ND	U	0.000396	0.00214	mg/kg	1	6/13/23 17:35
1,2,3-Trichlorobenzene	ND	U	0.000462	0.00214	mg/kg	1	6/13/23 17:35
1,2,4-Trichlorobenzene	ND	U	0.000570	0.00214	mg/kg	1	6/13/23 17:35
1,2,4-Trimethylbenzene	ND	U	0.000295	0.00214	mg/kg	1	6/13/23 17:35
1,2-Dibromo-3-chloropropane	ND	U	0.000522	0.00535	mg/kg	1	6/13/23 17:35
1,2-Dibromoethane	ND	U	0.000270	0.00214	mg/kg	1	6/13/23 17:35
1,2-Dichlorobenzene	ND	U	0.000378	0.00214	mg/kg	1	6/13/23 17:35
1,2-Dichloroethane	ND	U	0.000302	0.00214	mg/kg	1	6/13/23 17:35
1,2-Dichloropropane	ND	U	0.000351	0.00214	mg/kg	1	6/13/23 17:35
1,3-Dichlorobenzene	ND	U	0.000157	0.00214	mg/kg	1	6/13/23 17:35
1,4-Dichlorobenzene	ND	U	0.000308	0.00214	mg/kg	1	6/13/23 17:35
2-Butanone	ND	U	0.000349	0.0107	mg/kg	1	6/13/23 17:35
2-Hexanone	ND	U	0.000200	0.00214	mg/kg	1	6/13/23 17:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-03 (Soil) Sample Name: **MW-05-1.0-2.0-20230605** Collected: **6/5/2023 12:05:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4-Methyl-2-pentanone	ND	U	0.000268	0.00214	mg/kg	1	6/13/23 17:35
Acetone	ND	U	0.000649	0.0535	mg/kg	1	6/13/23 17:35
Benzene	**0.00108**	J	**0.000195**	**0.00214**	**mg/kg**	**1**	**6/13/23 17:35**
Bromochloromethane	ND	U	0.000395	0.00214	mg/kg	1	6/13/23 17:35
Bromodichloromethane	ND	U	0.000269	0.00214	mg/kg	1	6/13/23 17:35
Bromoform	ND	U	0.000376	0.00214	mg/kg	1	6/13/23 17:35
Bromomethane	ND	U	0.000617	0.00214	mg/kg	1	6/13/23 17:35
Carbon disulfide	**0.00346**		**0.000307**	**0.00214**	**mg/kg**	**1**	**6/13/23 17:35**
Carbon Tetrachloride	ND	U	0.000322	0.00214	mg/kg	1	6/13/23 17:35
Chlorobenzene	ND	U	0.000310	0.00214	mg/kg	1	6/13/23 17:35
Chlorodibromomethane	ND	U	0.000263	0.00214	mg/kg	1	6/13/23 17:35
Chloroethane	ND	U	0.000365	0.00214	mg/kg	1	6/13/23 17:35
Chloroform	ND	U	0.000360	0.00214	mg/kg	1	6/13/23 17:35
Chloromethane	**0.00842**		**0.000824**	**0.00214**	**mg/kg**	**1**	**6/13/23 17:35**
cis-1,2-Dichloroethene	ND	U	0.000103	0.00214	mg/kg	1	6/13/23 17:35
cis-1,3-Dichloropropene	ND	U	0.000271	0.00214	mg/kg	1	6/13/23 17:35
Cyclohexane	ND	U	0.000474	0.00214	mg/kg	1	6/13/23 17:35
Dichlorodifluoromethane	ND	U	0.000722	0.00214	mg/kg	1	6/13/23 17:35
EthylBenzene	ND	U	0.000290	0.00214	mg/kg	1	6/13/23 17:35
Isopropylbenzene	ND	U	0.000336	0.00214	mg/kg	1	6/13/23 17:35
m+p-Xylenes	ND	U	0.000540	0.00428	mg/kg	1	6/13/23 17:35
Methyl Acetate	ND	U	0.000284	0.00214	mg/kg	1	6/13/23 17:35
Methyl tert-Butyl Ether	ND	U	0.000362	0.00214	mg/kg	1	6/13/23 17:35
Methylcyclohexane	ND	U	0.000345	0.00214	mg/kg	1	6/13/23 17:35
Methylene Chloride	ND	U	0.000643	0.00535	mg/kg	1	6/13/23 17:35
o-Xylene	ND	U	0.000275	0.00214	mg/kg	1	6/13/23 17:35
Styrene	ND	U	0.000306	0.00214	mg/kg	1	6/13/23 17:35
tert-Butyl alcohol	ND	U	0.00449	0.0214	mg/kg	1	6/13/23 17:35
Tetrachloroethene	ND	U	0.000212	0.00214	mg/kg	1	6/13/23 17:35
Toluene	**0.000610**	J	**0.000172**	**0.00214**	**mg/kg**	**1**	**6/13/23 17:35**
Total Xylenes	ND	U	0.000275	0.00214	mg/kg	1	6/13/23 17:35
trans-1,2-Dichloroethene	ND	U	0.000290	0.00214	mg/kg	1	6/13/23 17:35
trans-1,3-Dichloropropene	ND	U	0.000409	0.00214	mg/kg	1	6/13/23 17:35
Trichloroethene	ND	U	0.000315	0.00214	mg/kg	1	6/13/23 17:35
Trichlorofluoromethane	ND	U	0.000246	0.00214	mg/kg	1	6/13/23 17:35
Vinyl chloride	ND	U	0.000407	0.00214	mg/kg	1	6/13/23 17:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-03 (Soil) Sample Name: MW-05-1.0-2.0-20230605 Collected: 6/5/2023 12:05:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopropane, ethyl-	0.00914	4.01	J	mg/kg	1	6/13/23 17:35
TIC Total	**0.009**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.9**				**%**	**1**	**6/6/23 11:16**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00721	0.0605	mg/kg	1	6/12/23 17:07

23F0169-04 (Soil) Sample Name: MW-05-1.0-2.0-20230605MS Collected: 6/5/2023 12:10:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00496	0.0370	mg/kg	1	6/15/23 15:52	UJ, RC:6L
Aroclor-1221	ND	U	0.00975	0.0370	mg/kg	1	6/15/23 15:52	
Aroclor-1232	ND	U	0.0124	0.0370	mg/kg	1	6/15/23 15:52	
Aroclor-1242	ND	U	0.00727	0.0370	mg/kg	1	6/15/23 15:52	
Aroclor-1248	ND	U	0.00760	0.0370	mg/kg	1	6/15/23 15:52	
Aroclor-1254	ND	U	0.00597	0.0370	mg/kg	1	6/15/23 15:52	
Aroclor-1260	**0.531**		**0.00463**	**0.0370**	**mg/kg**	**1**	**6/15/23 15:52**	
Aroclor-1262	ND	U	0.00995	0.0370	mg/kg	1	6/15/23 15:52	
Aroclor-1268	ND	U	0.00447	0.0370	mg/kg	1	6/15/23 15:52	
Total PCBs	**0.531**		**0.00345**	**0.0370**	**mg/kg**	**1**	**6/15/23 15:52**	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0110	0.112	mg/kg	1	6/22/23 18:10	UJ, RC:SL
2,4-D	ND	U	0.0186	0.112	mg/kg	1	6/22/23 18:10	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.173**		**0.00560**	**0.0224**	**mg/kg**	**1**	**6/15/23 12:55**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MS** Collected: **6/5/2023 12:10:00PM**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8020**		**0.163**	**2.75**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4L,AA**
Antimony	ND	U	0.150	1.37	mg/kg	1	6/18/23 9:53	**UJ, RC:4L**
Arsenic	**2.22**		**0.0980**	**1.37**	**mg/kg**	**1**	**6/18/23 9:53**	
Barium	**56.8**		**0.0415**	**0.549**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:AA,D**
Beryllium	**0.463**		**0.00318**	**0.0275**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:AA,D**
Cadmium	**0.972**		**0.0535**	**0.275**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:AA,D**
Calcium	**145000**	D	**30.9**	**275**	**mg/kg**	**10**	**6/19/23 11:38**	**J, RC:4H,5,AA**
Chromium	**16.8**		**0.0310**	**0.275**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4L,AA**
Cobalt	**4.15**		**0.0281**	**0.220**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4L,AA**
Copper	**81.3**		**0.0768**	**0.275**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4H,5**
Iron	**11800**		**0.778**	**5.49**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:AA**
Lead	**67.4**		**0.115**	**1.37**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4L,AA,D**
Magnesium	**48000**	D	**97.0**	**549**	**mg/kg**	**10**	**6/19/23 11:38**	**J, RC:4L,D**
Manganese	**211**		**0.0342**	**0.275**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:AA**
Nickel	**22.7**		**0.0241**	**0.137**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:D**
Potassium	**378**		**32.7**	**110**	**mg/kg**	**1**	**6/18/23 9:53**	
Selenium	ND	U	0.264	1.37	mg/kg	1	6/18/23 9:53	
Silver	**0.407**		**0.0467**	**0.165**	**mg/kg**	**1**	**6/18/23 9:53**	
Sodium	**709**		**5.24**	**54.9**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:AA**
Thallium	ND	U	0.0924	1.37	mg/kg	1	6/18/23 9:53	**UJ, RC:4L**
Vanadium	**43.7**		**0.0632**	**0.549**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4L,AA,D**
Zinc	**81.6**		**0.0839**	**0.824**	**mg/kg**	**1**	**6/18/23 9:53**	**J, RC:4L,5,6H,AA,D**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000667	0.00146	mg/kg	1	6/15/23 23:23	
4,4'-DDE	ND	U	0.000797	0.00146	mg/kg	1	6/15/23 23:23	**UJ, RC:6L**
4,4'-DDT	ND	U	0.00103	0.00146	mg/kg	1	6/15/23 23:23	
Aldrin	ND	U	0.000690	0.00146	mg/kg	1	6/15/23 23:23	
alpha-BHC	ND	U	0.000434	0.00146	mg/kg	1	6/15/23 23:23	
beta-BHC	ND	U	0.000696	0.00146	mg/kg	1	6/15/23 23:23	
Chlordane [2C]	**0.00524**		**0.000648**	**0.00146**	**mg/kg**	**1**	**6/15/23 23:23**	
delta-BHC	ND	U	0.000677	0.00146	mg/kg	1	6/15/23 23:23	
Dieldrin	ND	U	0.000762	0.00146	mg/kg	1	6/15/23 23:23	
Endosulfan I	ND	U	0.000688	0.00146	mg/kg	1	6/15/23 23:23	
Endosulfan II	ND	U	0.000662	0.00146	mg/kg	1	6/15/23 23:23	
Endosulfan sulfate	ND	U	0.000548	0.00146	mg/kg	1	6/15/23 23:23	**UJ, RC:6L**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MS** Collected: **6/5/2023 12:10:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfans, Total (alpha and beta)	ND	U	0.000662	0.00146	mg/kg	1	6/15/23 23:23
Endrin	ND	U	0.000503	0.00146	mg/kg	1	6/15/23 23:23
Endrin aldehyde	ND	U	0.000580	0.00146	mg/kg	1	6/15/23 23:23
Endrin ketone	ND	U	0.000513	0.00146	mg/kg	1	6/15/23 23:23
gamma-BHC (Lindane)	ND	U	0.000462	0.00146	mg/kg	1	6/15/23 23:23
Heptachlor	ND	U	0.000390	0.00146	mg/kg	1	6/15/23 23:23
Heptachlor Epoxide	ND	U	0.000735	0.00146	mg/kg	1	6/15/23 23:23
Methoxychlor	ND	U	0.000427	0.00146	mg/kg	1	6/15/23 23:23
Toxaphene	ND	U	0.0702	0.0740	mg/kg	1	6/15/23 23:23

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00421	0.0373	mg/kg	1	6/14/23 21:57
2,3,4,6-Tetrachlorophenol	ND	U	0.0230	0.149	mg/kg	1	6/14/23 21:57
2,4,5-Trichlorophenol	ND	U	0.0203	0.149	mg/kg	1	6/14/23 21:57
2,4,6-Trichlorophenol	ND	U	0.00933	0.149	mg/kg	1	6/14/23 21:57
2,4-Dichlorophenol	ND	U	0.0150	0.149	mg/kg	1	6/14/23 21:57
2,4-Dimethylphenol	ND	U	0.0147	0.149	mg/kg	1	6/14/23 21:57
2,4-Dinitrophenol	ND	U	0.0215	0.747	mg/kg	1	6/14/23 21:57
2,4-Dinitrotoluene	ND	U	0.0159	0.149	mg/kg	1	6/14/23 21:57
2,6-Dinitrotoluene	ND	U	0.0356	0.149	mg/kg	1	6/14/23 21:57
2-Chloronaphthalene	ND	U	0.0171	0.149	mg/kg	1	6/14/23 21:57
2-Chlorophenol	ND	U	0.0197	0.149	mg/kg	1	6/14/23 21:57
2-Methylnaphthalene	**0.114**	J	**0.0357**	**0.224**	**mg/kg**	**1**	**6/14/23 21:57**
2-Methylphenol	ND	U	0.0295	0.149	mg/kg	1	6/14/23 21:57
2-Nitroaniline	ND	U	0.0120	0.149	mg/kg	1	6/14/23 21:57
2-Nitrophenol	ND	U	0.0166	0.149	mg/kg	1	6/14/23 21:57
3,3'-Dichlorobenzidine	ND	U	0.0157	0.149	mg/kg	1	6/14/23 21:57
3+4-Methylphenol	ND	U	0.0273	0.149	mg/kg	1	6/14/23 21:57
3-Nitroaniline	ND	U	0.0277	0.149	mg/kg	1	6/14/23 21:57
4,6-Dinitro-2-methylphenol	ND	U	0.0281	0.373	mg/kg	1	6/14/23 21:57
4-Bromophenyl-phenyl ether	ND	U	0.0213	0.149	mg/kg	1	6/14/23 21:57
4-Chloro-3-methylphenol	ND	U	0.0235	0.149	mg/kg	1	6/14/23 21:57
4-Chloroaniline	ND	U	0.00522	0.149	mg/kg	1	6/14/23 21:57
4-Chlorophenyl phenyl ether	ND	U	0.00806	0.149	mg/kg	1	6/14/23 21:57
4-Nitroaniline	ND	U	0.0746	0.149	mg/kg	1	6/14/23 21:57
4-Nitrophenol	ND	U	0.00955	0.149	mg/kg	1	6/14/23 21:57

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MS** Collected: **6/5/2023 12:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acenaphthene	ND	U	0.00850	0.149	mg/kg	1	6/14/23 21:57	
Acenaphthylene	ND	U	0.00519	0.149	mg/kg	1	6/14/23 21:57	
Acetophenone	ND	U	0.0148	0.149	mg/kg	1	6/14/23 21:57	
Anthracene	**0.304**		**0.0216**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Atrazine	ND	U	0.0140	0.149	mg/kg	1	6/14/23 21:57	
Benzaldehyde	ND	U	0.0458	0.149	mg/kg	1	6/14/23 21:57	UJ, RC:SL
Benzo(a)anthracene	**0.798**		**0.0150**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Benzo(a)pyrene	**0.696**		**0.0260**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Benzo(b)fluoranthene	**0.828**		**0.0210**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Benzo(g,h,i)perylene	**0.794**		**0.0121**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Benzo(k)fluoranthene	**0.315**		**0.0171**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Biphenyl	ND	U	0.0131	0.149	mg/kg	1	6/14/23 21:57	
bis(2-chloroethoxy)methane	ND	U	0.0206	0.149	mg/kg	1	6/14/23 21:57	
bis(2-chloroethyl)ether	ND	U	0.0164	0.149	mg/kg	1	6/14/23 21:57	
bis(2-chloroisopropyl)ether	ND	U	0.0537	0.149	mg/kg	1	6/14/23 21:57	UJ, RC:SL
bis(2-ethylhexyl)phthalate	**0.916**		**0.0298**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Butylbenzylphthalate	ND	U	0.0136	0.149	mg/kg	1	6/14/23 21:57	
Caprolactam	ND	U	0.0193	0.149	mg/kg	1	6/14/23 21:57	
Carbazole	ND	U	0.0287	0.373	mg/kg	1	6/14/23 21:57	
Chrysene	**0.471**		**0.0102**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Dibenzo(a,h)anthracene	ND	U	0.0148	0.149	mg/kg	1	6/14/23 21:57	
Dibenzofuran	ND	U	0.00889	0.149	mg/kg	1	6/14/23 21:57	
Diethylphthalate	ND	U	0.0289	0.149	mg/kg	1	6/14/23 21:57	
Dimethylphthalate	ND	U	0.00926	0.149	mg/kg	1	6/14/23 21:57	
Di-n-butylphthalate	ND	U	0.0610	0.149	mg/kg	1	6/14/23 21:57	
Di-n-octylphthalate	ND	U	0.0306	0.149	mg/kg	1	6/14/23 21:57	
Fluoranthene	**0.927**		**0.0140**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Fluorene	ND	U	0.0124	0.149	mg/kg	1	6/14/23 21:57	
Hexachlorobenzene	ND	U	0.0195	0.149	mg/kg	1	6/14/23 21:57	
Hexachlorobutadiene	ND	U	0.0716	0.149	mg/kg	1	6/14/23 21:57	
Hexachlorocyclopentadiene	ND	U	0.0622	0.373	mg/kg	1	6/14/23 21:57	UJ, RC:SL
Hexachloroethane	ND	U	0.0164	0.149	mg/kg	1	6/14/23 21:57	
Indeno(1,2,3-cd)pyrene	**0.510**		**0.0160**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Isophorone	ND	U	0.00977	0.149	mg/kg	1	6/14/23 21:57	
Naphthalene	**0.0831**	J	**0.0110**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**	
Nitrobenzene	ND	U	0.0253	0.149	mg/kg	1	6/14/23 21:57	
n-Nitroso-di-n-propylamine	ND	U	0.00799	0.149	mg/kg	1	6/14/23 21:57	
n-Nitrosodiphenylamine	ND	U	0.0318	0.149	mg/kg	1	6/14/23 21:57	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0169
Project: Owls Head Phase 2 **Date to Lab:** 6/5/2023 2:48:00PM

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MS** Collected: **6/5/2023 12:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pentachlorophenol	ND	U	0.0205	0.373	mg/kg	1	6/14/23 21:57
Phenanthrene	**0.790**		**0.0196**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**
Phenol	ND	U	0.0121	0.149	mg/kg	1	6/14/23 21:57
Pyrene	**1.15**		**0.0110**	**0.149**	**mg/kg**	**1**	**6/14/23 21:57**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Cyclohexanol, 4-tert.butyl-1-methyl-	0.886	9.37	J	mg/kg	1	6/14/23 21:57
2-Ethyl-1-dodecanol	1.22	10.32	J	mg/kg	1	6/14/23 21:57
D-Homoandrostane, (5.alpha.,13.alpha.)-	2.88	19.61	J	mg/kg	1	6/14/23 21:57
Hexadecanoic acid, butyl ester	~~11.9~~ R, RC:2	11.85	J, B	mg/kg	1	6/14/23 21:57
Octadecanoic acid, butyl ester	2.99	12.64	J	mg/kg	1	6/14/23 21:57
Tricyclo[4.4.0.0(3,8)]decan-2-one	0.529	11.57	J	mg/kg	1	6/14/23 21:57
Undecane, 5-ethyl-	1.14	9.58	J	mg/kg	1	6/14/23 21:57
unknown (01)	~~0.692~~ R, RC:2	8.66	J, B	mg/kg	1	6/14/23 21:57
unknown (02)	~~0.801~~ R, RC:2	8.87	J, B	mg/kg	1	6/14/23 21:57
unknown (03)	~~0.766~~ R, RC:2	10.15	J, B	mg/kg	1	6/14/23 21:57
unknown (04)	~~0.826~~ R, RC:2	11.50	J, B	mg/kg	1	6/14/23 21:57
unknown (05)	~~0.500~~ R, RC:2	11.95	J, B	mg/kg	1	6/14/23 21:57
unknown (06)	2.99	17.60	J	mg/kg	1	6/14/23 21:57
unknown (07)	2.72	18.94	J	mg/kg	1	6/14/23 21:57
unknown (08)	3.29	19.00	J	mg/kg	1	6/14/23 21:57
TIC Total	~~34.1~~ 18.615					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000309	0.00211	mg/kg	1	6/13/23 18:04
1,1,2,2-Tetrachloroethane	ND	U	0.000292	0.00211	mg/kg	1	6/13/23 18:04
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000905	0.00211	mg/kg	1	6/13/23 18:04
1,1,2-Trichloroethane	ND	U	0.000356	0.00211	mg/kg	1	6/13/23 18:04
1,1-Dichloroethane	ND	U	0.000309	0.00211	mg/kg	1	6/13/23 18:04
1,1-Dichloroethene	ND	U	0.000391	0.00211	mg/kg	1	6/13/23 18:04
1,2,3-Trichlorobenzene	ND	U	0.000457	0.00211	mg/kg	1	6/13/23 18:04
1,2,4-Trichlorobenzene	ND	U	0.000563	0.00211	mg/kg	1	6/13/23 18:04
1,2,4-Trimethylbenzene	ND	U	0.000292	0.00211	mg/kg	1	6/13/23 18:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MS** Collected: **6/5/2023 12:10:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dibromo-3-chloropropane	ND	U	0.000516	0.00529	mg/kg	1	6/13/23 18:04
1,2-Dibromoethane	ND	U	0.000266	0.00211	mg/kg	1	6/13/23 18:04
1,2-Dichlorobenzene	ND	U	0.000373	0.00211	mg/kg	1	6/13/23 18:04
1,2-Dichloroethane	ND	U	0.000298	0.00211	mg/kg	1	6/13/23 18:04
1,2-Dichloropropane	ND	U	0.000347	0.00211	mg/kg	1	6/13/23 18:04
1,3-Dichlorobenzene	ND	U	0.000155	0.00211	mg/kg	1	6/13/23 18:04
1,4-Dichlorobenzene	ND	U	0.000304	0.00211	mg/kg	1	6/13/23 18:04
2-Butanone	ND	U	0.000345	0.0106	mg/kg	1	6/13/23 18:04
2-Hexanone	ND	U	0.000198	0.00211	mg/kg	1	6/13/23 18:04
4-Methyl-2-pentanone	ND	U	0.000264	0.00211	mg/kg	1	6/13/23 18:04
Acetone	ND	U	0.000641	0.0529	mg/kg	1	6/13/23 18:04
Benzene	ND	U	0.000192	0.00211	mg/kg	1	6/13/23 18:04
Bromochloromethane	ND	U	0.000390	0.00211	mg/kg	1	6/13/23 18:04
Bromodichloromethane	ND	U	0.000265	0.00211	mg/kg	1	6/13/23 18:04
Bromoform	ND	U	0.000371	0.00211	mg/kg	1	6/13/23 18:04
Bromomethane	ND	U	0.000610	0.00211	mg/kg	1	6/13/23 18:04
Carbon disulfide	ND	U	0.000303	0.00211	mg/kg	1	6/13/23 18:04
Carbon Tetrachloride	ND	U	0.000318	0.00211	mg/kg	1	6/13/23 18:04
Chlorobenzene	ND	U	0.000307	0.00211	mg/kg	1	6/13/23 18:04
Chlorodibromomethane	ND	U	0.000260	0.00211	mg/kg	1	6/13/23 18:04
Chloroethane	ND	U	0.000360	0.00211	mg/kg	1	6/13/23 18:04
Chloroform	ND	U	0.000355	0.00211	mg/kg	1	6/13/23 18:04
Chloromethane	ND	U	0.000814	0.00211	mg/kg	1	6/13/23 18:04
cis-1,2-Dichloroethene	ND	U	0.000102	0.00211	mg/kg	1	6/13/23 18:04
cis-1,3-Dichloropropene	ND	U	0.000267	0.00211	mg/kg	1	6/13/23 18:04
Cyclohexane	ND	U	0.000468	0.00211	mg/kg	1	6/13/23 18:04
Dichlorodifluoromethane	ND	U	0.000714	0.00211	mg/kg	1	6/13/23 18:04
EthylBenzene	ND	U	0.000286	0.00211	mg/kg	1	6/13/23 18:04
Isopropylbenzene	ND	U	0.000332	0.00211	mg/kg	1	6/13/23 18:04
m+p-Xylenes	ND	U	0.000534	0.00423	mg/kg	1	6/13/23 18:04
Methyl Acetate	ND	U	0.000280	0.00211	mg/kg	1	6/13/23 18:04
Methyl tert-Butyl Ether	ND	U	0.000357	0.00211	mg/kg	1	6/13/23 18:04
Methylcyclohexane	ND	U	0.000340	0.00211	mg/kg	1	6/13/23 18:04
Methylene Chloride	ND	U	0.000635	0.00529	mg/kg	1	6/13/23 18:04
o-Xylene	ND	U	0.000272	0.00211	mg/kg	1	6/13/23 18:04
Styrene	ND	U	0.000302	0.00211	mg/kg	1	6/13/23 18:04
tert-Butyl alcohol	ND	U	0.00444	0.0211	mg/kg	1	6/13/23 18:04
Tetrachloroethene	ND	U	0.000209	0.00211	mg/kg	1	6/13/23 18:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-04 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MS** Collected: **6/5/2023 12:10:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	ND	U	0.000170	0.00211	mg/kg	1	6/13/23 18:04
Total Xylenes	ND	U	0.000272	0.00211	mg/kg	1	6/13/23 18:04
trans-1,2-Dichloroethene	ND	U	0.000286	0.00211	mg/kg	1	6/13/23 18:04
trans-1,3-Dichloropropene	ND	U	0.000404	0.00211	mg/kg	1	6/13/23 18:04
Trichloroethene	ND	U	0.000311	0.00211	mg/kg	1	6/13/23 18:04
Trichlorofluoromethane	ND	U	0.000243	0.00211	mg/kg	1	6/13/23 18:04
Vinyl chloride	ND	U	0.000402	0.00211	mg/kg	1	6/13/23 18:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**89.2**				**%**	**1**	**6/6/23 11:16**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00855	0.0717	mg/kg	1	6/12/23 17:07

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00488	0.0364	mg/kg	1	6/15/23 16:14	UJ, RC:6L
Aroclor-1221	ND	U	0.00960	0.0364	mg/kg	1	6/15/23 16:14	
Aroclor-1232	ND	U	0.0122	0.0364	mg/kg	1	6/15/23 16:14	
Aroclor-1242	ND	U	0.00715	0.0364	mg/kg	1	6/15/23 16:14	
Aroclor-1248	ND	U	0.00748	0.0364	mg/kg	1	6/15/23 16:14	
Aroclor-1254	ND	U	0.00588	0.0364	mg/kg	1	6/15/23 16:14	
Aroclor-1260	**0.378**		**0.00456**	**0.0364**	**mg/kg**	**1**	**6/15/23 16:14**	
Aroclor-1262	ND	U	0.00980	0.0364	mg/kg	1	6/15/23 16:14	
Aroclor-1268	ND	U	0.00440	0.0364	mg/kg	1	6/15/23 16:14	
Total PCBs	**0.378**		**0.00340**	**0.0364**	**mg/kg**	**1**	**6/15/23 16:14**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	6/22/23 18:19	UJ, RC:SL
2,4-D	ND	U	0.0183	0.110	mg/kg	1	6/22/23 18:19	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.126**		**0.00552**	**0.0221**	**mg/kg**	**1**	**6/15/23 12:55**	

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**11100**		**0.165**	**2.77**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,AA
Antimony	ND	U	0.151	1.39	mg/kg	1	6/16/23 15:43	UJ, RC:4L
Arsenic	**2.19**		**0.0989**	**1.39**	**mg/kg**	**1**	**6/16/23 15:43**	
Barium	**69.4**		**0.0419**	**0.554**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:AA,D
Beryllium	**0.457**		**0.00321**	**0.0277**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:AA,D
Cadmium	**0.524**		**0.0540**	**0.277**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:D
Calcium	**66200**	D	**15.6**	**139**	**mg/kg**	**5**	**6/16/23 15:41**	
Chromium	**19.2**		**0.0313**	**0.277**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,AA
Cobalt	**4.88**		**0.0283**	**0.222**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,AA
Copper	**83.2**		**0.0776**	**0.277**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4H,5,AA
Iron	**13100**		**0.785**	**5.54**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:AA
Lead	**86.9**		**0.116**	**1.39**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:AA,D
Magnesium	**20800**		**9.79**	**55.4**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,D
Manganese	**222**		**0.0345**	**0.277**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:AA
Nickel	**26.2**		**0.0243**	**0.139**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,AA,D
Potassium	**664**		**33.0**	**111**	**mg/kg**	**1**	**6/16/23 15:43**	
Selenium	ND	U	0.266	1.39	mg/kg	1	6/16/23 15:43	
Silver	ND	U	0.0471	0.166	mg/kg	1	6/16/23 15:43	
Sodium	**902**		**5.29**	**55.4**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:AA
Thallium	ND	U	0.0933	1.39	mg/kg	1	6/16/23 15:43	UJ, RC:4L
Vanadium	**53.8**		**0.0638**	**0.554**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,AA,D
Zinc	**77.3**		**0.0847**	**0.832**	**mg/kg**	**1**	**6/16/23 15:43**	J, RC:4L,5,6H,AA,D

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000656	0.00143	mg/kg	1	6/14/23 22:36	
4,4'-DDE	ND	U	0.000784	0.00143	mg/kg	1	6/14/23 22:36	UJ, RC:6L
4,4'-DDT	**0.0444**		**0.00101**	**0.00143**	**mg/kg**	**1**	**6/14/23 22:36**	
Aldrin	ND	U	0.000680	0.00143	mg/kg	1	6/14/23 22:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000427	0.00143	mg/kg	1	6/14/23 22:36	
beta-BHC	ND	U	0.000685	0.00143	mg/kg	1	6/14/23 22:36	
Chlordane	ND	U	0.000638	0.00143	mg/kg	1	6/14/23 22:36	
delta-BHC	ND	U	0.000666	0.00143	mg/kg	1	6/14/23 22:36	
Dieldrin	ND	U	0.000750	0.00143	mg/kg	1	6/14/23 22:36	
Endosulfan I	ND	U	0.000677	0.00143	mg/kg	1	6/14/23 22:36	
Endosulfan II	ND	U	0.000652	0.00143	mg/kg	1	6/14/23 22:36	
Endosulfan sulfate	ND	U	0.000540	0.00143	mg/kg	1	6/14/23 22:36	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000652	0.00143	mg/kg	1	6/14/23 22:36	
Endrin	ND	U	0.000495	0.00143	mg/kg	1	6/14/23 22:36	
Endrin aldehyde	ND	U	0.000571	0.00143	mg/kg	1	6/14/23 22:36	
Endrin ketone	ND	U	0.000505	0.00143	mg/kg	1	6/14/23 22:36	
gamma-BHC (Lindane)	ND	U	0.000455	0.00143	mg/kg	1	6/14/23 22:36	
Heptachlor	ND	U	0.000384	0.00143	mg/kg	1	6/14/23 22:36	
Heptachlor Epoxide	ND	U	0.000724	0.00143	mg/kg	1	6/14/23 22:36	
Methoxychlor	ND	U	0.000420	0.00143	mg/kg	1	6/14/23 22:36	
Toxaphene	ND	U	0.0691	0.0728	mg/kg	1	6/14/23 22:36	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00415	0.0367	mg/kg	1	6/14/23 22:29
2,3,4,6-Tetrachlorophenol	ND	U	0.0226	0.147	mg/kg	1	6/14/23 22:29
2,4,5-Trichlorophenol	ND	U	0.0200	0.147	mg/kg	1	6/14/23 22:29
2,4,6-Trichlorophenol	ND	U	0.00919	0.147	mg/kg	1	6/14/23 22:29
2,4-Dichlorophenol	ND	U	0.0148	0.147	mg/kg	1	6/14/23 22:29
2,4-Dimethylphenol	ND	U	0.0145	0.147	mg/kg	1	6/14/23 22:29
2,4-Dinitrophenol	ND	U	0.0212	0.736	mg/kg	1	6/14/23 22:29
2,4-Dinitrotoluene	ND	U	0.0157	0.147	mg/kg	1	6/14/23 22:29
2,6-Dinitrotoluene	ND	U	0.0351	0.147	mg/kg	1	6/14/23 22:29
2-Chloronaphthalene	ND	U	0.0169	0.147	mg/kg	1	6/14/23 22:29
2-Chlorophenol	ND	U	0.0194	0.147	mg/kg	1	6/14/23 22:29
2-Methylnaphthalene	ND	U	0.0352	0.221	mg/kg	1	6/14/23 22:29
2-Methylphenol	ND	U	0.0290	0.147	mg/kg	1	6/14/23 22:29
2-Nitroaniline	ND	U	0.0118	0.147	mg/kg	1	6/14/23 22:29
2-Nitrophenol	ND	U	0.0163	0.147	mg/kg	1	6/14/23 22:29
3,3'-Dichlorobenzidine	ND	U	0.0154	0.147	mg/kg	1	6/14/23 22:29
3+4-Methylphenol	ND	U	0.0269	0.147	mg/kg	1	6/14/23 22:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.0273	0.147	mg/kg	1	6/14/23 22:29	
4,6-Dinitro-2-methylphenol	ND	U	0.0277	0.367	mg/kg	1	6/14/23 22:29	
4-Bromophenyl-phenyl ether	ND	U	0.0210	0.147	mg/kg	1	6/14/23 22:29	
4-Chloro-3-methylphenol	ND	U	0.0232	0.147	mg/kg	1	6/14/23 22:29	
4-Chloroaniline	ND	U	0.00514	0.147	mg/kg	1	6/14/23 22:29	
4-Chlorophenyl phenyl ether	ND	U	0.00793	0.147	mg/kg	1	6/14/23 22:29	
4-Nitroaniline	ND	U	0.0735	0.147	mg/kg	1	6/14/23 22:29	
4-Nitrophenol	ND	U	0.00940	0.147	mg/kg	1	6/14/23 22:29	
Acenaphthene	ND	U	0.00837	0.147	mg/kg	1	6/14/23 22:29	
Acenaphthylene	ND	U	0.00511	0.147	mg/kg	1	6/14/23 22:29	
Acetophenone	ND	U	0.0146	0.147	mg/kg	1	6/14/23 22:29	
Anthracene	**0.169**		**0.0213**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Atrazine	ND	U	0.0138	0.147	mg/kg	1	6/14/23 22:29	
Benzaldehyde	ND	U	0.0451	0.147	mg/kg	1	6/14/23 22:29	UJ, RC:SL
Benzo(a)anthracene	**0.419**		**0.0148**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Benzo(a)pyrene	**0.527**		**0.0256**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Benzo(b)fluoranthene	**0.381**		**0.0206**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Benzo(g,h,i)perylene	**0.591**		**0.0119**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Benzo(k)fluoranthene	**0.596**		**0.0169**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Biphenyl	ND	U	0.0129	0.147	mg/kg	1	6/14/23 22:29	
bis(2-chloroethoxy)methane	ND	U	0.0203	0.147	mg/kg	1	6/14/23 22:29	
bis(2-chloroethyl)ether	ND	U	0.0161	0.147	mg/kg	1	6/14/23 22:29	
bis(2-chloroisopropyl)ether	ND	U	0.0528	0.147	mg/kg	1	6/14/23 22:29	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0293	0.147	mg/kg	1	6/14/23 22:29	
Butylbenzylphthalate	ND	U	0.0133	0.147	mg/kg	1	6/14/23 22:29	
Caprolactam	ND	U	0.0190	0.147	mg/kg	1	6/14/23 22:29	
Carbazole	ND	U	0.0282	0.367	mg/kg	1	6/14/23 22:29	
Chrysene	**0.417**		**0.0101**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Dibenzo(a,h)anthracene	ND	U	0.0146	0.147	mg/kg	1	6/14/23 22:29	
Dibenzofuran	ND	U	0.00875	0.147	mg/kg	1	6/14/23 22:29	
Diethylphthalate	ND	U	0.0285	0.147	mg/kg	1	6/14/23 22:29	
Dimethylphthalate	ND	U	0.00911	0.147	mg/kg	1	6/14/23 22:29	
Di-n-butylphthalate	**2.59**		**0.0600**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Di-n-octylphthalate	ND	U	0.0301	0.147	mg/kg	1	6/14/23 22:29	
Fluoranthene	**0.759**		**0.0138**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**	
Fluorene	ND	U	0.0122	0.147	mg/kg	1	6/14/23 22:29	
Hexachlorobenzene	ND	U	0.0192	0.147	mg/kg	1	6/14/23 22:29	
Hexachlorobutadiene	ND	U	0.0705	0.147	mg/kg	1	6/14/23 22:29	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0169
Project: Owls Head Phase 2 **Date to Lab:** 6/5/2023 2:48:00PM

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorocyclopentadiene	ND	U	0.0612	0.367	mg/kg	1	6/14/23 22:29
Hexachloroethane	ND	U	0.0161	0.147	mg/kg	1	6/14/23 22:29
Indeno(1,2,3-cd)pyrene	**0.360**		**0.0158**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**
Isophorone	ND	U	0.00962	0.147	mg/kg	1	6/14/23 22:29
Naphthalene	**0.0877**	J	**0.0109**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**
Nitrobenzene	ND	U	0.0249	0.147	mg/kg	1	6/14/23 22:29
n-Nitroso-di-n-propylamine	ND	U	0.00787	0.147	mg/kg	1	6/14/23 22:29
n-Nitrosodiphenylamine	ND	U	0.0313	0.147	mg/kg	1	6/14/23 22:29
Pentachlorophenol	ND	U	0.0202	0.367	mg/kg	1	6/14/23 22:29
Phenanthrene	**0.545**		**0.0193**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**
Phenol	ND	U	0.0119	0.147	mg/kg	1	6/14/23 22:29
Pyrene	**0.969**		**0.0108**	**0.147**	**mg/kg**	**1**	**6/14/23 22:29**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecane	0.546	10.32	J	mg/kg	1	6/14/23 22:29
Hexadecanoic acid, butyl ester	~~14.4~~ R, RC:2	11.85	J, B	mg/kg	1	6/14/23 22:29
Octadecanoic acid, butyl ester	2.94	12.63	J	mg/kg	1	6/14/23 22:29
unknown (01)	~~0.828~~ R, RC:2	7.15	J, B	mg/kg	1	6/14/23 22:29
unknown (02)	~~0.694~~ R, RC:2	9.19	J, B	mg/kg	1	6/14/23 22:29
unknown (03)	~~1.05~~ R, RC:2	9.37	J, B	mg/kg	1	6/14/23 22:29
unknown (04)	~~0.528~~ R, RC:2	9.59	J, B	mg/kg	1	6/14/23 22:29
unknown (05)	~~0.497~~ R, RC:2	10.66	J, B	mg/kg	1	6/14/23 22:29
unknown (06)	2.94	17.40	J	mg/kg	1	6/14/23 22:29
unknown (07)	1.31	19.05	J	mg/kg	1	6/14/23 22:29
TIC Total	~~25.7~~ 7.703					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000358	0.00245	mg/kg	1	6/14/23 15:11
1,1,2,2-Tetrachloroethane	ND	U	0.000338	0.00245	mg/kg	1	6/14/23 15:11
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00105	0.00245	mg/kg	1	6/14/23 15:11
1,1,2-Trichloroethane	ND	U	0.000413	0.00245	mg/kg	1	6/14/23 15:11
1,1-Dichloroethane	ND	U	0.000358	0.00245	mg/kg	1	6/14/23 15:11
1,1-Dichloroethene	ND	U	0.000454	0.00245	mg/kg	1	6/14/23 15:11
1,2,3-Trichlorobenzene	ND	U	0.000530	0.00245	mg/kg	1	6/14/23 15:11 UJ, RC:4L
1,2,4-Trichlorobenzene	ND	U	0.000653	0.00245	mg/kg	1	6/14/23 15:11 UJ, RC:4L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-202306 05MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	ND	U	0.000338	0.00245	mg/kg	1	6/14/23 15:11	
1,2-Dibromo-3-chloropropane	ND	U	0.000598	0.00613	mg/kg	1	6/14/23 15:11	
1,2-Dibromoethane	ND	U	0.000309	0.00245	mg/kg	1	6/14/23 15:11	
1,2-Dichlorobenzene	ND	U	0.000433	0.00245	mg/kg	1	6/14/23 15:11	UJ, RC:4L
1,2-Dichloroethane	ND	U	0.000346	0.00245	mg/kg	1	6/14/23 15:11	
1,2-Dichloropropane	ND	U	0.000402	0.00245	mg/kg	1	6/14/23 15:11	
1,3-Dichlorobenzene	ND	U	0.000180	0.00245	mg/kg	1	6/14/23 15:11	
1,4-Dichlorobenzene	ND	U	0.000353	0.00245	mg/kg	1	6/14/23 15:11	UJ, RC:4L
2-Butanone	**0.0125**		**0.000400**	**0.0123**	**mg/kg**	**1**	**6/14/23 15:11**	
2-Hexanone	ND	U	0.000229	0.00245	mg/kg	1	6/14/23 15:11	
4-Methyl-2-pentanone	ND	U	0.000306	0.00245	mg/kg	1	6/14/23 15:11	
Acetone	**0.159**		**0.000743**	**0.0613**	**mg/kg**	**1**	**6/14/23 15:11**	
Benzene	**0.00153**	J	**0.000223**	**0.00245**	**mg/kg**	**1**	**6/14/23 15:11**	
Bromochloromethane	ND	U	0.000452	0.00245	mg/kg	1	6/14/23 15:11	
Bromodichloromethane	ND	U	0.000308	0.00245	mg/kg	1	6/14/23 15:11	
Bromoform	ND	U	0.000430	0.00245	mg/kg	1	6/14/23 15:11	
Bromomethane	ND	U	0.000707	0.00245	mg/kg	1	6/14/23 15:11	
Carbon disulfide	**0.00414**		**0.000352**	**0.00245**	**mg/kg**	**1**	**6/14/23 15:11**	
Carbon Tetrachloride	ND	U	0.000369	0.00245	mg/kg	1	6/14/23 15:11	
Chlorobenzene	ND	U	0.000356	0.00245	mg/kg	1	6/14/23 15:11	
Chlorodibromomethane	ND	U	0.000302	0.00245	mg/kg	1	6/14/23 15:11	
Chloroethane	ND	U	0.000418	0.00245	mg/kg	1	6/14/23 15:11	
Chloroform	ND	U	0.000412	0.00245	mg/kg	1	6/14/23 15:11	
Chloromethane	ND	U	0.000944	0.00245	mg/kg	1	6/14/23 15:11	
cis-1,2-Dichloroethene	ND	U	0.000119	0.00245	mg/kg	1	6/14/23 15:11	
cis-1,3-Dichloropropene	ND	U	0.000310	0.00245	mg/kg	1	6/14/23 15:11	
Cyclohexane	ND	U	0.000543	0.00245	mg/kg	1	6/14/23 15:11	
Dichlorodifluoromethane	ND	U	0.000827	0.00245	mg/kg	1	6/14/23 15:11	
EthylBenzene	ND	U	0.000332	0.00245	mg/kg	1	6/14/23 15:11	
Isopropylbenzene	ND	U	0.000385	0.00245	mg/kg	1	6/14/23 15:11	
m+p-Xylenes	ND	U	0.000619	0.00490	mg/kg	1	6/14/23 15:11	
Methyl Acetate	ND	U	0.000325	0.00245	mg/kg	1	6/14/23 15:11	
Methyl tert-Butyl Ether	ND	U	0.000414	0.00245	mg/kg	1	6/14/23 15:11	
Methylcyclohexane	ND	U	0.000395	0.00245	mg/kg	1	6/14/23 15:11	
Methylene Chloride	ND	U	0.000737	0.00613	mg/kg	1	6/14/23 15:11	
o-Xylene	ND	U	0.000315	0.00245	mg/kg	1	6/14/23 15:11	
Styrene	ND	U	0.000351	0.00245	mg/kg	1	6/14/23 15:11	
tert-Butyl alcohol	ND	U	0.00515	0.0245	mg/kg	1	6/14/23 15:11	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-05 (Soil) Sample Name: **MW-05-1.0-2.0-20230605MSD** Collected: **6/5/2023 12:15:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Tetrachloroethene	ND	U	0.000243	0.00245	mg/kg	1	6/14/23 15:11
Toluene	**0.000849**	J	**0.000197**	**0.00245**	**mg/kg**	**1**	**6/14/23 15:11**
Total Xylenes	ND	U	0.000315	0.00245	mg/kg	1	6/14/23 15:11
trans-1,2-Dichloroethene	ND	U	0.000332	0.00245	mg/kg	1	6/14/23 15:11
trans-1,3-Dichloropropene	ND	U	0.000468	0.00245	mg/kg	1	6/14/23 15:11
Trichloroethene	ND	U	0.000360	0.00245	mg/kg	1	6/14/23 15:11
Trichlorofluoromethane	ND	U	0.000282	0.00245	mg/kg	1	6/14/23 15:11
Vinyl chloride	ND	U	0.000466	0.00245	mg/kg	1	6/14/23 15:11

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopropane, ethyl-	0.0111	4.04	J	mg/kg	1	6/14/23 15:11
TIC Total	**0.011**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.6**				**%**	**1**	**6/6/23 11:16**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00701	0.0588	mg/kg	1	6/12/23 17:07

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00563	0.0420	mg/kg	1	6/15/23 16:36	UJ, RC:6L
Aroclor-1221	ND	U	0.0111	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1232	ND	U	0.0141	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1242	ND	U	0.00826	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1248	ND	U	0.00863	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1254	ND	U	0.00678	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1260	ND	U	0.00526	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1262	ND	U	0.0113	0.0420	mg/kg	1	6/15/23 16:36	
Aroclor-1268	ND	U	0.00508	0.0420	mg/kg	1	6/15/23 16:36	
Total PCBs	ND	U	0.00392	0.0420	mg/kg	1	6/15/23 16:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0125	0.127	mg/kg	1	6/22/23 18:29	UJ, RC:SL
2,4-D	ND	U	0.0211	0.127	mg/kg	1	6/22/23 18:29	

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**1.28**		**0.00636**	**0.0255**	**mg/kg**	**1**	**6/15/23 12:55**	

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**8280**		**0.185**	**3.12**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,AA
Antimony	**28.8**		**0.170**	**1.56**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,5
Arsenic	**14.2**		**0.111**	**1.56**	**mg/kg**	**1**	**6/18/23 9:49**	
Barium	**277**		**0.0472**	**0.624**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:AA,D
Beryllium	**0.412**		**0.00361**	**0.0312**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:AA,D
Cadmium	**0.967**		**0.0608**	**0.312**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:D
Calcium	**15100**		**3.51**	**31.2**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4H,5
Chromium	**52.7**		**0.0352**	**0.312**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,AA
Cobalt	**9.30**		**0.0319**	**0.250**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,AA
Copper	**3340**	D	**8.73**	**31.2**	**mg/kg**	**100**	**6/19/23 11:33**	J, RC:AA
Iron	**71800**	D	**8.84**	**62.4**	**mg/kg**	**10**	**6/19/23 11:33**	J, RC:AA
Lead	**4020**	D	**1.30**	**15.6**	**mg/kg**	**10**	**6/19/23 11:33**	J, RC:AA,D
Magnesium	**4230**		**11.0**	**62.4**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,AA,D
Manganese	**329**		**0.0388**	**0.312**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:AA
Nickel	**25.2**		**0.0274**	**0.156**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,D
Potassium	**1940**		**37.1**	**125**	**mg/kg**	**1**	**6/18/23 9:49**	
Selenium	ND	U	0.300	1.56	mg/kg	1	6/18/23 9:49	
Silver	**1.02**		**0.0531**	**0.187**	**mg/kg**	**1**	**6/18/23 9:49**	
Sodium	**3860**		**5.95**	**62.4**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:AA
Thallium	ND	U	0.105	1.56	mg/kg	1	6/18/23 9:49	UJ, RC:4L
Vanadium	**22.7**		**0.0718**	**0.624**	**mg/kg**	**1**	**6/18/23 9:49**	J, RC:4L,D
Zinc	**1190**	D	**0.953**	**9.36**	**mg/kg**	**10**	**6/19/23 11:33**	J, RC:4L,5,6H,AA,D

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	**0.00276**		**0.000757**	**0.00165**	**mg/kg**	**1**	**6/14/23 22:58**	
4,4'-DDE	**0.0118**		**0.000905**	**0.00165**	**mg/kg**	**1**	**6/14/23 22:58**	J, RC:6L
4,4'-DDT [2C]	**0.00268**		**0.00117**	**0.00165**	**mg/kg**	**1**	**6/14/23 22:58**	
Aldrin	ND	U	0.000784	0.00165	mg/kg	1	6/14/23 22:58	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000493	0.00165	mg/kg	1	6/14/23 22:58	
beta-BHC	ND	U	0.000791	0.00165	mg/kg	1	6/14/23 22:58	
Chlordane	**0.0119**		**0.000736**	**0.00165**	**mg/kg**	**1**	**6/14/23 22:58**	
delta-BHC	ND	U	0.000769	0.00165	mg/kg	1	6/14/23 22:58	
Dieldrin	ND	U	0.000866	0.00165	mg/kg	1	6/14/23 22:58	
Endosulfan I	ND	U	0.000782	0.00165	mg/kg	1	6/14/23 22:58	
Endosulfan II	ND	U	0.000752	0.00165	mg/kg	1	6/14/23 22:58	
Endosulfan sulfate	ND	U	0.000622	0.00165	mg/kg	1	6/14/23 22:58	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000752	0.00165	mg/kg	1	6/14/23 22:58	
Endrin	ND	U	0.000572	0.00165	mg/kg	1	6/14/23 22:58	
Endrin aldehyde	ND	U	0.000659	0.00165	mg/kg	1	6/14/23 22:58	
Endrin ketone	ND	U	0.000583	0.00165	mg/kg	1	6/14/23 22:58	
gamma-BHC (Lindane)	ND	U	0.000524	0.00165	mg/kg	1	6/14/23 22:58	
Heptachlor	ND	U	0.000443	0.00165	mg/kg	1	6/14/23 22:58	
Heptachlor Epoxide	ND	U	0.000835	0.00165	mg/kg	1	6/14/23 22:58	
Methoxychlor	ND	U	0.000485	0.00165	mg/kg	1	6/14/23 22:58	
Toxaphene	ND	U	0.0797	0.0840	mg/kg	1	6/14/23 22:58	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.0239	0.212	mg/kg	5	6/16/23 14:30
2,3,4,6-Tetrachlorophenol	ND	U	0.130	0.847	mg/kg	5	6/16/23 14:30
2,4,5-Trichlorophenol	ND	U	0.115	0.847	mg/kg	5	6/16/23 14:30
2,4,6-Trichlorophenol	ND	U	0.0530	0.847	mg/kg	5	6/16/23 14:30
2,4-Dichlorophenol	ND	U	0.0853	0.847	mg/kg	5	6/16/23 14:30
2,4-Dimethylphenol	ND	U	0.0834	0.847	mg/kg	5	6/16/23 14:30
2,4-Dinitrophenol	ND	U	0.122	4.25	mg/kg	5	6/16/23 14:30
2,4-Dinitrotoluene	ND	U	0.0904	0.847	mg/kg	5	6/16/23 14:30
2,6-Dinitrotoluene	ND	U	0.202	0.847	mg/kg	5	6/16/23 14:30
2-Chloronaphthalene	ND	U	0.0974	0.847	mg/kg	5	6/16/23 14:30
2-Chlorophenol	ND	U	0.112	0.847	mg/kg	5	6/16/23 14:30
2-Methylnaphthalene	**0.609**	J, D	**0.203**	**1.27**	**mg/kg**	**5**	**6/16/23 14:30**
2-Methylphenol	ND	U	0.167	0.847	mg/kg	5	6/16/23 14:30
2-Nitroaniline	ND	U	0.0681	0.847	mg/kg	5	6/16/23 14:30
2-Nitrophenol	ND	U	0.0942	0.847	mg/kg	5	6/16/23 14:30
3,3'-Dichlorobenzidine	ND	U	0.0891	0.847	mg/kg	5	6/16/23 14:30
3+4-Methylphenol	**0.174**	J, D	**0.155**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.157	0.847	mg/kg	5	6/16/23 14:30	
4,6-Dinitro-2-methylphenol	ND	U	0.160	2.12	mg/kg	5	6/16/23 14:30	
4-Bromophenyl-phenyl ether	ND	U	0.121	0.847	mg/kg	5	6/16/23 14:30	
4-Chloro-3-methylphenol	ND	U	0.134	0.847	mg/kg	5	6/16/23 14:30	
4-Chloroaniline	ND	U	0.0297	0.847	mg/kg	5	6/16/23 14:30	
4-Chlorophenyl phenyl ether	ND	U	0.0458	0.847	mg/kg	5	6/16/23 14:30	
4-Nitroaniline	ND	U	0.424	0.847	mg/kg	5	6/16/23 14:30	
4-Nitrophenol	ND	U	0.0542	0.847	mg/kg	5	6/16/23 14:30	
Acenaphthene	**1.38**	D	**0.0483**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Acenaphthylene	**1.50**	D	**0.0295**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Acetophenone	ND	U	0.0840	0.847	mg/kg	5	6/16/23 14:30	
Anthracene	**1.09**	D	**0.123**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Atrazine	ND	U	0.0796	0.847	mg/kg	5	6/16/23 14:30	
Benzaldehyde	ND	U	0.260	0.847	mg/kg	5	6/16/23 14:30	
Benzo(a)anthracene	**3.15**	D	**0.0853**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Benzo(a)pyrene	**3.97**	D	**0.148**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Benzo(b)fluoranthene	**4.89**	D	**0.119**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Benzo(g,h,i)perylene	**4.75**	D	**0.0687**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	J, RC:SH
Benzo(k)fluoranthene	**1.29**	D	**0.0974**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Biphenyl	**0.209**	J, D	**0.0745**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
bis(2-chloroethoxy)methane	ND	U	0.117	0.847	mg/kg	5	6/16/23 14:30	
bis(2-chloroethyl)ether	ND	U	0.0929	0.847	mg/kg	5	6/16/23 14:30	
bis(2-chloroisopropyl)ether	ND	U	0.305	0.847	mg/kg	5	6/16/23 14:30	
bis(2-ethylhexyl)phthalate	ND	U	0.169	0.847	mg/kg	5	6/16/23 14:30	
Butylbenzylphthalate	ND	U	0.0770	0.847	mg/kg	5	6/16/23 14:30	
Caprolactam	ND	U	0.109	0.847	mg/kg	5	6/16/23 14:30	
Carbazole	**0.279**	J, D	**0.163**	**2.12**	**mg/kg**	**5**	**6/16/23 14:30**	
Chrysene	**3.53**	D	**0.0580**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Dibenzo(a,h)anthracene	**0.244**	J, D	**0.0840**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	J, RC:SH
Dibenzofuran	**0.344**	J, D	**0.0505**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Diethylphthalate	ND	U	0.164	0.847	mg/kg	5	6/16/23 14:30	
Dimethylphthalate	ND	U	0.0526	0.847	mg/kg	5	6/16/23 14:30	
Di-n-butylphthalate	ND	U	0.346	0.847	mg/kg	5	6/16/23 14:30	
Di-n-octylphthalate	ND	U	0.174	0.847	mg/kg	5	6/16/23 14:30	
Fluoranthene	**6.92**	D	**0.0796**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Fluorene	**0.596**	J, D	**0.0707**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Hexachlorobenzene	ND	U	0.111	0.847	mg/kg	5	6/16/23 14:30	
Hexachlorobutadiene	ND	U	0.407	0.847	mg/kg	5	6/16/23 14:30	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Hexachlorocyclopentadiene	ND	U	0.353	2.12	mg/kg	5	6/16/23 14:30	UJ, RC:SL
Hexachloroethane	ND	U	0.0929	0.847	mg/kg	5	6/16/23 14:30	
Indeno(1,2,3-cd)pyrene	**2.80**	D	**0.0910**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	J, RC:SH
Isophorone	ND	U	0.0555	0.847	mg/kg	5	6/16/23 14:30	
Naphthalene	**1.70**	D	**0.0628**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Nitrobenzene	ND	U	0.144	0.847	mg/kg	5	6/16/23 14:30	
n-Nitroso-di-n-propylamine	ND	U	0.0454	0.847	mg/kg	5	6/16/23 14:30	
n-Nitrosodiphenylamine	ND	U	0.181	0.847	mg/kg	5	6/16/23 14:30	
Pentachlorophenol	ND	U	0.116	2.12	mg/kg	5	6/16/23 14:30	
Phenanthrene	**4.07**	D	**0.111**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	
Phenol	ND	U	0.0687	0.847	mg/kg	5	6/16/23 14:30	
Pyrene	**6.10**	D	**0.0623**	**0.847**	**mg/kg**	**5**	**6/16/23 14:30**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	54.5	5.20	J, D	mg/kg	5	6/16/23 14:30
Benzene, 1-propynyl-	3.48	7.18	J, D	mg/kg	5	6/16/23 14:30
Hexadecanoic acid, butyl ester	6.24	12.82	J, D, B	mg/kg	5	6/16/23 14:30
Octadecanoic acid, butyl ester	3.33	13.64	J, D	mg/kg	5	6/16/23 14:30
unknown (01)	1.71	5.98	J, D, B	mg/kg	5	6/16/23 14:30
unknown (02)	2.35	12.11	J, D, B	mg/kg	5	6/16/23 14:30
TIC Total	**71.6**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000310	0.00212	mg/kg	1	6/14/23 15:40
1,1,2,2-Tetrachloroethane	ND	U	0.000293	0.00212	mg/kg	1	6/14/23 15:40
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000908	0.00212	mg/kg	1	6/14/23 15:40
1,1,2-Trichloroethane	ND	U	0.000357	0.00212	mg/kg	1	6/14/23 15:40
1,1-Dichloroethane	ND	U	0.000310	0.00212	mg/kg	1	6/14/23 15:40
1,1-Dichloroethene	ND	U	0.000393	0.00212	mg/kg	1	6/14/23 15:40
1,2,3-Trichlorobenzene	ND	U	0.000458	0.00212	mg/kg	1	6/14/23 15:40
1,2,4-Trichlorobenzene	ND	U	0.000565	0.00212	mg/kg	1	6/14/23 15:40
1,2,4-Trimethylbenzene	ND	U	0.000293	0.00212	mg/kg	1	6/14/23 15:40
1,2-Dibromo-3-chloropropane	ND	U	0.000518	0.00530	mg/kg	1	6/14/23 15:40
1,2-Dibromoethane	ND	U	0.000267	0.00212	mg/kg	1	6/14/23 15:40
1,2-Dichlorobenzene	ND	U	0.000374	0.00212	mg/kg	1	6/14/23 15:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2-Dichloroethane	ND	U	0.000299	0.00212	mg/kg	1	6/14/23 15:40
1,2-Dichloropropane	ND	U	0.000348	0.00212	mg/kg	1	6/14/23 15:40
1,3-Dichlorobenzene	ND	U	0.000156	0.00212	mg/kg	1	6/14/23 15:40
1,4-Dichlorobenzene	ND	U	0.000306	0.00212	mg/kg	1	6/14/23 15:40
2-Butanone	ND	U	0.000346	0.0106	mg/kg	1	6/14/23 15:40
2-Hexanone	ND	U	0.000198	0.00212	mg/kg	1	6/14/23 15:40
4-Methyl-2-pentanone	ND	U	0.000265	0.00212	mg/kg	1	6/14/23 15:40
Acetone	ND	U	0.000643	0.0530	mg/kg	1	6/14/23 15:40
Benzene	ND	U	0.000193	0.00212	mg/kg	1	6/14/23 15:40
Bromochloromethane	ND	U	0.000391	0.00212	mg/kg	1	6/14/23 15:40
Bromodichloromethane	ND	U	0.000266	0.00212	mg/kg	1	6/14/23 15:40
Bromoform	ND	U	0.000372	0.00212	mg/kg	1	6/14/23 15:40
Bromomethane	ND	U	0.000612	0.00212	mg/kg	1	6/14/23 15:40
Carbon disulfide	ND	U	0.000304	0.00212	mg/kg	1	6/14/23 15:40
Carbon Tetrachloride	ND	U	0.000319	0.00212	mg/kg	1	6/14/23 15:40
Chlorobenzene	ND	U	0.000308	0.00212	mg/kg	1	6/14/23 15:40
Chlorodibromomethane	ND	U	0.000261	0.00212	mg/kg	1	6/14/23 15:40
Chloroethane	ND	U	0.000362	0.00212	mg/kg	1	6/14/23 15:40
Chloroform	ND	U	0.000356	0.00212	mg/kg	1	6/14/23 15:40
Chloromethane	ND	U	0.000817	0.00212	mg/kg	1	6/14/23 15:40
cis-1,2-Dichloroethene	ND	U	0.000103	0.00212	mg/kg	1	6/14/23 15:40
cis-1,3-Dichloropropene	ND	U	0.000268	0.00212	mg/kg	1	6/14/23 15:40
Cyclohexane	ND	U	0.000470	0.00212	mg/kg	1	6/14/23 15:40
Dichlorodifluoromethane	ND	U	0.000716	0.00212	mg/kg	1	6/14/23 15:40
EthylBenzene	ND	U	0.000287	0.00212	mg/kg	1	6/14/23 15:40
Isopropylbenzene	ND	U	0.000333	0.00212	mg/kg	1	6/14/23 15:40
m+p-Xylenes	ND	U	0.000536	0.00424	mg/kg	1	6/14/23 15:40
Methyl Acetate	ND	U	0.000281	0.00212	mg/kg	1	6/14/23 15:40
Methyl tert-Butyl Ether	ND	U	0.000359	0.00212	mg/kg	1	6/14/23 15:40
Methylcyclohexane	ND	U	0.000342	0.00212	mg/kg	1	6/14/23 15:40
Methylene Chloride	ND	U	0.000638	0.00530	mg/kg	1	6/14/23 15:40
o-Xylene	ND	U	0.000273	0.00212	mg/kg	1	6/14/23 15:40
Styrene	ND	U	0.000303	0.00212	mg/kg	1	6/14/23 15:40
tert-Butyl alcohol	ND	U	0.00446	0.0212	mg/kg	1	6/14/23 15:40
Tetrachloroethene	ND	U	0.000210	0.00212	mg/kg	1	6/14/23 15:40
Toluene	ND	U	0.000171	0.00212	mg/kg	1	6/14/23 15:40
Total Xylenes	ND	U	0.000273	0.00212	mg/kg	1	6/14/23 15:40
trans-1,2-Dichloroethene	ND	U	0.000287	0.00212	mg/kg	1	6/14/23 15:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-06 (Soil) Sample Name: **MW-05-5.0-6.0-20230605** Collected: **6/5/2023 1:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
trans-1,3-Dichloropropene	ND	U	0.000405	0.00212	mg/kg	1	6/14/23 15:40
Trichloroethene	ND	U	0.000312	0.00212	mg/kg	1	6/14/23 15:40
Trichlorofluoromethane	ND	U	0.000244	0.00212	mg/kg	1	6/14/23 15:40
Vinyl chloride	ND	U	0.000403	0.00212	mg/kg	1	6/14/23 15:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopropane, ethyl-	0.0106	4.04	J	mg/kg	1	6/14/23 15:40
TIC Total	**0.011**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**78.6**				**%**	**1**	**6/6/23 11:16**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00857	0.0719	mg/kg	1	6/12/23 17:07

23F0169-07 (Ground Water) Sample Name: **TB-20230605** Collected: **6/5/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/12/23 19:36
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/12/23 19:36
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/12/23 19:36
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/12/23 19:36
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/12/23 19:36
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/12/23 19:36
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/12/23 19:36
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/12/23 19:36
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/12/23 19:36
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/12/23 19:36
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/12/23 19:36
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/12/23 19:36
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/12/23 19:36
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/12/23 19:36
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/12/23 19:36

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-07 (Ground Water) Sample Name: **TB-20230605** Collected: **6/5/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/12/23 19:36	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/12/23 19:36	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/12/23 19:36	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/12/23 19:36	
Acetone	ND	U	10.0	10.0	ug/L	1	6/12/23 19:36	
Benzene	ND	U	0.129	1.00	ug/L	1	6/12/23 19:36	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/12/23 19:36	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/12/23 19:36	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/12/23 19:36	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/12/23 19:36	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/12/23 19:36	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/12/23 19:36	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/12/23 19:36	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/12/23 19:36	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/12/23 19:36	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/12/23 19:36	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/12/23 19:36	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/12/23 19:36	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/12/23 19:36	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/12/23 19:36	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/12/23 19:36	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/12/23 19:36	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/12/23 19:36	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/12/23 19:36	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/12/23 19:36	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/12/23 19:36	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/12/23 19:36	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/12/23 19:36	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/12/23 19:36	
Styrene	ND	U	0.176	1.00	ug/L	1	6/12/23 19:36	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/12/23 19:36	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/12/23 19:36	
Toluene	ND	U	0.205	1.00	ug/L	1	6/12/23 19:36	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/12/23 19:36	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/12/23 19:36	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/12/23 19:36	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/12/23 19:36	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/12/23 19:36	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/12/23 19:36	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0169
Date to Lab: 6/5/2023 2:48:00PM

23F0169-07 (Ground Water) Sample Name: **TB-20230605** Collected: **6/5/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2331680
Project Name	: 23F0169	Project Number	: 23F0169
Lab ID	: L2331680-01	Date Collected	: 06/05/23 10:54
Client ID	: 23F0169-01	Date Received	: 06/06/23
Sample Location	:	Date Analyzed	: 07/03/23 04:42
Sample Matrix	: SOIL	Date Extracted	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F207022315	Analyst	: CNC
Sample Amount	: 30.1 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	206	1.19	0.342	
91-20-3C1	C1-Naphthalenes	72.5	1.19	0.342	
91-20-3C2	C2-Naphthalenes	30.0	1.19	0.342	
91-20-3C3	C3-Naphthalenes	10.2	1.19	0.342	
91-20-3C4	C4-Naphthalenes	3.50	1.19	0.342	
208-96-8	Acenaphthylene	44.3	1.19	0.227	
83-32-9	Acenaphthene	18.0	1.19	0.210	
86-73-7	Fluorene	15.0	1.19	0.318	
86-73-7C1	C1-Fluorenes	5.74	1.19	0.318	
86-73-7C2	C2-Fluorenes	4.91	1.19	0.318	
86-73-7C3	C3-Fluorenes	5.47	1.19	0.318	
85-01-8	Phenanthrene	43.5	1.19	0.394	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	27.8	1.19	0.394	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	11.2	1.19	0.394	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	4.35	1.19	0.394	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	1.40	1.19	0.394	
120-12-7	Anthracene	11.0	1.19	0.245	
206-44-0	Fluoranthene	14.2	1.19	0.378	
129-00-0	Pyrene	20.6	1.19	0.313	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	22.4	1.19	0.313	
56-55-3	Benz(a)anthracene	7.47	1.19	0.243	
218-01-9	Chrysene	7.66	1.19	0.241	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-01	**Date Collected**	: 06/05/23 10:54
Client ID	: 23F0169-01	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 04:42
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022315	**Analyst**	: CNC
Sample Amount	: 30.1 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	5.68	1.19	0.241	
218-01-9C2	C2-Chrysenes BS	2.46	1.19	0.241	
218-01-9C3	C3-Chrysenes	ND	1.19	0.241	U
218-01-9C4	C4-Chrysenes	ND	1.19	0.241	U
205-99-2	Benzo(b)fluoranthene	2.86	1.19	0.310	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	3.52	1.19	0.236	
192-97-2	Benzo(e)pyrene	3.26	1.19	0.246	
50-32-8	Benzo(a)pyrene	6.12	1.19	0.340	
198-55-0	Perylene	3.60	1.19	0.230	
193-39-5	Indeno(1,2,3-cd)pyrene	2.32	1.19	0.323	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	0.619	1.19	0.322	J
191-24-2	Benzo(g,h,i)perylene	2.38	1.19	0.316	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-02	**Date Collected**	: 06/05/23 12:05
Client ID	: 23F0169-03	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 07:30
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022317	**Analyst**	: CNC
Sample Amount	: 5.41 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	81.2	17.8	5.13	
91-20-3C1	C1-Naphthalenes	57.6	17.8	5.13	
91-20-3C2	C2-Naphthalenes	120	17.8	5.13	
91-20-3C3	C3-Naphthalenes	146	17.8	5.13	
91-20-3C4	C4-Naphthalenes	135	17.8	5.13	
208-96-8	Acenaphthylene	78.3	17.8	3.40	
83-32-9	Acenaphthene	31.1	17.8	3.14	
86-73-7	Fluorene	29.1	17.8	4.76	
86-73-7C1	C1-Fluorenes	34.4	17.8	4.76	
86-73-7C2	C2-Fluorenes	135	17.8	4.76	
86-73-7C3	C3-Fluorenes	242	17.8	4.76	
85-01-8	Phenanthrene	328	17.8	5.91	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	249	17.8	5.91	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	353	17.8	5.91	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	246	17.8	5.91	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	219	17.8	5.91	
120-12-7	Anthracene	73.0	17.8	3.68	
206-44-0	Fluoranthene	414	17.8	5.67	
129-00-0	Pyrene	472	17.8	4.69	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	312	17.8	4.69	
56-55-3	Benz(a)anthracene	207	17.8	3.64	
218-01-9	Chrysene	274	17.8	3.61	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-02	**Date Collected**	: 06/05/23 12:05
Client ID	: 23F0169-03	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 07:30
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022317	**Analyst**	: CNC
Sample Amount	: 5.41 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 89
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	197	17.8	3.61	
218-01-9C2	C2-Chrysenes BS	189	17.8	3.61	
218-01-9C3	C3-Chrysenes	398	17.8	3.61	
218-01-9C4	C4-Chrysenes	368	17.8	3.61	
205-99-2	Benzo(b)fluoranthene	323	17.8	4.64	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	251	17.8	3.54	
192-97-2	Benzo(e)pyrene	343	17.8	3.68	
50-32-8	Benzo(a)pyrene	306	17.8	5.09	
198-55-0	Perylene	114	17.8	3.44	
193-39-5	Indeno(1,2,3-cd)pyrene	332	17.8	4.84	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	90.8	17.8	4.82	
191-24-2	Benzo(g,h,i)perylene	427	17.8	4.74	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-03	**Date Collected**	: 06/05/23 12:10
Client ID	: 23F0169-04	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 15:57
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022322	**Analyst**	: MJS
Sample Amount	: 10.43 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	89.7	6.51	1.87	
91-20-3C1	C1-Naphthalenes	70.4	6.51	1.87	
91-20-3C2	C2-Naphthalenes	143	6.51	1.87	
91-20-3C3	C3-Naphthalenes	207	6.51	1.87	
91-20-3C4	C4-Naphthalenes	162	6.51	1.87	
208-96-8	Acenaphthylene	93.9	6.51	1.24	
83-32-9	Acenaphthene	78.0	6.51	1.15	
86-73-7	Fluorene	63.5	6.51	1.74	
86-73-7C1	C1-Fluorenes	53.6	6.51	1.74	
86-73-7C2	C2-Fluorenes	244	6.51	1.74	
86-73-7C3	C3-Fluorenes	432	6.51	1.74	
85-01-8	Phenanthrene	861	6.51	2.16	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	596	6.51	2.16	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	642	6.51	2.16	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	357	6.51	2.16	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	186	6.51	2.16	
120-12-7	Anthracene	135	6.51	1.34	
206-44-0	Fluoranthene	920	6.51	2.07	
129-00-0	Pyrene	940	6.51	1.71	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	514	6.51	1.71	
56-55-3	Benz(a)anthracene	412	6.51	1.33	
218-01-9	Chrysene	536	6.51	1.32	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-03	**Date Collected**	: 06/05/23 12:10
Client ID	: 23F0169-04	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 15:57
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022322	**Analyst**	: MJS
Sample Amount	: 10.43 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	389	6.51	1.32	
218-01-9C2	C2-Chrysenes BS	312	6.51	1.32	
218-01-9C3	C3-Chrysenes	319	6.51	1.32	
218-01-9C4	C4-Chrysenes	217	6.51	1.32	
205-99-2	Benzo(b)fluoranthene	469	6.51	1.69	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	403	6.51	1.29	
192-97-2	Benzo(e)pyrene	446	6.51	1.34	
50-32-8	Benzo(a)pyrene	498	6.51	1.86	
198-55-0	Perylene	151	6.51	1.26	
193-39-5	Indeno(1,2,3-cd)pyrene	410	6.51	1.77	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	118	6.51	1.76	
191-24-2	Benzo(g,h,i)perylene	555	6.51	1.73	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-04	**Date Collected**	: 06/05/23 12:15
Client ID	: 23F0169-05	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 17:22
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022323	**Analyst**	: MJS
Sample Amount	: 10.45 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	78.6	10.8	3.11	
91-20-3C1	C1-Naphthalenes	60.2	10.8	3.11	
91-20-3C2	C2-Naphthalenes	126	10.8	3.11	
91-20-3C3	C3-Naphthalenes	184	10.8	3.11	
91-20-3C4	C4-Naphthalenes	159	10.8	3.11	
208-96-8	Acenaphthylene	76.9	10.8	2.07	
83-32-9	Acenaphthene	57.9	10.8	1.91	
86-73-7	Fluorene	47.5	10.8	2.89	
86-73-7C1	C1-Fluorenes	42.7	10.8	2.89	
86-73-7C2	C2-Fluorenes	214	10.8	2.89	
86-73-7C3	C3-Fluorenes	389	10.8	2.89	
85-01-8	Phenanthrene	627	10.8	3.59	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	480	10.8	3.59	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	558	10.8	3.59	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	336	10.8	3.59	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	198	10.8	3.59	
120-12-7	Anthracene	121	10.8	2.23	
206-44-0	Fluoranthene	701	10.8	3.44	
129-00-0	Pyrene	767	10.8	2.85	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	440	10.8	2.85	
56-55-3	Benz(a)anthracene	347	10.8	2.21	
218-01-9	Chrysene	447	10.8	2.19	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-04	**Date Collected**	: 06/05/23 12:15
Client ID	: 23F0169-05	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 17:22
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022323	**Analyst**	: MJS
Sample Amount	: 10.45 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	334	10.8	2.19	
218-01-9C2	C2-Chrysenes BS	270	10.8	2.19	
218-01-9C3	C3-Chrysenes	343	10.8	2.19	
218-01-9C4	C4-Chrysenes	248	10.8	2.19	
205-99-2	Benzo(b)fluoranthene	417	10.8	2.82	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	365	10.8	2.15	
192-97-2	Benzo(e)pyrene	413	10.8	2.24	
50-32-8	Benzo(a)pyrene	447	10.8	3.09	
198-55-0	Perylene	139	10.8	2.09	
193-39-5	Indeno(1,2,3-cd)pyrene	379	10.8	2.94	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	101	10.8	2.93	
191-24-2	Benzo(g,h,i)perylene	512	10.8	2.88	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-05	**Date Collected**	: 06/05/23 13:00
Client ID	: 23F0169-06	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 18:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022324	**Analyst**	: MJS
Sample Amount	: 15.53 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	325	2.85	0.820	
91-20-3C1	C1-Naphthalenes	153	2.85	0.820	
91-20-3C2	C2-Naphthalenes	197	2.85	0.820	
91-20-3C3	C3-Naphthalenes	155	2.85	0.820	
91-20-3C4	C4-Naphthalenes	95.8	2.85	0.820	
208-96-8	Acenaphthylene	86.8	2.85	0.544	
83-32-9	Acenaphthene	296	2.85	0.503	
86-73-7	Fluorene	199	2.85	0.761	
86-73-7C1	C1-Fluorenes	108	2.85	0.761	
86-73-7C2	C2-Fluorenes	144	2.85	0.761	
86-73-7C3	C3-Fluorenes	199	2.85	0.761	
85-01-8	Phenanthrene	1650	2.85	0.946	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	854	2.85	0.946	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	608	2.85	0.946	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	302	2.85	0.946	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	187	2.85	0.946	
120-12-7	Anthracene	410	2.85	0.588	
206-44-0	Fluoranthene	2840	2.85	0.907	
129-00-0	Pyrene	2890	2.85	0.751	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1510	2.85	0.751	
56-55-3	Benz(a)anthracene	1520	2.85	0.582	
218-01-9	Chrysene	1610	2.85	0.577	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: L2331680-05	**Date Collected**	: 06/05/23 13:00
Client ID	: 23F0169-06	**Date Received**	: 06/06/23
Sample Location	:	**Date Analyzed**	: 07/03/23 18:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022324	**Analyst**	: MJS
Sample Amount	: 15.53 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	745	2.85	0.577	
218-01-9C2	C2-Chrysenes BS	409	2.85	0.577	
218-01-9C3	C3-Chrysenes	313	2.85	0.577	
218-01-9C4	C4-Chrysenes	149	2.85	0.577	
205-99-2	Benzo(b)fluoranthene	1640	2.85	0.742	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	1410	2.85	0.566	
192-97-2	Benzo(e)pyrene	1400	2.85	0.589	
50-32-8	Benzo(a)pyrene	1930	2.85	0.815	
198-55-0	Perylene	558	2.85	0.551	
193-39-5	Indeno(1,2,3-cd)pyrene	1330	2.85	0.775	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	386	2.85	0.771	
191-24-2	Benzo(g,h,i)perylene	1400	2.85	0.758	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: WG1791654-1	**Date Collected**	: NA
Client ID	: WG1791654-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/02/23 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	ND	1.00	0.287	U
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	0.304	1.00	0.263	J
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2331680
Project Name	: 23F0169	**Project Number**	: 23F0169
Lab ID	: WG1791654-1	**Date Collected**	: NA
Client ID	: WG1791654-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/02/23 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/15/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F207022306	**Analyst**	: CNC
Sample Amount	: 30 g	**Instrument ID**	: PAH2
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2332219 and 23F0268
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 26, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MW-05-32.5-33.5-20230606	23F0268-01 L2332219-01	06/06/2023	Soil
FB-20230606	23F0268-02 L2332219-02	06/06/2023	Water
MW-05-66.0-67.0-20230606	23F0268-03 L2332219-03	06/06/2023	Soil
TB-20230606	23F0268-04 L2332219-04	06/06/2023	Water

Data validation was performed on the analytical data for four (4) samples collected between June 06, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Endosulfan sulfate associated with sample FB-20230606 was rejected due to major recovery issues associated with laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, and laboratory control samples.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.
- Sample FB-20230606 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	MW-05-32.5-33.5-20230606 MW-05-66.0-67.0-20230606	4-Bromofluorobenzene	%R < CL	UJ (NDs) J (Detects)	3L
	MW-05-32.5-33.5-20230606RE1 MW-05-32.5-33.5-20230606RE2 MW-05-66.0-67.0-20230606RE1	4-Bromofluorobenzene Toluene-d8 Dibromofluoromethane	%R < CL	UJ (NDs) J (Detects)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	FB-20230606 TB-20230606	Acetone	%R > CL	No action (NDs)	6H
		Bromomethane	%R < CL	UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	MW-05-32.5-33.5-20230606 (RE)	Bromomethane	CCV %D > 20%	UJ (NDs)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	MW-05-32.5-33.5-20230606 (RE) MW-05-66.0-67.0-20230606 (RE)	Chloromethane	(decrease in response)		
	FB-20230606 TB-20230606	Acetone	CCV %D > 20% (increase in response)	No action (NDs)	SH
	MW-05-32.5-33.5-20230606 MW-05-66.0-67.0-20230606	Tetrachloroethene	CCV %D > 20% (increase in response)	No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples exhibited TIC detections for Hexadecanoic acid, butyl ester, Octadecanoic acid, butyl ester, and unknown compounds; however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.
- The 8270E-SIM method blank had low-level detections for Naphthalene (0.407 ug/kg) and C1-Naphthalenes (0.350 ug/kg); however, all associated sample results exhibited detections greater than five times the blank detection and therefore no qualification was required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for Nitrobenzene-d5 and 2,4,6-Tribromophenol associated with sample MW-05-32.5-33.5-20230606, which exhibited recoveries above control limits. Since only one surrogate per fraction was outside control limits, no qualification was required. Subsequent dilution analyses for sample MW-05-32.5-33.5-20230606 exhibited surrogate recoveries below control limits; however, surrogates were diluted outside the calibration range and therefore no qualification was required for the reanalyses.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	MW-05-32.5-33.5-20230606 MW-05-66.0-67.0-20230606	2,4-Dinitrotoluene 2-Chloronaphthalene Acenaphthene	%R > CL	J (Detects) No Action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230606	Benzaldehyde	%RSD >20%	UJ (NDs)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230606	2,4-Dimethylphenol 4-Nitrophenol Anthracene bis(2-Chloroisopropyl)ether Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	UJ (NDs)	SL
		bis(2-ethylhexyl)phthalate Butylbenzylphthalate	CCV %D > 20% (increase in response)	No action (NDs)	SH
	MW-05-66.0-67.0-20230606	Atrazine 2,4-Dinitrophenol Benzaldehyde bis(2-chloroethyl)ether Hexachlorocyclopentadiene Pentachlorophenol Phenol	CCV %D > 20% (decrease in response)	UJ (NDs)	SL
		bis(2-ethylhexyl)phthalate Butylbenzylphthalate	CCV %D > 20% (increase in response)	No action (NDs)	SH
	MW-05-32.5-33.5-20230606 MW-05-66.0-67.0-20230606 (RE1)	Benzaldehyde Hexachlorocyclopentadiene Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-05-32.5-33.5-20230606 (RE1)	Benzaldehyde Benzo(g,h,i)perylene Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		2,3,4,6-Tetrachlorophenol 2,4,6-Trichlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 4,6-Dinitro-2-methylphenol 4-Nitroaniline Caprolactam Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-05-32.5-33.5-20230606 (RE2)	Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20%	J (detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
			(decrease in response)	UJ (non-detects)	
		2,3,4,6-Tetrachlorophenol 2,4-Dinitrophenol 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2-Nitroaniline 2-Nitrophenol 3-Nitroaniline 4,6-Dinitro-2-methylphenol 4-Nitroaniline Benzo(g,h,i)perylene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	FB-20230606	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R < CL	J (Detects) UJ (NDs)	3L
	MW-05-66.0-67.0-20230606	Tetrachloro-m-xylene	%R > CL	No action (NDs)	3
		Decachlorobiphenyl	%R < CL	UJ (NDs)	
8081B	FB-20230606	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R < CL	UJ (NDs)	3L
	MW-05-32.5-33.5-20230606	Tetrachloro-m-xylene Decachlorobiphenyl [1C,2C]	%R > CL	No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8082A	FB-20230606	Aroclor-1016	%R < CL	J (Detects) UJ (NDs)	6L
8081B	FB-20230606	Endosulfan sulfate	%R < CL (<10%)	R (NDs)	6L
		Methoxychlor	%R > CL	No action (NDs)	6H
	MW-05-32.5-33.5-20230606 MW-05-66.0-67.0-20230606	4,4'-DDE Endosulfan sulfate	%R < CL	J (Detects) UJ (NDs)	6L
		Endrin aldehyde Methoxychlor	%R > CL	No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis percent recoveries were within control limits for project samples.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- Compounds detections met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SM4500-CN	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
Cyanide by SW-846 9014	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The field blank associated soil samples had a detection of Manganese (0.0295 mg/kg). Sample detections are greater than five times the detections in the method blank. No qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230606	Silver	%R < CL	UJ (NDs)	6L
		Aluminum	%R > CL	No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis percent recoveries and RPD on project samples were within control limits.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis RPD on project sample was within control limits.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 26, 2024 Peer Review: JLD

Corey Strauss
Project Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0268

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 29, 2023

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APL
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Certified Environmental Testing

Sample Summary

Work Order: 23F0268

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-05-32.5-33.5-20230606	23F0268-01	Soil	06/06/2023 11:50	06/06/2023 17:20
FB-20230606	23F0268-02	Ground Water	06/06/2023 12:05	06/06/2023 17:20
MW-05-66.0-67.0-20230606	23F0268-03	Soil	06/06/2023 13:30	06/06/2023 17:20
TB-20230606	23F0268-04	Ground Water	06/06/2023 00:00	06/06/2023 17:20

PN: 23F0268

APL 23F0268

AQUA PRO-TECH LABORATORIES

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TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd floor. Emwood Park, NJ 07407	ADDRESS:
PHONE: 201-963-9621	PHONE:
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Cadmus 04 007-Sixuan Wang	SEND INVOICE TO:
PROJECT MGR:	ADDRESS:
PROJECT or PO #: 156854	SAMPLED BY: Left.

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#____

PWSID#____

[x] NYS Category B.

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0268 -01	MW-05-39.5-33.5-20230606	06/06/23	1150	X		S	5		VOC, SVOC, PCB, Pesticide, Herbicide, TAL Metals, Alkylated PAH, ECN, TCN.
-02	FB-20230606	06/06/23	1205	X		DI water	10		"
-03	MW-05-66.0-67.0-20230606	06/06/23	1330	X		S	5		"
-04	~~MW~~ TB-20230606	06/06/23	CAB	X		DI water	2		VOC

RELINQUISHED BY (Print) Vaunda	DATE 06/06/23	RECEIVED BY (Print) Tyler M/Amin	6/6/23 1341
Signature	Time 1341	Signature	
RELINQUISHED BY (Print)	DATE 6/6/23	RECEIVED BY (Print) Rose Nap	
Signature	Time 1720	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.3°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]
Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spikes and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 200.7:
The percent recovery for Silver was outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Methods 245.1 / 7473 / 9014 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]
The percent recovery for Aroclor-1016 was outside of the QC limits for the blank spike (low).

Sample 23F0268-03 has surrogates outside of the QC limits (low and high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]
Sample 23F0268-01 has surrogates outside of the QC limits (high), due to matrix interference.

The percent recoveries for 4,4'-DDE and Endosulfan sulfate were outside of the QC limits for the blank spike (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).
The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Samples 23F0268-01, -01RE1, -01RE2, -03 and -03RE1 have surrogates outside of the QC limits (low), due to matrix interferences.

Sample 23F0268-01 has no internal standard area response for (1,4-Dichlorobenzene-d4), due to matrix interference.
Sample 23F0268-03 has one internal standard (Chlorobenzene-d5) outside of the QC limits (low), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Samples 23F0268-01, -01RE1 and -01RE2 have surrogates outside of the QC limits (low and high), due to matrix interferences.

Reviewed By: _____ (SK) 8/29/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-20230606**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0294		0.00549	0.0220	mg/kg dry	1	6/16/23 11:32

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3400		0.165	2.77	mg/kg dry	1	6/18/23 10:20
Arsenic	2.00		0.0989	1.39	mg/kg dry	1	6/18/23 10:20
Barium	22.8		0.0419	0.554	mg/kg dry	1	6/18/23 10:20
Beryllium	0.301		0.00321	0.0277	mg/kg dry	1	6/18/23 10:20
Calcium	830		3.12	27.7	mg/kg dry	1	6/18/23 10:20
Chromium	8.43		0.0313	0.277	mg/kg dry	1	6/18/23 10:20
Cobalt	3.85		0.0283	0.222	mg/kg dry	1	6/18/23 10:20
Copper	7.87		0.0776	0.277	mg/kg dry	1	6/18/23 10:20
Iron	7650		0.785	5.54	mg/kg dry	1	6/18/23 10:20
Lead	3.70		0.116	1.39	mg/kg dry	1	6/18/23 10:20
Magnesium	2080		9.79	55.4	mg/kg dry	1	6/18/23 10:20
Manganese	59.8		0.0345	0.277	mg/kg dry	1	6/18/23 10:20
Nickel	13.8		0.0244	0.139	mg/kg dry	1	6/18/23 10:20
Potassium	770		33.0	111	mg/kg dry	1	6/18/23 10:20
Sodium	340		5.29	55.4	mg/kg dry	1	6/18/23 10:20
Vanadium	13.9		0.0638	0.554	mg/kg dry	1	6/18/23 10:20
Zinc	18.8		0.0847	0.832	mg/kg dry	1	6/18/23 10:20

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	973	D	3.50	22.0	mg/kg dry	100	6/16/23 19:09
Acenaphthene	114	D	0.417	7.30	mg/kg dry	50	6/15/23 19:04
Acenaphthylene	386	D	0.254	7.30	mg/kg dry	50	6/15/23 19:04
Anthracene	222	D	1.06	7.30	mg/kg dry	50	6/15/23 19:04
Benzo(a)anthracene	117	D	0.736	7.30	mg/kg dry	50	6/15/23 19:04
Benzo(a)pyrene	94.4	D	1.27	7.30	mg/kg dry	50	6/15/23 19:04
Benzo(b)fluoranthene	62.3	D	1.03	7.30	mg/kg dry	50	6/15/23 19:04
Benzo(g,h,i)perylene	36.9	D	0.593	7.30	mg/kg dry	50	6/15/23 19:04
Benzo(k)fluoranthene	30.2	D	0.840	7.30	mg/kg dry	50	6/15/23 19:04
Biphenyl	104	D	0.642	7.30	mg/kg dry	50	6/15/23 19:04
Carbazole	9.09	J, D	1.41	18.3	mg/kg dry	50	6/15/23 19:04
Chrysene	116	D	0.501	7.30	mg/kg dry	50	6/15/23 19:04
Dibenzo(a,h)anthracene	4.88	D, J	0.725	7.30	mg/kg dry	50	6/15/23 19:04
Dibenzofuran	52.1	D	0.435	7.30	mg/kg dry	50	6/15/23 19:04
Fluoranthene	234	D	0.686	7.30	mg/kg dry	50	6/15/23 19:04
Fluorene	298	D	0.609	7.30	mg/kg dry	50	6/15/23 19:04

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-20230606**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	30.5	D	0.785	7.30	mg/kg dry	50	6/15/23 19:04
Naphthalene	3600	D	5.41	73.0	mg/kg dry	500	6/20/23 18:26
Phenanthrene	717	D	1.92	14.6	mg/kg dry	100	6/16/23 19:09
Pyrene	286	D	0.537	7.30	mg/kg dry	50	6/15/23 19:04
TIC_1,4-Methanonaphthalene, 1,4-dihydro-	749	J, D			mg/kg dry	50	6/15/23 19:04
TIC_2-Methylindene	178	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Benzene, 1-ethenyl-3-methyl-	140	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Indene	287	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Naphthalene, 1,4-dimethyl-	111	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Naphthalene, 1,7-dimethyl-	149	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Naphthalene, 2,3-dimethyl-	278	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Naphthalene, 2,6-dimethyl-	234	J, D			mg/kg dry	50	6/15/23 19:04
TIC_Naphthalene, 2-ethenyl-	137	J, D			mg/kg dry	50	6/15/23 19:04
TIC_unknown (01)	136	J, B, D			mg/kg dry	50	6/15/23 19:04
TIC_unknown (02)	169	J, B, D			mg/kg dry	50	6/15/23 19:04
TIC_unknown (03)	187	J, D, B			mg/kg dry	50	6/15/23 19:04
TIC_unknown (04)	389	J, D, B			mg/kg dry	50	6/15/23 19:04
TIC_unknown (05)	111	J, D, B			mg/kg dry	50	6/15/23 19:04
TIC_unknown (06)	123	J, D			mg/kg dry	50	6/15/23 19:04

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	249	D	3.16	22.9	mg/kg dry	10204	6/16/23 7:11
1,2-Dichloroethane	0.206		0.000254	0.00180	mg/kg dry	1	6/14/23 18:08
Benzene	42.0	D	0.208	2.29	mg/kg dry	1020	6/16/23 6:41
Chloromethane	0.00355		0.000693	0.00180	mg/kg dry	1	6/14/23 18:08
Cyclohexane	0.0187		0.000399	0.00180	mg/kg dry	1	6/14/23 18:08
EthylBenzene	273	D	3.10	22.9	mg/kg dry	10204	6/16/23 7:11
Isopropylbenzene	0.269		0.000283	0.00180	mg/kg dry	1	6/14/23 18:08
m+p-Xylenes	258	D	0.577	4.57	mg/kg dry	1020	6/16/23 6:41
Methylcyclohexane	0.0798		0.000290	0.00180	mg/kg dry	1	6/14/23 18:08
o-Xylene	124	D	0.294	2.29	mg/kg dry	1020	6/16/23 6:41
Styrene	55.4	D	0.327	2.29	mg/kg dry	1020	6/16/23 6:41
Toluene	44.7	D	0.184	2.29	mg/kg dry	1020	6/16/23 6:41
Total Xylenes	383	D	0.294	2.29	mg/kg dry	1020	6/16/23 6:41
TIC_1-Heptene, 2,6-dimethyl-	0.0446	J			mg/kg dry	1	6/14/23 18:08

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-20230606**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1,3,5-trimethyl-	0.0601	J			mg/kg dry	1	6/14/23 18:08
TIC_Benzene, 1-ethenyl-3-methyl-	0.0694	J			mg/kg dry	1	6/14/23 18:08
TIC_Benzene, 1-ethyl-2-methyl-	0.135	J			mg/kg dry	1	6/14/23 18:08
TIC_Benzene, 1-ethyl-3-methyl-	0.148	J			mg/kg dry	1	6/14/23 18:08
TIC_Cyclobutane, ethenyl-	0.0441	J			mg/kg dry	1	6/14/23 18:08
TIC_Cyclohexene, 1-methyl-(01)	0.0502	J			mg/kg dry	1	6/14/23 18:08
TIC_Cyclohexene, 1-methyl-(02)	0.0429	J			mg/kg dry	1	6/14/23 18:08
TIC_Cyclohexene, 4-methyl-	0.0494	J			mg/kg dry	1	6/14/23 18:08
TIC_Heptane, 2-methyl-	0.0492	J			mg/kg dry	1	6/14/23 18:08
TIC_Indene	0.0820	J			mg/kg dry	1	6/14/23 18:08
TIC_Octane	0.0539	J			mg/kg dry	1	6/14/23 18:08
TIC_Octane, 4-methyl-	0.0450	J			mg/kg dry	1	6/14/23 18:08
TIC_Thiophene	0.0438	J			mg/kg dry	1	6/14/23 18:08
TIC_TIC:Naphthalene	0.0434	J			mg/kg dry	1	6/14/23 18:08

23F0268-02 (Ground Water) Sample Name: **FB-20230606**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Manganese	0.0295		0.000242	0.0100	mg/L	1	6/19/23 14:33

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-20230606**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0329		0.00581	0.0233	mg/kg dry	1	6/16/23 13:54

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3830		0.173	2.91	mg/kg dry	1	6/18/23 10:34
Arsenic	3.60		0.104	1.45	mg/kg dry	1	6/18/23 10:34
Barium	14.3		0.0440	0.581	mg/kg dry	1	6/18/23 10:34
Beryllium	0.314		0.00337	0.0291	mg/kg dry	1	6/18/23 10:34
Calcium	1080		3.27	29.1	mg/kg dry	1	6/18/23 10:34
Chromium	8.66		0.0328	0.291	mg/kg dry	1	6/18/23 10:34
Cobalt	3.78		0.0297	0.233	mg/kg dry	1	6/18/23 10:34
Copper	6.77		0.0813	0.291	mg/kg dry	1	6/18/23 10:34

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-20230606**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Iron	7730		0.824	5.81	mg/kg dry	1	6/18/23 10:34
Lead	5.57		0.121	1.45	mg/kg dry	1	6/18/23 10:34
Magnesium	2850		10.3	58.1	mg/kg dry	1	6/18/23 10:34
Manganese	65.1		0.0362	0.291	mg/kg dry	1	6/18/23 10:34
Nickel	15.8		0.0255	0.145	mg/kg dry	1	6/18/23 10:34
Potassium	832		34.6	116	mg/kg dry	1	6/18/23 10:34
Sodium	468		5.54	58.1	mg/kg dry	1	6/18/23 10:34
Vanadium	11.9		0.0669	0.581	mg/kg dry	1	6/18/23 10:34
Zinc	19.1		0.0888	0.872	mg/kg dry	1	6/18/23 10:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	54.7	D	0.371	2.33	mg/kg dry	10	6/15/23 23:48
Acenaphthene	12.6	D	0.0883	1.55	mg/kg dry	10	6/15/23 23:48
Acenaphthylene	18.9	D	0.0538	1.55	mg/kg dry	10	6/15/23 23:48
Anthracene	15.1	D	0.224	1.55	mg/kg dry	10	6/15/23 23:48
Benzo(a)anthracene	6.88		0.0156	0.155	mg/kg dry	1	6/13/23 15:49
Benzo(a)pyrene	5.23		0.0270	0.155	mg/kg dry	1	6/13/23 15:49
Benzo(b)fluoranthene	3.52		0.0217	0.155	mg/kg dry	1	6/13/23 15:49
Benzo(g,h,i)perylene	1.94		0.0126	0.155	mg/kg dry	1	6/13/23 15:49
Benzo(k)fluoranthene	1.49		0.0178	0.155	mg/kg dry	1	6/13/23 15:49
Biphenyl	6.05		0.0136	0.155	mg/kg dry	1	6/13/23 15:49
Carbazole	0.663		0.0298	0.387	mg/kg dry	1	6/13/23 15:49
Chrysene	7.36		0.0106	0.155	mg/kg dry	1	6/13/23 15:49
Dibenzo(a,h)anthracene	0.120	J	0.0154	0.155	mg/kg dry	1	6/13/23 15:49
Dibenzofuran	3.41		0.00922	0.155	mg/kg dry	1	6/13/23 15:49
Fluoranthene	16.0	D	0.145	1.55	mg/kg dry	10	6/15/23 23:48
Fluorene	19.1	D	0.129	1.55	mg/kg dry	10	6/15/23 23:48
Indeno(1,2,3-cd)pyrene	1.55		0.0166	0.155	mg/kg dry	1	6/13/23 15:49
Naphthalene	68.6	D	0.115	1.55	mg/kg dry	10	6/15/23 23:48
Phenanthrene	49.8	D	0.204	1.55	mg/kg dry	10	6/15/23 23:48
Pyrene	19.6	D	0.114	1.55	mg/kg dry	10	6/15/23 23:48
TIC_Benzene, cyclopropyl-	3.89	J			mg/kg dry	1	6/13/23 15:49
TIC_Decane, 3,8-dimethyl-	2.68	J			mg/kg dry	1	6/13/23 15:49
TIC_Indene	9.63	J			mg/kg dry	1	6/13/23 15:49
TIC_Naphthalene, 1,2-dimethyl-	11.0	J			mg/kg dry	1	6/13/23 15:49
TIC_Naphthalene, 1,3-dimethyl-	10.2	J			mg/kg dry	1	6/13/23 15:49
TIC_Naphthalene, 1,4,6-trimethyl-	2.51	J			mg/kg dry	1	6/13/23 15:49

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-20230606**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Naphthalene, 2,7-dimethyl-	5.87	J			mg/kg dry	1	6/13/23 15:49
TIC_Naphthalene, 2-ethenyl-	3.39	J			mg/kg dry	1	6/13/23 15:49
TIC_Naphthalene, 2-ethyl-	6.32	J			mg/kg dry	1	6/13/23 15:49
TIC_Octadecanoic acid, butyl ester	3.13	J			mg/kg dry	1	6/13/23 15:49
TIC_unknown (01)	5.16	J, B			mg/kg dry	1	6/13/23 15:49
TIC_unknown (02)	7.19	J, B			mg/kg dry	1	6/13/23 15:49
TIC_unknown (03)	4.23	J, B			mg/kg dry	1	6/13/23 15:49
TIC_unknown (04)	3.79	J, B			mg/kg dry	1	6/13/23 15:49
TIC_unknown (05)	3.23	J, B			mg/kg dry	1	6/13/23 15:49

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	58.3	D	0.190	1.38	mg/kg dry	769	6/16/23 7:41
1,2-Dichloroethane	0.0956		0.000238	0.00169	mg/kg dry	1	6/14/23 18:37
Benzene	10.6	D	0.125	1.38	mg/kg dry	769	6/16/23 7:41
Carbon disulfide	0.00323		0.000242	0.00169	mg/kg dry	1	6/14/23 18:37
Cyclohexane	0.00773		0.000373	0.00169	mg/kg dry	1	6/14/23 18:37
EthylBenzene	61.8	D	0.186	1.38	mg/kg dry	769	6/16/23 7:41
Isopropylbenzene	0.279		0.000265	0.00169	mg/kg dry	1	6/14/23 18:37
m+p-Xylenes	61.7	D	0.347	2.75	mg/kg dry	769	6/16/23 7:41
Methylcyclohexane	0.0341		0.000271	0.00169	mg/kg dry	1	6/14/23 18:37
o-Xylene	29.8	D	0.177	1.38	mg/kg dry	769	6/16/23 7:41
Styrene	14.9	D	0.197	1.38	mg/kg dry	769	6/16/23 7:41
Toluene	9.95	D	0.111	1.38	mg/kg dry	769	6/16/23 7:41
Total Xylenes	91.5	D	0.177	1.38	mg/kg dry	769	6/16/23 7:41
TIC_.alpha.-Methylstyrene	0.0899	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, 1,2,3-trimethyl-	0.522	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, 1,3,5-trimethyl-	0.128	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, 1-ethyl-2-methyl-	0.255	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, 1-ethyl-3-methyl-	0.862	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, 1-ethyl-4-methyl-	0.103	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, 1-methyl-3-(1-methylethyl)-	0.0876	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, ethenylmethyl-	0.331	J			mg/kg dry	1	6/14/23 18:37
TIC_Benzene, propyl-	0.0946	J			mg/kg dry	1	6/14/23 18:37
TIC_Decane	0.158	J			mg/kg dry	1	6/14/23 18:37
TIC_Indane	0.180	J			mg/kg dry	1	6/14/23 18:37

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-20230606**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Indene	0.513	J			mg/kg dry	1	6/14/23 18:37
TIC_Octane	0.0501	J			mg/kg dry	1	6/14/23 18:37
TIC_Octane, 2,6-dimethyl-	0.0464	J			mg/kg dry	1	6/14/23 18:37
TIC_TIC:Naphthalene	0.171	J			mg/kg dry	1	6/14/23 18:37

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00486	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1221	ND	U	0.00956	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1232	ND	U	0.0122	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1242	ND	U	0.00712	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1248	ND	U	0.00745	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1254	ND	U	0.00585	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1260	ND	U	0.00454	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1262	ND	U	0.00975	0.0362	mg/kg	1	6/15/23 12:51
Aroclor-1268	ND	U	0.00438	0.0362	mg/kg	1	6/15/23 12:51
Total PCBs	ND	U	0.00338	0.0362	mg/kg	1	6/15/23 12:51

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0108	0.110	mg/kg	1	6/22/23 18:38
2,4-D	ND	U	0.0182	0.110	mg/kg	1	6/22/23 18:38

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0294**		**0.00549**	**0.0220**	**mg/kg**	**1**	**6/16/23 11:32**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3400**		**0.165**	**2.77**	**mg/kg**	**1**	**6/18/23 10:20**
Antimony	ND	U	0.151	1.39	mg/kg	1	6/18/23 10:20
Arsenic	**2.00**		**0.0989**	**1.39**	**mg/kg**	**1**	**6/18/23 10:20**
Barium	**22.8**		**0.0419**	**0.554**	**mg/kg**	**1**	**6/18/23 10:20**
Beryllium	**0.301**		**0.00321**	**0.0277**	**mg/kg**	**1**	**6/18/23 10:20**
Cadmium	ND	U	0.0541	0.277	mg/kg	1	6/18/23 10:20
Calcium	**830**		**3.12**	**27.7**	**mg/kg**	**1**	**6/18/23 10:20**
Chromium	**8.43**		**0.0313**	**0.277**	**mg/kg**	**1**	**6/18/23 10:20**
Cobalt	**3.85**		**0.0283**	**0.222**	**mg/kg**	**1**	**6/18/23 10:20**
Copper	**7.87**		**0.0776**	**0.277**	**mg/kg**	**1**	**6/18/23 10:20**
Iron	**7650**		**0.785**	**5.54**	**mg/kg**	**1**	**6/18/23 10:20**
Lead	**3.70**		**0.116**	**1.39**	**mg/kg**	**1**	**6/18/23 10:20**
Magnesium	**2080**		**9.79**	**55.4**	**mg/kg**	**1**	**6/18/23 10:20**
Manganese	**59.8**		**0.0345**	**0.277**	**mg/kg**	**1**	**6/18/23 10:20**
Nickel	**13.8**		**0.0244**	**0.139**	**mg/kg**	**1**	**6/18/23 10:20**
Potassium	**770**		**33.0**	**111**	**mg/kg**	**1**	**6/18/23 10:20**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.266	1.39	mg/kg	1	6/18/23 10:20
Silver	ND	U	0.0472	0.166	mg/kg	1	6/18/23 10:20
Sodium	**340**		**5.29**	**55.4**	**mg/kg**	**1**	**6/18/23 10:20**
Thallium	ND	U	0.0933	1.39	mg/kg	1	6/18/23 10:20
Vanadium	**13.9**		**0.0638**	**0.554**	**mg/kg**	**1**	**6/18/23 10:20**
Zinc	**18.8**		**0.0847**	**0.832**	**mg/kg**	**1**	**6/18/23 10:20**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000653	0.00143	mg/kg	1	6/14/23 23:20	
4,4'-DDE	ND	U	0.000781	0.00143	mg/kg	1	6/14/23 23:20	UJ, RC:6L
4,4'-DDT	ND	U	0.00101	0.00143	mg/kg	1	6/14/23 23:20	
Aldrin	ND	U	0.000676	0.00143	mg/kg	1	6/14/23 23:20	
alpha-BHC	ND	U	0.000425	0.00143	mg/kg	1	6/14/23 23:20	
beta-BHC	ND	U	0.000682	0.00143	mg/kg	1	6/14/23 23:20	
Chlordane	ND	U	0.000635	0.00143	mg/kg	1	6/14/23 23:20	
delta-BHC	ND	U	0.000663	0.00143	mg/kg	1	6/14/23 23:20	
Dieldrin	ND	U	0.000747	0.00143	mg/kg	1	6/14/23 23:20	
Endosulfan I	ND	U	0.000674	0.00143	mg/kg	1	6/14/23 23:20	
Endosulfan II	ND	U	0.000649	0.00143	mg/kg	1	6/14/23 23:20	
Endosulfan sulfate	ND	U	0.000537	0.00143	mg/kg	1	6/14/23 23:20	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000649	0.00143	mg/kg	1	6/14/23 23:20	
Endrin	ND	U	0.000493	0.00143	mg/kg	1	6/14/23 23:20	
Endrin aldehyde	ND	U	0.000569	0.00143	mg/kg	1	6/14/23 23:20	
Endrin ketone	ND	U	0.000503	0.00143	mg/kg	1	6/14/23 23:20	
gamma-BHC (Lindane)	ND	U	0.000452	0.00143	mg/kg	1	6/14/23 23:20	
Heptachlor	ND	U	0.000382	0.00143	mg/kg	1	6/14/23 23:20	
Heptachlor Epoxide	ND	U	0.000720	0.00143	mg/kg	1	6/14/23 23:20	
Methoxychlor	ND	U	0.000418	0.00143	mg/kg	1	6/14/23 23:20	
Toxaphene	ND	U	0.0688	0.0725	mg/kg	1	6/14/23 23:20	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.206	1.83	mg/kg	50	6/15/23 19:04
2,3,4,6-Tetrachlorophenol	ND	U	1.13	7.30	mg/kg	50	6/15/23 19:04
2,4,5-Trichlorophenol	ND	U	0.994	7.30	mg/kg	50	6/15/23 19:04
2,4,6-Trichlorophenol	ND	U	0.457	7.30	mg/kg	50	6/15/23 19:04

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.736	7.30	mg/kg	50	6/15/23 19:04	
2,4-Dimethylphenol	ND	U	0.719	7.30	mg/kg	50	6/15/23 19:04	
2,4-Dinitrophenol	ND	U	1.05	36.6	mg/kg	50	6/15/23 19:04	
2,4-Dinitrotoluene	ND	U	0.780	7.30	mg/kg	50	6/15/23 19:04	
2,6-Dinitrotoluene	ND	U	1.75	7.30	mg/kg	50	6/15/23 19:04	
2-Chloronaphthalene	ND	U	0.840	7.30	mg/kg	50	6/15/23 19:04	
2-Chlorophenol	ND	U	0.966	7.30	mg/kg	50	6/15/23 19:04	
2-Methylnaphthalene	**973**	D	**3.50**	**22.0**	**mg/kg**	**100**	**6/16/23 19:09**	
2-Methylphenol	ND	U	1.44	7.30	mg/kg	50	6/15/23 19:04	
2-Nitroaniline	ND	U	0.587	7.30	mg/kg	50	6/15/23 19:04	
2-Nitrophenol	ND	U	0.812	7.30	mg/kg	50	6/15/23 19:04	
3,3'-Dichlorobenzidine	ND	U	0.769	7.30	mg/kg	50	6/15/23 19:04	
3+4-Methylphenol	ND	U	1.34	7.30	mg/kg	50	6/15/23 19:04	
3-Nitroaniline	ND	U	1.36	7.30	mg/kg	50	6/15/23 19:04	
4,6-Dinitro-2-methylphenol	ND	U	1.38	18.3	mg/kg	50	6/15/23 19:04	
4-Bromophenyl-phenyl ether	ND	U	1.04	7.30	mg/kg	50	6/15/23 19:04	
4-Chloro-3-methylphenol	ND	U	1.15	7.30	mg/kg	50	6/15/23 19:04	
4-Chloroaniline	ND	U	0.256	7.30	mg/kg	50	6/15/23 19:04	
4-Chlorophenyl phenyl ether	ND	U	0.395	7.30	mg/kg	50	6/15/23 19:04	
4-Nitroaniline	ND	U	3.66	7.30	mg/kg	50	6/15/23 19:04	
4-Nitrophenol	ND	U	0.468	7.30	mg/kg	50	6/15/23 19:04	
Acenaphthene	**114**	D	**0.417**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Acenaphthylene	**386**	D	**0.254**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Acetophenone	ND	U	0.725	7.30	mg/kg	50	6/15/23 19:04	
Anthracene	**222**	D	**1.06**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	**J, RC:6H**
Atrazine	ND	U	0.686	7.30	mg/kg	50	6/15/23 19:04	
Benzaldehyde	ND	U	2.25	7.30	mg/kg	50	6/15/23 19:04	
Benzo(a)anthracene	**117**	D	**0.736**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Benzo(a)pyrene	**94.4**	D	**1.27**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Benzo(b)fluoranthene	**62.3**	D	**1.03**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Benzo(g,h,i)perylene	**36.9**	D	**0.593**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	**J, RC:SH**
Benzo(k)fluoranthene	**30.2**	D	**0.840**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Biphenyl	**104**	D	**0.642**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
bis(2-chloroethoxy)methane	ND	U	1.01	7.30	mg/kg	50	6/15/23 19:04	
bis(2-chloroethyl)ether	ND	U	0.801	7.30	mg/kg	50	6/15/23 19:04	
bis(2-chloroisopropyl)ether	ND	U	2.63	7.30	mg/kg	50	6/15/23 19:04	
bis(2-ethylhexyl)phthalate	ND	U	1.46	7.30	mg/kg	50	6/15/23 19:04	
Butylbenzylphthalate	ND	U	0.664	7.30	mg/kg	50	6/15/23 19:04	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.944	7.30	mg/kg	50	6/15/23 19:04	
Carbazole	**9.09**	J, D	**1.41**	**18.3**	**mg/kg**	**50**	**6/15/23 19:04**	
Chrysene	**116**	D	**0.501**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Dibenzo(a,h)anthracene	**4.88**	D, J	**0.725**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	**J, RC:SH**
Dibenzofuran	**52.1**	D	**0.435**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Diethylphthalate	ND	U	1.42	7.30	mg/kg	50	6/15/23 19:04	
Dimethylphthalate	ND	U	0.453	7.30	mg/kg	50	6/15/23 19:04	
Di-n-butylphthalate	ND	U	2.99	7.30	mg/kg	50	6/15/23 19:04	
Di-n-octylphthalate	ND	U	1.50	7.30	mg/kg	50	6/15/23 19:04	
Fluoranthene	**234**	D	**0.686**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Fluorene	**298**	D	**0.609**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	
Hexachlorobenzene	ND	U	0.955	7.30	mg/kg	50	6/15/23 19:04	
Hexachlorobutadiene	ND	U	3.51	7.30	mg/kg	50	6/15/23 19:04	
Hexachlorocyclopentadiene	ND	U	3.05	18.3	mg/kg	50	6/15/23 19:04	
Hexachloroethane	ND	U	0.801	7.30	mg/kg	50	6/15/23 19:04	
Indeno(1,2,3-cd)pyrene	**30.5**	D	**0.785**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	**J, RC:SH**
Isophorone	ND	U	0.479	7.30	mg/kg	50	6/15/23 19:04	
Naphthalene	**3600**	D	**5.41**	**73.0**	**mg/kg**	**500**	**6/20/23 18:26**	
Nitrobenzene	ND	U	1.24	7.30	mg/kg	50	6/15/23 19:04	
n-Nitroso-di-n-propylamine	ND	U	0.391	7.30	mg/kg	50	6/15/23 19:04	
n-Nitrosodiphenylamine	ND	U	1.56	7.30	mg/kg	50	6/15/23 19:04	
Pentachlorophenol	ND	U	1.00	18.3	mg/kg	50	6/15/23 19:04	
Phenanthrene	**717**	D	**1.92**	**14.6**	**mg/kg**	**100**	**6/16/23 19:09**	
Phenol	ND	U	0.593	7.30	mg/kg	50	6/15/23 19:04	
Pyrene	**286**	D	**0.537**	**7.30**	**mg/kg**	**50**	**6/15/23 19:04**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,4-Methanonaphthalene, 1,4-dihydro-	749	9.03	J, D	mg/kg	50	6/15/23 19:04
2-Methylindene	178	7.95	J, D	mg/kg	50	6/15/23 19:04
Benzene, 1-ethenyl-3-methyl-	140	6.74	J, D	mg/kg	50	6/15/23 19:04
Indene	287	7.18	J, D	mg/kg	50	6/15/23 19:04
Naphthalene, 1,4-dimethyl-	111	9.75	J, D	mg/kg	50	6/15/23 19:04
Naphthalene, 1,7-dimethyl-	149	9.66	J, D	mg/kg	50	6/15/23 19:04
Naphthalene, 2,3-dimethyl-	278	9.63	J, D	mg/kg	50	6/15/23 19:04
Naphthalene, 2,6-dimethyl-	234	9.56	J, D	mg/kg	50	6/15/23 19:04
Naphthalene, 2-ethenyl-	137	9.70	J, D	mg/kg	50	6/15/23 19:04

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	136	7.98	J, B, D	mg/kg	50	6/15/23 19:04
unknown (02)	169	12.00	J, B, D	mg/kg	50	6/15/23 19:04
unknown (03)	187	12.03	J, D, B	mg/kg	50	6/15/23 19:04
unknown (04)	389	12.14	J, D, B	mg/kg	50	6/15/23 19:04
unknown (05)	111	12.57	J, D, B	mg/kg	50	6/15/23 19:04
unknown (06)	123	12.87	J, D	mg/kg	50	6/15/23 19:04
TIC Total	**3,380**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000263	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000248	0.00180	mg/kg	1	6/14/23 18:08	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000770	0.00180	mg/kg	1	6/14/23 18:08	
1,1,2-Trichloroethane	ND	U	0.000303	0.00180	mg/kg	1	6/14/23 18:08	
1,1-Dichloroethane	ND	U	0.000263	0.00180	mg/kg	1	6/14/23 18:08	
1,1-Dichloroethene	ND	U	0.000333	0.00180	mg/kg	1	6/14/23 18:08	
1,2,3-Trichlorobenzene	ND	U	0.000389	0.00180	mg/kg	1	6/14/23 18:08	
1,2,4-Trichlorobenzene	ND	U	0.000480	0.00180	mg/kg	1	6/14/23 18:08	
1,2,4-Trimethylbenzene	**249**	D	**3.16**	**22.9**	**mg/kg**	**10204**	**6/16/23 7:11**	**J, RC:3L**
1,2-Dibromo-3-chloropropane	ND	U	0.000439	0.00450	mg/kg	1	6/14/23 18:08	UJ, RC:3L
1,2-Dibromoethane	ND	U	0.000227	0.00180	mg/kg	1	6/14/23 18:08	
1,2-Dichlorobenzene	ND	U	0.000318	0.00180	mg/kg	1	6/14/23 18:08	
1,2-Dichloroethane	**0.206**		**0.000254**	**0.00180**	**mg/kg**	**1**	**6/14/23 18:08**	**J, RC:3L**
1,2-Dichloropropane	ND	U	0.000295	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
1,3-Dichlorobenzene	ND	U	0.000132	0.00180	mg/kg	1	6/14/23 18:08	
1,4-Dichlorobenzene	ND	U	0.000259	0.00180	mg/kg	1	6/14/23 18:08	
2-Butanone	ND	U	0.000293	0.00900	mg/kg	1	6/14/23 18:08	
2-Hexanone	ND	U	0.000168	0.00180	mg/kg	1	6/14/23 18:08	
4-Methyl-2-pentanone	ND	U	0.000225	0.00180	mg/kg	1	6/14/23 18:08	
Acetone	ND	U	0.000545	0.0450	mg/kg	1	6/14/23 18:08	
Benzene	**42.0**	D	**0.208**	**2.29**	**mg/kg**	**1020**	**6/16/23 6:41**	**J, RC:3L**
Bromochloromethane	ND	U	0.000332	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
Bromodichloromethane	ND	U	0.000226	0.00180	mg/kg	1	6/14/23 18:08	
Bromoform	ND	U	0.000316	0.00180	mg/kg	1	6/14/23 18:08	
Bromomethane	ND	U	0.000519	0.00180	mg/kg	1	6/14/23 18:08	
Carbon disulfide	ND	U	0.000258	0.00180	mg/kg	1	6/14/23 18:08	
Carbon Tetrachloride	ND	U	0.000271	0.00180	mg/kg	1	6/14/23 18:08	

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J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorobenzene	ND	U	0.000261	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
Chlorodibromomethane	ND	U	0.000221	0.00180	mg/kg	1	6/14/23 18:08	
Chloroethane	ND	U	0.000307	0.00180	mg/kg	1	6/14/23 18:08	
Chloroform	ND	U	0.000302	0.00180	mg/kg	1	6/14/23 18:08	
Chloromethane	**0.00355**		**0.000693**	**0.00180**	**mg/kg**	**1**	**6/14/23 18:08**	
cis-1,2-Dichloroethene	ND	U	0.0000870	0.00180	mg/kg	1	6/14/23 18:08	
cis-1,3-Dichloropropene	ND	U	0.000228	0.00180	mg/kg	1	6/14/23 18:08	
Cyclohexane	**0.0187**		**0.000399**	**0.00180**	**mg/kg**	**1**	**6/14/23 18:08**	
Dichlorodifluoromethane	ND	U	0.000607	0.00180	mg/kg	1	6/14/23 18:08	
EthylBenzene	**273**	D	**3.10**	**22.9**	**mg/kg**	**10204**	**6/16/23 7:11**	**J, RC:3L**
Isopropylbenzene	**0.269**		**0.000283**	**0.00180**	**mg/kg**	**1**	**6/14/23 18:08**	J, RC:3L
m+p-Xylenes	**258**	D	**0.577**	**4.57**	**mg/kg**	**1020**	**6/16/23 6:41**	**J, RC:3L**
Methyl Acetate	ND	U	0.000238	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000304	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
Methylcyclohexane	**0.0798**		**0.000290**	**0.00180**	**mg/kg**	**1**	**6/14/23 18:08**	J, RC:3L
Methylene Chloride	ND	U	0.000541	0.00450	mg/kg	1	6/14/23 18:08	UJ, RC:3L
o-Xylene	**124**	D	**0.294**	**2.29**	**mg/kg**	**1020**	**6/16/23 6:41**	**J, RC:3L**
Styrene	**55.4**	D	**0.327**	**2.29**	**mg/kg**	**1020**	**6/16/23 6:41**	**J, RC:3L**
tert-Butyl alcohol	ND	U	0.00378	0.0180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
Tetrachloroethene	ND	U	0.000178	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
Toluene	**44.7**	D	**0.184**	**2.29**	**mg/kg**	**1020**	**6/16/23 6:41**	**J, RC:3L**
Total Xylenes	**383**	D	**0.294**	**2.29**	**mg/kg**	**1020**	**6/16/23 6:41**	**J, RC:3L**
trans-1,2-Dichloroethene	ND	U	0.000244	0.00180	mg/kg	1	6/14/23 18:08	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000344	0.00180	mg/kg	1	6/14/23 18:08	
Trichloroethene	ND	U	0.000265	0.00180	mg/kg	1	6/14/23 18:08	
Trichlorofluoromethane	ND	U	0.000207	0.00180	mg/kg	1	6/14/23 18:08	
Vinyl chloride	ND	U	0.000342	0.00180	mg/kg	1	6/14/23 18:08	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Heptene, 2,6-dimethyl-	0.0446	13.35	J	mg/kg	1	6/14/23 18:08
Benzene, 1,3,5-trimethyl-	0.0601	16.68	J	mg/kg	1	6/14/23 18:08
Benzene, 1-ethenyl-3-methyl-	0.0694	17.41	J	mg/kg	1	6/14/23 18:08
Benzene, 1-ethyl-2-methyl-	0.135	16.59	J	mg/kg	1	6/14/23 18:08
Benzene, 1-ethyl-3-methyl-	0.148	16.52	J	mg/kg	1	6/14/23 18:08
Cyclobutane, ethenyl-	0.0441	8.06	J	mg/kg	1	6/14/23 18:08
Cyclohexene, 1-methyl- (01)	0.0502	11.14	J	mg/kg	1	6/14/23 18:08
Cyclohexene, 1-methyl- (02)	0.0429	12.21	J	mg/kg	1	6/14/23 18:08

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-01 (Soil) Sample Name: **MW-05-32.5-33.5-2023 0606** Collected: **6/6/2023 11:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexene, 4-methyl-	0.0494	10.31	J	mg/kg	1	6/14/23 18:08
Heptane, 2-methyl-	0.0492	10.75	J	mg/kg	1	6/14/23 18:08
Indene	0.0820	18.66	J	mg/kg	1	6/14/23 18:08
Octane	0.0539	11.81	J	mg/kg	1	6/14/23 18:08
Octane, 4-methyl-	0.0450	13.60	J	mg/kg	1	6/14/23 18:08
Thiophene	0.0438	8.22	J	mg/kg	1	6/14/23 18:08
TIC:Naphthalene	0.0434	21.60	J	mg/kg	1	6/14/23 18:08
TIC Total	**0.960**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**91.1**				**%**	**1**	**6/7/23 9:48**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00769	0.0645	mg/kg	1	6/12/23 17:07

23F0268-02 (Ground Water) Sample Name: **FB-20230606** Collected: **6/6/2023 12:05:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L,6L**
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/11/23 0:11	**UJ, RC:3L**

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-02 (Ground Water) Sample Name: **FB-20230606** Collected: **6/6/2023 12:05:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/17/23 21:49
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/17/23 21:49
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/17/23 21:49

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/15/23 14:08

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/19/23 14:33	
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/19/23 14:33	
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/19/23 14:33	
Barium	ND	U	0.000558	0.0200	mg/L	1	6/19/23 14:33	
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/19/23 14:33	
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/19/23 14:33	
Calcium	ND	U	0.256	1.00	mg/L	1	6/19/23 14:33	
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/19/23 14:33	
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/19/23 14:33	
Copper	ND	U	0.00177	0.0100	mg/L	1	6/19/23 14:33	
Iron	ND	U	0.0580	0.200	mg/L	1	6/19/23 14:33	
Lead	ND	U	0.00510	0.0500	mg/L	1	6/19/23 14:33	
Magnesium	ND	U	0.681	2.00	mg/L	1	6/19/23 14:33	
Manganese	**0.0295**		**0.000242**	**0.0100**	**mg/L**	**1**	**6/19/23 14:33**	
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/19/23 14:33	
Potassium	ND	U	2.41	4.00	mg/L	1	6/19/23 14:33	
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/19/23 14:33	
Silver	ND	U	0.00465	0.0200	mg/L	1	6/19/23 14:33	UJ, RC:6L
Sodium	ND	U	0.205	2.00	mg/L	1	6/19/23 14:33	
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/19/23 14:33	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/19/23 14:33	
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/19/23 14:33	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-02 (Ground Water) Sample Name: **FB-20230606** Collected: **6/6/2023 12:05:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 19:48	UJ, RC:3L
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 19:48	R, RC:3L,6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 19:48	UJ, RC:3L
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 19:48	UJ, RC:3L

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/13/23 13:17	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/13/23 13:17	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/13/23 13:17	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/13/23 13:17	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/13/23 13:17	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/13/23 13:17	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/13/23 13:17	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/13/23 13:17	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/13/23 13:17	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/13/23 13:17	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/13/23 13:17	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/13/23 13:17	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/13/23 13:17	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/13/23 13:17	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/13/23 13:17	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/13/23 13:17	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/13/23 13:17	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/13/23 13:17	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/13/23 13:17	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/13/23 13:17	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-02 (Ground Water) Sample Name: **FB-20230606** Collected: **6/6/2023 12:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/13/23 13:17	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/13/23 13:17	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/13/23 13:17	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/13/23 13:17	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/13/23 13:17	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/13/23 13:17	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/13/23 13:17	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/13/23 13:17	UJ, RC:SL
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/13/23 13:17	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/13/23 13:17	
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/13/23 13:17	
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/13/23 13:17	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/13/23 13:17	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/13/23 13:17	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/13/23 13:17	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/13/23 13:17	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/13/23 13:17	
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/13/23 13:17	
Carbazole	ND	U	0.188	2.00	ug/L	1	6/13/23 13:17	
Chrysene	ND	U	0.129	2.00	ug/L	1	6/13/23 13:17	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/13/23 13:17	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/13/23 13:17	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/13/23 13:17	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/13/23 13:17	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/13/23 13:17	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/13/23 13:17	
Fluorene	ND	U	0.109	2.00	ug/L	1	6/13/23 13:17	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/13/23 13:17	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/13/23 13:17	
Isophorone	ND	U	0.111	2.00	ug/L	1	6/13/23 13:17	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/13/23 13:17	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/13/23 13:17	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/13/23 13:17	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/13/23 13:17	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/13/23 13:17	
Phenol	ND	U	0.0973	2.00	ug/L	1	6/13/23 13:17	
Pyrene	ND	U	0.115	2.00	ug/L	1	6/13/23 13:17	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-02 (Ground Water) Sample Name: **FB-20230606** Collected: **6/6/2023 12:05:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/12/23 22:07	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/12/23 22:07	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/12/23 22:07	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/12/23 22:07	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/12/23 22:07	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/12/23 22:07	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/12/23 22:07	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/12/23 22:07	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/12/23 22:07	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/12/23 22:07	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/12/23 22:07	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/12/23 22:07	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/12/23 22:07	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/12/23 22:07	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/12/23 22:07	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/12/23 22:07	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/12/23 22:07	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/12/23 22:07	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/12/23 22:07	
Acetone	ND	U	10.0	10.0	ug/L	1	6/12/23 22:07	
Benzene	ND	U	0.129	1.00	ug/L	1	6/12/23 22:07	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/12/23 22:07	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/12/23 22:07	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/12/23 22:07	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/12/23 22:07	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/12/23 22:07	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/12/23 22:07	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/12/23 22:07	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/12/23 22:07	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/12/23 22:07	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/12/23 22:07	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/12/23 22:07	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/12/23 22:07	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/12/23 22:07	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-02 (Ground Water) Sample Name: **FB-20230606** Collected: **6/6/2023 12:05:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/12/23 22:07
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/12/23 22:07
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/12/23 22:07
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/12/23 22:07
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/12/23 22:07
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/12/23 22:07
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/12/23 22:07
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/12/23 22:07
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/12/23 22:07
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/12/23 22:07
Styrene	ND	U	0.176	1.00	ug/L	1	6/12/23 22:07
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/12/23 22:07
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/12/23 22:07
Toluene	ND	U	0.205	1.00	ug/L	1	6/12/23 22:07
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/12/23 22:07
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/12/23 22:07
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/12/23 22:07
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/12/23 22:07
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/12/23 22:07
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/12/23 22:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/13/23 15:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-2023 0606** Collected: **6/6/2023 1:30:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00515	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1221	ND	U	0.0101	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1232	ND	U	0.0129	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1242	ND	U	0.00754	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1248	ND	U	0.00789	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1254	ND	U	0.00619	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1260	ND	U	0.00481	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1262	ND	U	0.0103	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Aroclor-1268	ND	U	0.00464	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3
Total PCBs	ND	U	0.00358	0.0384	mg/kg	1	6/18/23 5:14	UJ, RC:3

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0114	0.116	mg/kg	1	6/22/23 18:47
2,4-D	ND	U	0.0193	0.116	mg/kg	1	6/22/23 18:47

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0329**		**0.00581**	**0.0233**	**mg/kg**	**1**	**6/16/23 13:54**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3830**		**0.173**	**2.91**	**mg/kg**	**1**	**6/18/23 10:34**
Antimony	ND	U	0.158	1.45	mg/kg	1	6/18/23 10:34
Arsenic	**3.60**		**0.104**	**1.45**	**mg/kg**	**1**	**6/18/23 10:34**
Barium	**14.3**		**0.0440**	**0.581**	**mg/kg**	**1**	**6/18/23 10:34**
Beryllium	**0.314**		**0.00337**	**0.0291**	**mg/kg**	**1**	**6/18/23 10:34**
Cadmium	ND	U	0.0567	0.291	mg/kg	1	6/18/23 10:34
Calcium	**1080**		**3.27**	**29.1**	**mg/kg**	**1**	**6/18/23 10:34**
Chromium	**8.66**		**0.0328**	**0.291**	**mg/kg**	**1**	**6/18/23 10:34**
Cobalt	**3.78**		**0.0297**	**0.233**	**mg/kg**	**1**	**6/18/23 10:34**
Copper	**6.77**		**0.0813**	**0.291**	**mg/kg**	**1**	**6/18/23 10:34**
Iron	**7730**		**0.824**	**5.81**	**mg/kg**	**1**	**6/18/23 10:34**
Lead	**5.57**		**0.121**	**1.45**	**mg/kg**	**1**	**6/18/23 10:34**
Magnesium	**2850**		**10.3**	**58.1**	**mg/kg**	**1**	**6/18/23 10:34**
Manganese	**65.1**		**0.0362**	**0.291**	**mg/kg**	**1**	**6/18/23 10:34**
Nickel	**15.8**		**0.0255**	**0.145**	**mg/kg**	**1**	**6/18/23 10:34**
Potassium	**832**		**34.6**	**116**	**mg/kg**	**1**	**6/18/23 10:34**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-2023 0606** Collected: **6/6/2023 1:30:00PM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.279	1.45	mg/kg	1	6/18/23 10:34
Silver	ND	U	0.0494	0.174	mg/kg	1	6/18/23 10:34
Sodium	**468**		**5.54**	**58.1**	**mg/kg**	**1**	**6/18/23 10:34**
Thallium	ND	U	0.0978	1.45	mg/kg	1	6/18/23 10:34
Vanadium	**11.9**		**0.0669**	**0.581**	**mg/kg**	**1**	**6/18/23 10:34**
Zinc	**19.1**		**0.0888**	**0.872**	**mg/kg**	**1**	**6/18/23 10:34**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000692	0.00151	mg/kg	1	6/15/23 23:41	
4,4'-DDE	ND	U	0.000827	0.00151	mg/kg	1	6/15/23 23:41	UJ, RC:6L
4,4'-DDT	ND	U	0.00107	0.00151	mg/kg	1	6/15/23 23:41	
Aldrin	ND	U	0.000716	0.00151	mg/kg	1	6/15/23 23:41	
alpha-BHC	ND	U	0.000450	0.00151	mg/kg	1	6/15/23 23:41	
beta-BHC	ND	U	0.000722	0.00151	mg/kg	1	6/15/23 23:41	
Chlordane	ND	U	0.000672	0.00151	mg/kg	1	6/15/23 23:41	
delta-BHC	ND	U	0.000702	0.00151	mg/kg	1	6/15/23 23:41	
Dieldrin	ND	U	0.000791	0.00151	mg/kg	1	6/15/23 23:41	
Endosulfan I	ND	U	0.000714	0.00151	mg/kg	1	6/15/23 23:41	
Endosulfan II	ND	U	0.000687	0.00151	mg/kg	1	6/15/23 23:41	
Endosulfan sulfate	ND	U	0.000569	0.00151	mg/kg	1	6/15/23 23:41	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000687	0.00151	mg/kg	1	6/15/23 23:41	
Endrin	ND	U	0.000522	0.00151	mg/kg	1	6/15/23 23:41	
Endrin aldehyde	ND	U	0.000602	0.00151	mg/kg	1	6/15/23 23:41	
Endrin ketone	ND	U	0.000533	0.00151	mg/kg	1	6/15/23 23:41	
gamma-BHC (Lindane)	ND	U	0.000479	0.00151	mg/kg	1	6/15/23 23:41	
Heptachlor	ND	U	0.000405	0.00151	mg/kg	1	6/15/23 23:41	
Heptachlor Epoxide	ND	U	0.000763	0.00151	mg/kg	1	6/15/23 23:41	
Methoxychlor	ND	U	0.000443	0.00151	mg/kg	1	6/15/23 23:41	
Toxaphene	ND	U	0.0728	0.0768	mg/kg	1	6/15/23 23:41	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00437	0.0387	mg/kg	1	6/13/23 15:49
2,3,4,6-Tetrachlorophenol	ND	U	0.0238	0.155	mg/kg	1	6/13/23 15:49
2,4,5-Trichlorophenol	ND	U	0.0210	0.155	mg/kg	1	6/13/23 15:49
2,4,6-Trichlorophenol	ND	U	0.00969	0.155	mg/kg	1	6/13/23 15:49

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-2023 0606** Collected: **6/6/2023 1:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0156	0.155	mg/kg	1	6/13/23 15:49	
2,4-Dimethylphenol	ND	U	0.0152	0.155	mg/kg	1	6/13/23 15:49	
2,4-Dinitrophenol	ND	U	0.0223	0.776	mg/kg	1	6/13/23 15:49	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0165	0.155	mg/kg	1	6/13/23 15:49	
2,6-Dinitrotoluene	ND	U	0.0370	0.155	mg/kg	1	6/13/23 15:49	
2-Chloronaphthalene	ND	U	0.0178	0.155	mg/kg	1	6/13/23 15:49	
2-Chlorophenol	ND	U	0.0205	0.155	mg/kg	1	6/13/23 15:49	
2-Methylnaphthalene	**54.7**	D	**0.371**	**2.33**	**mg/kg**	**10**	**6/15/23 23:48**	
2-Methylphenol	ND	U	0.0306	0.155	mg/kg	1	6/13/23 15:49	
2-Nitroaniline	ND	U	0.0124	0.155	mg/kg	1	6/13/23 15:49	
2-Nitrophenol	ND	U	0.0172	0.155	mg/kg	1	6/13/23 15:49	
3,3'-Dichlorobenzidine	ND	U	0.0163	0.155	mg/kg	1	6/13/23 15:49	
3+4-Methylphenol	ND	U	0.0284	0.155	mg/kg	1	6/13/23 15:49	
3-Nitroaniline	ND	U	0.0287	0.155	mg/kg	1	6/13/23 15:49	
4,6-Dinitro-2-methylphenol	ND	U	0.0292	0.387	mg/kg	1	6/13/23 15:49	
4-Bromophenyl-phenyl ether	ND	U	0.0221	0.155	mg/kg	1	6/13/23 15:49	
4-Chloro-3-methylphenol	ND	U	0.0244	0.155	mg/kg	1	6/13/23 15:49	
4-Chloroaniline	ND	U	0.00542	0.155	mg/kg	1	6/13/23 15:49	
4-Chlorophenyl phenyl ether	ND	U	0.00836	0.155	mg/kg	1	6/13/23 15:49	
4-Nitroaniline	ND	U	0.0775	0.155	mg/kg	1	6/13/23 15:49	
4-Nitrophenol	ND	U	0.00991	0.155	mg/kg	1	6/13/23 15:49	
Acenaphthene	**12.6**	D	**0.0883**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	J, RC:6H
Acenaphthylene	**18.9**	D	**0.0538**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	
Acetophenone	ND	U	0.0154	0.155	mg/kg	1	6/13/23 15:49	
Anthracene	**15.1**	D	**0.224**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	
Atrazine	ND	U	0.0145	0.155	mg/kg	1	6/13/23 15:49	UJ, RC:SL
Benzaldehyde	ND	U	0.0476	0.155	mg/kg	1	6/13/23 15:49	UJ, RC:SL
Benzo(a)anthracene	**6.88**		**0.0156**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Benzo(a)pyrene	**5.23**		**0.0270**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Benzo(b)fluoranthene	**3.52**		**0.0217**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Benzo(g,h,i)perylene	**1.94**		**0.0126**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Benzo(k)fluoranthene	**1.49**		**0.0178**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Biphenyl	**6.05**		**0.0136**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
bis(2-chloroethoxy)methane	ND	U	0.0214	0.155	mg/kg	1	6/13/23 15:49	
bis(2-chloroethyl)ether	ND	U	0.0170	0.155	mg/kg	1	6/13/23 15:49	UJ, RC:SL
bis(2-chloroisopropyl)ether	ND	U	0.0557	0.155	mg/kg	1	6/13/23 15:49	
bis(2-ethylhexyl)phthalate	ND	U	0.0309	0.155	mg/kg	1	6/13/23 15:49	
Butylbenzylphthalate	ND	U	0.0141	0.155	mg/kg	1	6/13/23 15:49	

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-2023 0606** Collected: **6/6/2023 1:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0200	0.155	mg/kg	1	6/13/23 15:49	
Carbazole	**0.663**		**0.0298**	**0.387**	**mg/kg**	**1**	**6/13/23 15:49**	
Chrysene	**7.36**		**0.0106**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Dibenzo(a,h)anthracene	**0.120**	J	**0.0154**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Dibenzofuran	**3.41**		**0.00922**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Diethylphthalate	ND	U	0.0300	0.155	mg/kg	1	6/13/23 15:49	
Dimethylphthalate	ND	U	0.00961	0.155	mg/kg	1	6/13/23 15:49	
Di-n-butylphthalate	ND	U	0.0633	0.155	mg/kg	1	6/13/23 15:49	
Di-n-octylphthalate	ND	U	0.0317	0.155	mg/kg	1	6/13/23 15:49	
Fluoranthene	**16.0**	D	**0.145**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	
Fluorene	**19.1**	D	**0.129**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	
Hexachlorobenzene	ND	U	0.0202	0.155	mg/kg	1	6/13/23 15:49	
Hexachlorobutadiene	ND	U	0.0743	0.155	mg/kg	1	6/13/23 15:49	
Hexachlorocyclopentadiene	ND	U	0.0645	0.387	mg/kg	1	6/13/23 15:49	UJ, RC:SL
Hexachloroethane	ND	U	0.0170	0.155	mg/kg	1	6/13/23 15:49	
Indeno(1,2,3-cd)pyrene	**1.55**		**0.0166**	**0.155**	**mg/kg**	**1**	**6/13/23 15:49**	
Isophorone	ND	U	0.0101	0.155	mg/kg	1	6/13/23 15:49	
Naphthalene	**68.6**	D	**0.115**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	
Nitrobenzene	ND	U	0.0263	0.155	mg/kg	1	6/13/23 15:49	
n-Nitroso-di-n-propylamine	ND	U	0.00829	0.155	mg/kg	1	6/13/23 15:49	
n-Nitrosodiphenylamine	ND	U	0.0330	0.155	mg/kg	1	6/13/23 15:49	
Pentachlorophenol	ND	U	0.0213	0.387	mg/kg	1	6/13/23 15:49	UJ, RC:SL
Phenanthrene	**49.8**	D	**0.204**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	
Phenol	ND	U	0.0126	0.155	mg/kg	1	6/13/23 15:49	UJ, RC:SL
Pyrene	**19.6**	D	**0.114**	**1.55**	**mg/kg**	**10**	**6/15/23 23:48**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, cyclopropyl-	3.89	6.15	J	mg/kg	1	6/13/23 15:49
Decane, 3,8-dimethyl-	2.68	9.37	J	mg/kg	1	6/13/23 15:49
Indene	9.63	6.23	J	mg/kg	1	6/13/23 15:49
Naphthalene, 1,2-dimethyl-	11.0	8.66	J	mg/kg	1	6/13/23 15:49
Naphthalene, 1,3-dimethyl-	10.2	8.59	J	mg/kg	1	6/13/23 15:49
Naphthalene, 1,4,6-trimethyl-	2.51	9.10	J	mg/kg	1	6/13/23 15:49
Naphthalene, 2,7-dimethyl-	5.87	8.69	J	mg/kg	1	6/13/23 15:49
Naphthalene, 2-ethenyl-	3.39	8.73	J	mg/kg	1	6/13/23 15:49
Naphthalene, 2-ethyl-	6.32	8.51	J	mg/kg	1	6/13/23 15:49
Octadecanoic acid, butyl ester	3.13	12.63	J	mg/kg	1	6/13/23 15:49

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-2023 0606** Collected: **6/6/2023 1:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (01)	5.16	5.80	J, B	mg/kg	1	6/13/23 15:49
unknown (02)	7.19	8.78	J, B	mg/kg	1	6/13/23 15:49
unknown (03)	4.23	9.32	J, B	mg/kg	1	6/13/23 15:49
unknown (04)	3.79	9.47	J, B	mg/kg	1	6/13/23 15:49
unknown (05)	3.23	15.44	J, B	mg/kg	1	6/13/23 15:49
TIC Total	**82.2**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000246	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000233	0.00169	mg/kg	1	6/14/23 18:37	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000721	0.00169	mg/kg	1	6/14/23 18:37	
1,1,2-Trichloroethane	ND	U	0.000284	0.00169	mg/kg	1	6/14/23 18:37	
1,1-Dichloroethane	ND	U	0.000246	0.00169	mg/kg	1	6/14/23 18:37	
1,1-Dichloroethene	ND	U	0.000312	0.00169	mg/kg	1	6/14/23 18:37	
1,2,3-Trichlorobenzene	ND	U	0.000364	0.00169	mg/kg	1	6/14/23 18:37	
1,2,4-Trichlorobenzene	ND	U	0.000449	0.00169	mg/kg	1	6/14/23 18:37	
1,2,4-Trimethylbenzene	**58.3**	D	**0.190**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
1,2-Dibromo-3-chloropropane	ND	U	0.000411	0.00421	mg/kg	1	6/14/23 18:37	UJ, RC:3L
1,2-Dibromoethane	ND	U	0.000212	0.00169	mg/kg	1	6/14/23 18:37	
1,2-Dichlorobenzene	ND	U	0.000297	0.00169	mg/kg	1	6/14/23 18:37	
1,2-Dichloroethane	**0.0956**		**0.000238**	**0.00169**	**mg/kg**	**1**	**6/14/23 18:37**	J, RC:3L
1,2-Dichloropropane	ND	U	0.000276	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
1,3-Dichlorobenzene	ND	U	0.000124	0.00169	mg/kg	1	6/14/23 18:37	
1,4-Dichlorobenzene	ND	U	0.000243	0.00169	mg/kg	1	6/14/23 18:37	
2-Butanone	ND	U	0.000275	0.00843	mg/kg	1	6/14/23 18:37	
2-Hexanone	ND	U	0.000158	0.00169	mg/kg	1	6/14/23 18:37	
4-Methyl-2-pentanone	ND	U	0.000211	0.00169	mg/kg	1	6/14/23 18:37	
Acetone	ND	U	0.000511	0.0421	mg/kg	1	6/14/23 18:37	
Benzene	**10.6**	D	**0.125**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
Bromochloromethane	ND	U	0.000311	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Bromodichloromethane	ND	U	0.000212	0.00169	mg/kg	1	6/14/23 18:37	
Bromoform	ND	U	0.000296	0.00169	mg/kg	1	6/14/23 18:37	
Bromomethane	ND	U	0.000486	0.00169	mg/kg	1	6/14/23 18:37	
Carbon disulfide	**0.00323**		**0.000242**	**0.00169**	**mg/kg**	**1**	**6/14/23 18:37**	J, RC:3L
Carbon Tetrachloride	ND	U	0.000254	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Chlorobenzene	ND	U	0.000244	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L

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D - Indicates result is based on a dilution
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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: **MW-05-66.0-67.0-2023 0606** Collected: **6/6/2023 1:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorodibromomethane	ND	U	0.000207	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Chloroethane	ND	U	0.000287	0.00169	mg/kg	1	6/14/23 18:37	
Chloroform	ND	U	0.000283	0.00169	mg/kg	1	6/14/23 18:37	
Chloromethane	ND	U	0.000649	0.00169	mg/kg	1	6/14/23 18:37	
cis-1,2-Dichloroethene	ND	U	0.0000815	0.00169	mg/kg	1	6/14/23 18:37	
cis-1,3-Dichloropropene	ND	U	0.000213	0.00169	mg/kg	1	6/14/23 18:37	
Cyclohexane	**0.00773**		**0.000373**	**0.00169**	**mg/kg**	**1**	**6/14/23 18:37**	J, RC:3L
Dichlorodifluoromethane	ND	U	0.000569	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
EthylBenzene	**61.8**	D	**0.186**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
Isopropylbenzene	**0.279**		**0.000265**	**0.00169**	**mg/kg**	**1**	**6/14/23 18:37**	J, RC:3L
m+p-Xylenes	**61.7**	D	**0.347**	**2.75**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
Methyl Acetate	ND	U	0.000223	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Methyl tert-Butyl Ether	ND	U	0.000285	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Methylcyclohexane	**0.0341**		**0.000271**	**0.00169**	**mg/kg**	**1**	**6/14/23 18:37**	J, RC:3L
Methylene Chloride	ND	U	0.000506	0.00421	mg/kg	1	6/14/23 18:37	
o-Xylene	**29.8**	D	**0.177**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
Styrene	**14.9**	D	**0.197**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
tert-Butyl alcohol	ND	U	0.00354	0.0169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Tetrachloroethene	ND	U	0.000167	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
Toluene	**9.95**	D	**0.111**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
Total Xylenes	**91.5**	D	**0.177**	**1.38**	**mg/kg**	**769**	**6/16/23 7:41**	**J, RC:3L**
trans-1,2-Dichloroethene	ND	U	0.000228	0.00169	mg/kg	1	6/14/23 18:37	UJ, RC:3L
trans-1,3-Dichloropropene	ND	U	0.000322	0.00169	mg/kg	1	6/14/23 18:37	
Trichloroethene	ND	U	0.000248	0.00169	mg/kg	1	6/14/23 18:37	
Trichlorofluoromethane	ND	U	0.000194	0.00169	mg/kg	1	6/14/23 18:37	
Vinyl chloride	ND	U	0.000320	0.00169	mg/kg	1	6/14/23 18:37	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
.alpha.-Methylstyrene	0.0899	17.04	J	mg/kg	1	6/14/23 18:37
Benzene, 1,2,3-trimethyl-	0.522	16.59	J	mg/kg	1	6/14/23 18:37
Benzene, 1,3,5-trimethyl-	0.128	17.98	J	mg/kg	1	6/14/23 18:37
Benzene, 1-ethyl-2-methyl-	0.255	16.68	J	mg/kg	1	6/14/23 18:37
Benzene, 1-ethyl-3-methyl-	0.862	16.53	J	mg/kg	1	6/14/23 18:37
Benzene, 1-ethyl-4-methyl-	0.103	16.98	J	mg/kg	1	6/14/23 18:37
Benzene, 1-methyl-3-(1-methylethyl)-	0.0876	17.72	J	mg/kg	1	6/14/23 18:37
Benzene, ethenylmethyl-	0.331	17.41	J	mg/kg	1	6/14/23 18:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0268
Project: Owls Head Phase 2 **Date to Lab:** 6/6/2023 5:20:00PM

23F0268-03 (Soil) Sample Name: MW-05-66.0-67.0-2023 0606 Collected: 6/6/2023 1:30:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, propyl-	0.0946	16.37	J	mg/kg	1	6/14/23 18:37
Decane	0.158	16.76	J	mg/kg	1	6/14/23 18:37
Indane	0.180	18.30	J	mg/kg	1	6/14/23 18:37
Indene	0.513	18.68	J	mg/kg	1	6/14/23 18:37
Octane	0.0501	11.81	J	mg/kg	1	6/14/23 18:37
Octane, 2,6-dimethyl-	0.0464	15.33	J	mg/kg	1	6/14/23 18:37
TIC:Naphthalene	0.171	21.60	J	mg/kg	1	6/14/23 18:37
TIC Total	**3.59**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.0**				**%**	**1**	**6/7/23 9:48**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00831	0.0698	mg/kg	1	6/12/23 17:07

23F0268-04 (Ground Water) Sample Name: TB-20230606 Collected: 6/6/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/12/23 22:37
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/12/23 22:37
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/12/23 22:37
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/12/23 22:37
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/12/23 22:37
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/12/23 22:37
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/12/23 22:37
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/12/23 22:37
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/12/23 22:37
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/12/23 22:37
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/12/23 22:37
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/12/23 22:37
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/12/23 22:37
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/12/23 22:37
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/12/23 22:37

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-04 (Ground Water) Sample Name: **TB-20230606** Collected: **6/6/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/12/23 22:37	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/12/23 22:37	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/12/23 22:37	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/12/23 22:37	
Acetone	ND	U	10.0	10.0	ug/L	1	6/12/23 22:37	
Benzene	ND	U	0.129	1.00	ug/L	1	6/12/23 22:37	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/12/23 22:37	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/12/23 22:37	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/12/23 22:37	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/12/23 22:37	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/12/23 22:37	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/12/23 22:37	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/12/23 22:37	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/12/23 22:37	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/12/23 22:37	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/12/23 22:37	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/12/23 22:37	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/12/23 22:37	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/12/23 22:37	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/12/23 22:37	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/12/23 22:37	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/12/23 22:37	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/12/23 22:37	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/12/23 22:37	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/12/23 22:37	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/12/23 22:37	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/12/23 22:37	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/12/23 22:37	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/12/23 22:37	
Styrene	ND	U	0.176	1.00	ug/L	1	6/12/23 22:37	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/12/23 22:37	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/12/23 22:37	
Toluene	ND	U	0.205	1.00	ug/L	1	6/12/23 22:37	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/12/23 22:37	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/12/23 22:37	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/12/23 22:37	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/12/23 22:37	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/12/23 22:37	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/12/23 22:37	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0268
Date to Lab: 6/6/2023 5:20:00PM

23F0268-04 (Ground Water) Sample Name: **TB-20230606** Collected: **6/6/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-01D	**Date Collected**	: 06/06/23 11:50
Client ID	: 23F0268-01	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 07/13/23 15:50
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F1407132306	**Analyst**	: MJS
Sample Amount	: 2.81 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2660000	2000	575.	
91-20-3C1	C1-Naphthalenes	1700000	2000	575.	
91-20-3C2	C2-Naphthalenes	864000	2000	575.	
91-20-3C3	C3-Naphthalenes	347000	2000	575.	
91-20-3C4	C4-Naphthalenes	102000	2000	575.	
208-96-8	Acenaphthylene	696000	2000	382.	
83-32-9	Acenaphthene	243000	2000	352.	
86-73-7	Fluorene	493000	2000	534.	
86-73-7C1	C1-Fluorenes	234000	2000	534.	
86-73-7C2	C2-Fluorenes	155000	2000	534.	
86-73-7C3	C3-Fluorenes	73300	2000	534.	
85-01-8	Phenanthrene	1470000	2000	663.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	847000	2000	663.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	347000	2000	663.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	99300	2000	663.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	23900	2000	663.	
120-12-7	Anthracene	426000	2000	412.	
206-44-0	Fluoranthene	396000	2000	636.	
129-00-0	Pyrene	590000	2000	526.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	516000	2000	526.	
56-55-3	Benz(a)anthracene	211000	2000	408.	
218-01-9	Chrysene	197000	2000	404.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-01D	**Date Collected**	: 06/06/23 11:50
Client ID	: 23F0268-01	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 07/13/23 15:50
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F1407132306	**Analyst**	: MJS
Sample Amount	: 2.81 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	164000	2000	404.	
218-01-9C2	C2-Chrysenes BS	64400	2000	404.	
218-01-9C3	C3-Chrysenes	26200	2000	404.	
218-01-9C4	C4-Chrysenes	ND	2000	404.	U
205-99-2	Benzo(b)fluoranthene	62400	2000	520.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	85200	2000	397.	
192-97-2	Benzo(e)pyrene	69600	2000	413.	
50-32-8	Benzo(a)pyrene	146000	2000	571.	
198-55-0	Perylene	21000	2000	386.	
193-39-5	Indeno(1,2,3-cd)pyrene	45800	2000	543.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	15500	2000	540.	
191-24-2	Benzo(g,h,i)perylene	51500	2000	531.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-02D	**Date Collected**	: 06/06/23 13:30
Client ID	: 23F0268-03	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 07/13/23 17:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F1407132307	**Analyst**	: MJS
Sample Amount	: 2.87 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	2040000	1240	356.	E
91-20-3C1	C1-Naphthalenes	1270000	1240	356.	
91-20-3C2	C2-Naphthalenes	591000	1240	356.	
91-20-3C3	C3-Naphthalenes	234000	1240	356.	
91-20-3C4	C4-Naphthalenes	67900	1240	356.	
208-96-8	Acenaphthylene	505000	1240	236.	
83-32-9	Acenaphthene	137000	1240	218.	
86-73-7	Fluorene	322000	1240	330.	
86-73-7C1	C1-Fluorenes	160000	1240	330.	
86-73-7C2	C2-Fluorenes	104000	1240	330.	
86-73-7C3	C3-Fluorenes	46700	1240	330.	
85-01-8	Phenanthrene	976000	1240	410.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	586000	1240	410.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	244000	1240	410.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	67400	1240	410.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	17100	1240	410.	
120-12-7	Anthracene	288000	1240	255.	
206-44-0	Fluoranthene	272000	1240	394.	
129-00-0	Pyrene	414000	1240	326.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	364000	1240	326.	
56-55-3	Benz(a)anthracene	147000	1240	252.	
218-01-9	Chrysene	138000	1240	250.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-02D	**Date Collected**	: 06/06/23 13:30
Client ID	: 23F0268-03	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 07/13/23 17:15
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 20
Lab File ID	: F1407132307	**Analyst**	: MJS
Sample Amount	: 2.87 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	113000	1240	250.	
218-01-9C2	C2-Chrysenes BS	45200	1240	250.	
218-01-9C3	C3-Chrysenes	17200	1240	250.	
218-01-9C4	C4-Chrysenes	ND	1240	250.	U
205-99-2	Benzo(b)fluoranthene	43300	1240	322.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	60400	1240	246.	
192-97-2	Benzo(e)pyrene	47600	1240	256.	
50-32-8	Benzo(a)pyrene	102000	1240	354.	
198-55-0	Perylene	14400	1240	239.	
193-39-5	Indeno(1,2,3-cd)pyrene	32000	1240	336.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	10800	1240	334.	
191-24-2	Benzo(g,h,i)perylene	35600	1240	329.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-02D2	**Date Collected**	: 06/06/23 13:30
Client ID	: 23F0268-03	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 07/17/23 10:51
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 50
Lab File ID	: F1407132332	**Analyst**	: MJS
Sample Amount	: 2.87 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1640000	3100	890.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: WG1793604-1	**Date Collected**	: NA
Client ID	: WG1793604-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/11/23 21:23
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807112309	**Analyst**	: MJS
Sample Amount	: 30 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	0.407	1.00	0.287	J
91-20-3C1	C1-Naphthalenes	0.350	1.00	0.287	J
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	ND	1.00	0.263	U
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: WG1793604-1	**Date Collected**	: NA
Client ID	: WG1793604-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/11/23 21:23
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807112309	**Analyst**	: MJS
Sample Amount	: 30 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-01	**Date Collected**	: 06/06/23 11:50
Client ID	: 23F0268-01	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	--	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-02	**Date Collected**	: 06/06/23 13:30
Client ID	: 23F0268-03	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	--	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: WG1792792-1	**Date Collected**	: NA
Client ID	: WG1792792-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	--	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: WG1792792-3	**Date Collected**	: 06/09/23 10:45
Client ID	: WG1792792-3 DUP	**Date Received**	: 06/12/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	--	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-01	**Date Collected**	: 06/06/23 11:50
Client ID	: 23F0268-01	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**85.4**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: L2332219-02	**Date Collected**	: 06/06/23 13:30
Client ID	: 23F0268-03	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.4**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332219
Project Name	: 23F0268	**Project Number**	: 23F0268
Lab ID	: WG1791310-1	**Date Collected**	: 06/06/23 11:50
Client ID	: 23F0268-01DUP	**Date Received**	: 06/08/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

CAS NO.	Parameter	% Results	% RL	% MDL	Qualifier
NONE	Solids, Total	85.3	0.100	0.100	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2332837 and 23F0430
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 26, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MW-04-1.5-2.5-20230607	23F0430-01 L2332837-01	06/07/2023	Soil
MW-04-1.5-2.5-20230607MS	23F0430-02 L2332837-02	06/07/2023	Soil
MW-04-1.5-2.5-20230607MSD	23F0430-03 L2332837-03	06/07/2023	Soil
MW-04-5.5-6.5-20230607	23F0430-04 L2332837-04	06/07/2023	Soil
FB-20230607	23F0430-05 L2332837-05	06/07/2023	Water
MW-04-41.5-42.5-20230607	23F0430-06 L2332837-06	06/07/2023	Soil
DUP-20230607	23F0430-07 L2332837-07	06/07/2023	Soil
TB-20230607	23F0430-08 L2332837-08	06/07/2023	Water

Data validation was performed on the analytical data for eight (8) samples collected on June 07, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

Overall, the data is acceptable for the intended purposes. Certain poor responding soil SVOC results were rejected due to major recovery issues associated with the laboratory control samples; additionally, endosulfan sulfate associated with the FB-20230607 was rejected due to laboratory control samples. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, matrix spike/matrix spike duplicates, laboratory control samples and field duplicates.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.
- The matrix spike and matrix spike duplicate collected associated with sample MW-04-1.5-2.5-20230607 was logged in by the laboratory as individual samples (23F0430-02/L2332837-02) and (23F0430-03/L2332837-03). No comparability evaluation for these samples was conducted during validation. Samples were evaluated as normal field samples.
- Sample FB-20230607 was listed for Alkylated PAH analysis; these samples were not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated soil samples had detections of methylene chloride (0.0383 mg/kg). Associated sample are non-detect. No qualification is required.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- All surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	MW-04-1.5-2.5-20230607 MW-04-1.5-2.5-20230607MS MW-04-1.5-2.5-20230607MSD MW-04-41.5-42.5-2023060 DUP-20230607	Acetone Chloromethane Methylene chloride	%R > CL	No action (NDs)	6H
	FB-20230607 TB-20230607	Bromomethane	%R < CL	UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS and/or MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	DUP-20230607	1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2-Hexanone Chlorobenzene Chlorodibromomethane cis-1,3-Dichloropropene EthylBenzene Isopropylbenzene m+p-Xylenes Methyl Acetate o-Xylene Styrene trans-1,3-Dichloropropene	%R < CL	J (Detects) UJ (NDs)	4L

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230607 is the sample duplicate for MW-04-1.5-2.5-20230607. All RPDs were within control limits.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a

correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	MW-04-1.5-2.5-20230607 MW-04-1.5-2.5-20230607MS MW-04-1.5-2.5-20230607MSD MW-04-41.5-42.5-20230607 DUP-20230607	2-Butanone 2-Hexanone Acetone Methylene Chloride	CCV %D > 20% (increase in response)	No action (NDs)	SH
	FB-20230607 TB-20230607	Bromomethane Chloroethane Chloromethane Methyl Acetate	CCV %D > 20% (decrease in response)	UJ (NDs)	SL
		Carbon Tetrachloride Trichlorofluoromethane	CCV %D > 20% (increase in response)	No action (NDs)	SH
	MW-04-5.5-6.5-20230607	Tetrachloroethene	CCV %D > 20% (increase in response)	No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with soil samples had TIC detections of "lab contamination." Sample detections less than five times the method blank detection are qualified as rejected, reason code 2.
- The method blank associated soil samples had detections of Naphthalene and C1-Naphthalenes (8270E-SIM). Sample detections are greater than five times the detections in the method blank.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	MW-04-1.5-2.5-20230607 MW-04-1.5-2.5-20230607MS	Benzaldehyde Hexachlorocyclopentadiene	10% > %R < CL	J (Detects) UJ (NDs)	6L

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230607 is the sample duplicate for MW-04-1.5-2.5-20230607. All RPDs were within control limits except C3-Phenanthrenes/Anthracenes, C4-Phenanthrenes/Anthracenes and Naphthalene. Details are at the end of the report. Parent and duplicate concentrations for associated analyte are qualified as estimated, J, reason code 8.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230607 MW-04-41.5-42.5-20230607	Benzaldehyde	%RSD >20%	UJ (NDs)	Q
	MW-04-1.5-2.5-20230607 MW-04-1.5-2.5-20230607MS	2-Nitrophenol	%RSD >20%	UJ (NDs)	Q
8270E	MW-04-67.0-68.0-20230609	Benzo(b)fluorene	%RSD >20%	UJ (NDs)	Q
		Perylene			

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230607	2,4-Dimethylphenol 2,4-Dinitrophenol 4-Nitrophenol Benzaldehyde bis(2-Chloroisopropyl)ether Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	UJ (NDs)	SL
	MW-04-41.5-42.5-20230607	2,4-Dinitrophenol 4-Nitrophenol Benzaldehyde bis(2-Chloroisopropyl)ether Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	UJ (NDs)	SL
	MW-04-1.5-2.5-20230607MSD MW-04-5.5-6.5-20230607 DUP-20230607	Benzaldehyde Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (NDs)	SL
		2,4-Dinitrotoluene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	MW-04-1.5-2.5-20230607 MW-04-1.5-2.5-20230607MS	Benzaldehyde bis(2-chloroethoxy)methane Hexachlorocyclopentadiene Isophorone Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		4-Nitrophenol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	FB-20230607 MW-04-1.5-2.5-20230607MSD	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R < CL	J (Detects) UJ (NDs)	3L
8151A	MW-04-41.5-42.5-20230607 DUP-20230607	2,4-DCAA 2,4-DCAA-2	%R <CL	UJ (NDs)	3L
8081B	FB-20230607	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R < CL	UJ (NDs)	3L
	MW-04-1.5-2.5-20230607MSD	Tetrachloro-m-xylene Decachlorobiphenyl	%R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230607	Endosulfan sulfate	%R < CL (<10%)	J (Detects) R (NDs)	6L
		Methoxychlor	%R > CL	No action (NDs)	6H
	MW-04-1.5-2.5-20230607 MW-04-1.5-2.5-20230607MS	Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L
		4,4'-DDT Endosulfan sulfate Methoxychlor	%R > CL	No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis percent recoveries were within control limits for project samples.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230607 is the sample duplicate for MW-04-1.5-2.5-20230607. All RPDs were within control limits.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230607	Cadmium Silver Zinc	%R > CL	No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230607 is the sample duplicate for MW-04-1.5-2.5-20230607. All RPDs were within control limits except Mercury and Magnesium. Details are at the end of the report. Parent and duplicate concentrations for associated analyte are qualified as estimated, J, reason code 8.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 26, 2024 Peer Review: JLD

Corey Strauss
Project Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	23F0430/L2332837	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	APL/Alpha Labs
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	2023 Soil Sampling

SAMPLE INFORMATION

Parent Sample ID:	MW-04-1.5-2.5-20230607	Date/Time:	6/7/23 8:40	Matrix:	SO
Duplicate Sample ID:	DUP-20230607	Date/Time:	6/7/23 0:00	Matrix:	SO

Analytes	Unit	Analytical Results[a]		Relative Percent Difference (RPD) Comparison		Difference between results	Reporting Limit (RL) Comparison (If Needed)						Actions Required
							MW-04-1.5-2.5-20230607			DUP-20230607			Control Limit: Is the difference in sample conc. ≥ 4X either RL?	
		MW-04-1.5-2.5-20230607	DUP-20230607	RPD Control Limit: 50%[b]	Are both results ≥5X RL[c]		RL	4x RL	5x RL	RL	4x RL	5x RL		
Mercury	MG/KG	0.678	0.201	109%	Yes	**0.48**	0.0232	0.09	0.12	0.0225	0.09	0.11		Qualify detects/non-detects as estimated, J/UJ
Aluminum	MG/KG	7780	5320	38%	Yes	**2460**	2.76	11.04	13.80	2.68	10.72	13.40		No further action required
Antimony	MG/KG	1.84	1.6		No	**0.24**	1.38	5.52	6.90	1.34	5.36	6.70	**No**	No further action required
Arsenic	MG/KG	6.07	4.94		No	**1.13**	1.38	5.52	6.90	1.34	5.36	6.70	**No**	No further action required
Barium	MG/KG	196	139	34%	Yes	**57**	0.552	2.21	2.76	0.537	2.15	2.69		No further action required
Beryllium	MG/KG	1.84	1.3	34%	Yes	**0.54**	0.0276	0.110	0.138	0.0268	0.107	0.134		No further action required
Calcium	MG/KG	21900	21900	0%	Yes	**0**	27.6	110.4	138	26.8	107.2	134		No further action required
Chromium	MG/KG	19.8	13.3	39%	Yes	**6.5**	0.276	1.10	1.38	0.268	1.07	1.34		No further action required
Cobalt	MG/KG	7.04	5.07	33%	Yes	**1.97**	0.221	0.88	1.11	0.215	0.86	1.08		No further action required
Copper	MG/KG	111	78.1	35%	Yes	**32.9**	0.276	1.10	1.38	0.268	1.07	1.34		No further action required
Iron	MG/KG	17600	13300	28%	Yes	**4300**	5.52	22.08	27.60	5.37	21.48	26.85		No further action required
Lead	MG/KG	90.7	70.6	25%	Yes	**20.1**	1.38	5.52	6.90	1.34	5.36	6.70		No further action required
Magnesium	MG/KG	3350	8000	82%	Yes	**4650**	55.2	220.8	276	53.7	214.8	269		Qualify detects/non-detects as estimated, J/UJ
Manganese	MG/KG	184	126	37%	Yes	**58**	0.276	1.10	1.38	0.268	1.07	1.34		No further action required
Nickel	MG/KG	21.3	15.9	29%	Yes	**5.4**	0.138	0.55	0.69	0.134	0.54	0.67		No further action required
Potassium	MG/KG	1750	1350	26%	Yes	**400**	110	440	550	107	428	535		No further action required
Selenium	MG/KG	1.56	*1.34*		No	**0.22**	1.38	5.52	6.90	1.34	5.36	6.70	**No**	No further action required
Sodium	MG/KG	715	589	19%	Yes	**126**	55.2	220.8	276	53.7	214.8	269		No further action required
Vanadium	MG/KG	38.6	27.9	32%	Yes	**10.7**	0.552	2.21	2.76	0.537	2.15	2.69		No further action required
Zinc	MG/KG	136	93.9	37%	Yes	**42.1**	0.828	3.31	4.14	0.805	3.22	4.03		No further action required
4,4'-DDT	MG/KG	*0.00151*	0.00116		No	**0.00035**	0.00151	0.00604	0.00755	0.00147	0.00588	0.00735	**No**	No further action required
4,4'-DDT	MG/KG	*0.00151*	0.00219		No	**0.00068**	0.00151	0.00604	0.00755	0.00147	0.00588	0.00735	**No**	No further action required
2-Methylnaphthalene	MG/KG	0.123	0.164		No	**0.041**	0.232	0.93	1.16	0.225	0.90	1.13	**No**	No further action required
3/4-Methylphenol	MG/KG	*0.154*	0.198		No	**0.044**	0.154	0.62	0.77	0.15	0.60	0.75	**No**	No further action required
Acenaphthene	MG/KG	0.108	0.143		No	**0.035**	0.154	0.62	0.77	0.15	0.60	0.75	**No**	No further action required
Acenaphthylene	MG/KG	*0.154*	0.125		No	**0.029**	0.154	0.62	0.77	0.15	0.60	0.75	**No**	No further action required
Acetophenone	MG/KG	*0.154*	0.0338		No	**0.12**	0.154	0.62	0.77	0.15	0.60	0.75	**No**	No further action required
Anthracene	MG/KG	0.322	0.344		No	**0.022**	0.154	0.62	0.77	0.15	0.60	0.75	**No**	No further action required
Benzaldehyde	MG/KG	*0.154*	0.123		No	**0.031**	0.154	0.62	0.77	0.15	0.60	0.75	**No**	No further action required

Benzo(a)anthracene	MG/KG	0.664	0.894		No	**0.23**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Benzo(a)pyrene	MG/KG	0.736	0.91		No	**0.17**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Benzo(b)fluoranthene	MG/KG	0.908	1.23	30%	Yes	**0.32**	0.154	0.62	0.77	0.15	0.60	0.75		No further action required
Benzo(g,h,i)perylene	MG/KG	0.554	0.612		No	**0.058**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Benzo(k)fluoranthene	MG/KG	0.39	0.346		No	**0.044**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Biphenyl (Diphenyl)	MG/KG	*0.154*	0.0497		No	**0.10**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
bis(2-Ethylhexyl)phthalate	MG/KG	*0.154*	0.0482		No	**0.11**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Carbazole	MG/KG	*0.386*	0.0999		No	**0.29**	0.386	1.54	1.93	0.375	1.50	1.88	No	No further action required
Chrysene	MG/KG	0.779	0.971	22%	Yes	**0.19**	0.154	0.62	0.77	0.15	0.60	0.75		No further action required
Dibenz(a,h)anthracene	MG/KG	*0.154*	0.0568		No	**0.097**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Dibenzofuran	MG/KG	0.122	0.113		No	**0.009**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Fluoranthene	MG/KG	1.92	1.96	2%	Yes	**0.040**	0.154	0.62	0.77	0.15	0.60	0.75		No further action required
Fluorene	MG/KG	0.139	0.157		No	**0.018**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Indeno(1,2,3-c,d)pyrene	MG/KG	0.463	0.507		No	**0.044**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Naphthalene	MG/KG	0.181	0.23		No	**0.049**	0.154	0.62	0.77	0.15	0.60	0.75	No	No further action required
Phenanthrene	MG/KG	1.04	1.25	18%	Yes	**0.21**	0.154	0.62	0.77	0.15	0.60	0.75		No further action required
Pyrene	MG/KG	1.49	1.49	0%	Yes	**0**	0.154	0.62	0.77	0.15	0.60	0.75		No further action required
Cyanide	MG/KG	0.184	0.0615		No	**0.123**	0.063	0.25	0.32	0.059	0.24	0.30	No	No further action required
Acenaphthene	UG/KG	81	53.3	41%	Yes	**27.7**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Acenaphthylene	UG/KG	73.9	56.3	27%	Yes	**17.6**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Anthracene	UG/KG	264	181	37%	Yes	**83**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Benzo (e) Pyrene	UG/KG	643	487	28%	Yes	**156**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Benzo(a)anthracene	UG/KG	814	629	26%	Yes	**185**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Benzo(a)pyrene	UG/KG	776	597	26%	Yes	**179**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Benzo(b)fluoranthene	UG/KG	786	604	26%	Yes	**182**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Benzo(g,h,i)perylene	UG/KG	573	446	25%	Yes	**127**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Benzo(j,k)fluoranthenes	UG/KG	662	537	21%	Yes	**125**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C1-Chrysenes	UG/KG	537	402	29%	Yes	**135**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C1-Fluoranthenes/pyrene	UG/KG	828	599	32%	Yes	**229**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C1-Fluorenes	UG/KG	86.5	60.7	35%	Yes	**25.8**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C1-Naphthalenes	UG/KG	154	102	41%	Yes	**52**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C1-Phenanthrenes/Anthracenes	UG/KG	617	464	28%	Yes	**153**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C2-Chrysenes	UG/KG	385	268	36%	Yes	**117**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C2-Fluorenes	UG/KG	210	148	35%	Yes	**62**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C2-Naphthalenes	UG/KG	187	144	26%	Yes	**43**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C2-Phenanthrenes/Anthracenes	UG/KG	655	437	40%	Yes	**218**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C3-Chrysenes	UG/KG	334	217	42%	Yes	**117**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C3-Fluorenes	UG/KG	280	209	29%	Yes	**71**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C3-Naphthalenes	UG/KG	191	160	18%	Yes	**31**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C3-Phenanthrenes/Anthracenes	UG/KG	388	227	52%	Yes	**161**	3.48	13.9	17.4	2.28	9.1	11.4		Qualify detects/non-detects as estimated, J/UJ
C4-Chrysenes	UG/KG	197	135	37%	Yes	**62**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C4-Naphthalenes	UG/KG	125	99.4	23%	Yes	**25.60**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
C4-Phenanthrenes/Anthracenes	UG/KG	263	125	71%	Yes	**138**	3.48	13.9	17.4	2.28	9.1	11.4		Qualify detects/non-detects as estimated, J/UJ
Chrysene	UG/KG	826	648	24%	Yes	**178**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required

Dibenz(a,h) & (a,c)anthracene	UG/KG	146	116	23%	**Yes**	**30**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Fluoranthene	UG/KG	1470	1140	25%	**Yes**	**330**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Fluorene	UG/KG	116	74.5	44%	**Yes**	**41.5**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Indeno(1,2,3-c,d)pyrene	UG/KG	504	424	17%	**Yes**	**80**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Naphthalene	UG/KG	273	144	62%	**Yes**	**129**	3.48	13.9	17.4	2.28	9.1	11.4		Qualify detects/non-detects as estimated, J/UJ
Perylene	UG/KG	214	167	25%	**Yes**	**47**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Phenanthrene	UG/KG	894	685	26%	**Yes**	**209**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required
Pyrene	UG/KG	1380	1070	25%	**Yes**	**310**	3.48	13.9	17.4	2.28	9.1	11.4		No further action required

[a]Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

[b]**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

[c]When both results are greater than 5X the Reporting Limit (RL) the RPD is calculated. If either result is below 5X the RL, the absolute difference between the two results is compared to 4X the RL.

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0430

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 29, 2023

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AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

Sample Summary

Work Order: 23F0430

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-04-1.5-2.5-20230607	23F0430-01	Soil	06/07/2023 08:40	06/08/2023 16:05
MW-04-1.5-2.5-20230607MS	23F0430-02	Soil	06/07/2023 08:50	06/08/2023 16:05
MW-04-1.5-2.5-20230607MSD	23F0430-03	Soil	06/07/2023 08:55	06/08/2023 16:05
MW-04-5.5-6.5-20230607	23F0430-04	Soil	06/07/2023 10:25	06/08/2023 16:05
FB-20230607	23F0430-05	Ground Water	06/07/2023 12:00	06/08/2023 16:05
MW-04-41.5-42.5-20230607	23F0430-06	Soil	06/07/2023 12:30	06/08/2023 16:05
DUP-20230607	23F0430-07	Soil	06/07/2023 00:00	06/08/2023 16:05
TB-20230607	23F0430-08	Ground Water	06/07/2023 00:00	06/08/2023 16:05

PN: 23F0430

APL 23F0430

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: YU & Associates	SEND REPORT TO: same
ADDRESS: 611 River Drive, 3rd floor Elmwood Park, NJ 07407	ADDRESS:
PHONE: 201-763-9621	PHONE: as
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Cowdrick OH 007	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS: left.
PROJECT or PO #: 176854	SAMPLED BY: YP

TURN-AROUND TIME

- [X] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

[X] NYS Category B

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0430-01	MW-04-105-2.5-20230607	06/07/23	0840	X		S	5		VOC, SVOC, PCB, Pesticide, TAL Metal, Herbicide, Alkylated PAH, TCN, FCN.
-02	MW-04-105-2.5-20230607MS	06/07/23	0850	X		S	5		"
-03	MW-04-105-2.5-20230607MSD	06/07/23	0855	X		S	5		"
-04	MW-04-5.5-6.5-20230607	06/07/23	1025	X		S	5		"
-05	FB-20230607.	06/07/23	1200	X		DI Water	10		"
-06	MW-04-105-4.5-20230607	06/07/23	1230	X		S	5		"
-07	DUP-20230607	06/07/23	9999	X		S	5		"
-08	TB-20230607	06/07/23	CAB	X		DI Water	2		VOC.

RELINQUISHED BY (Print) Yaundor/Rita.	DATE 06/08/23	RECEIVED BY (Print)	
Signature	Time 1557	Signature	
RELINQUISHED BY (Print)	DATE 6/8/23	RECEIVED BY (Print) Rex Wang	
Signature	Time 1685	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.3°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 200.7 / 7473 / 245.1 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Samples 23F0430-06 and -07 have surrogates outside of the QC limits (low), due to matrix interferences.

ANALYSIS: PCBs [8082A]
Sample 23F0430-03 has one surrogate (Decachlorobiphenyl) outside of the QC limits (low), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]
Sample 23F0430-03 has surrogates outside of the QC limits (low), due to matrix interference.

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).
The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Bromomethane was outside of the QC limits for the blank spike duplicate (low).

The percent recoveries for some compounds were outside of the QC limits for the matrix spikes and matrix spike duplicates (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike and matrix spike duplicates (low).



Reviewed By: _____ (SK) 8/31/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.678		0.00580	0.0232	mg/kg dry	1	6/19/23 13:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7780		0.164	2.76	mg/kg dry	1	6/21/23 14:11
Antimony	1.84		0.150	1.38	mg/kg dry	1	6/21/23 14:11
Arsenic	6.07		0.0985	1.38	mg/kg dry	1	6/21/23 14:11
Barium	196		0.0417	0.552	mg/kg dry	1	6/21/23 14:11
Beryllium	1.84		0.00320	0.0276	mg/kg dry	1	6/21/23 14:11
Calcium	21900		3.10	27.6	mg/kg dry	1	6/21/23 14:11
Chromium	19.8		0.0312	0.276	mg/kg dry	1	6/21/23 14:11
Cobalt	7.04		0.0282	0.221	mg/kg dry	1	6/21/23 14:11
Copper	111		0.0772	0.276	mg/kg dry	1	6/21/23 14:11
Iron	17600		0.782	5.52	mg/kg dry	1	6/21/23 14:11
Lead	90.7		0.115	1.38	mg/kg dry	1	6/21/23 14:11
Magnesium	3350		9.75	55.2	mg/kg dry	1	6/21/23 14:11
Manganese	184		0.0343	0.276	mg/kg dry	1	6/21/23 14:11
Nickel	21.3		0.0242	0.138	mg/kg dry	1	6/21/23 14:11
Potassium	1750		32.8	110	mg/kg dry	1	6/21/23 14:11
Selenium	1.56		0.265	1.38	mg/kg dry	1	6/21/23 14:11
Sodium	715		5.26	55.2	mg/kg dry	1	6/21/23 14:11
Vanadium	38.6		0.0635	0.552	mg/kg dry	1	6/21/23 14:11
Zinc	136		0.0843	0.828	mg/kg dry	1	6/21/23 14:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.123	J	0.0370	0.232	mg/kg dry	1	6/15/23 18:23
Acenaphthene	0.108	J	0.00880	0.154	mg/kg dry	1	6/15/23 18:23
Anthracene	0.322		0.0224	0.154	mg/kg dry	1	6/15/23 18:23
Benzo(a)anthracene	0.664		0.0155	0.154	mg/kg dry	1	6/15/23 18:23
Benzo(a)pyrene	0.736		0.0269	0.154	mg/kg dry	1	6/15/23 18:23
Benzo(b)fluoranthene	0.908		0.0217	0.154	mg/kg dry	1	6/15/23 18:23
Benzo(g,h,i)perylene	0.554		0.0125	0.154	mg/kg dry	1	6/15/23 18:23
Benzo(k)fluoranthene	0.390		0.0177	0.154	mg/kg dry	1	6/15/23 18:23
Chrysene	0.779		0.0106	0.154	mg/kg dry	1	6/15/23 18:23
Dibenzofuran	0.122	J	0.00919	0.154	mg/kg dry	1	6/15/23 18:23
Fluoranthene	1.92		0.0145	0.154	mg/kg dry	1	6/15/23 18:23
Fluorene	0.139	J	0.0129	0.154	mg/kg dry	1	6/15/23 18:23
Indeno(1,2,3-cd)pyrene	0.463		0.0166	0.154	mg/kg dry	1	6/15/23 18:23
Naphthalene	0.181		0.0114	0.154	mg/kg dry	1	6/15/23 18:23

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenanthrene	1.04		0.0203	0.154	mg/kg dry	1	6/15/23 18:23
Pyrene	1.49		0.0113	0.154	mg/kg dry	1	6/15/23 18:23
TIC_1,2-Benzenedithiol	0.312	J			mg/kg dry	1	6/15/23 18:23
TIC_2(1H)-Naphthalenone, 3,4,4a,5,6,7,8,8a.a	0.439	J			mg/kg dry	1	6/15/23 18:23
TIC_3-(Methylthio)penta-2,4-dione	1.33	J			mg/kg dry	1	6/15/23 18:23
TIC_Hexadecanoic acid, butyl ester	3.18	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (01)	0.348	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (02)	0.788	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (03)	0.322	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (04)	0.770	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (05)	0.415	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (06)	0.597	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (07)	0.316	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (08)	1.68	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (09)	0.437	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (10)	0.700	J			mg/kg dry	1	6/15/23 18:23
TIC_unknown (11)	0.429	J			mg/kg dry	1	6/15/23 18:23

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.184		0.00751	0.0630	mg/kg dry	1	6/14/23 16:06

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.81		0.00570	0.0228	mg/kg dry	1	6/19/23 13:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7930		0.170	2.86	mg/kg dry	1	6/21/23 14:13
Antimony	2.05		0.156	1.43	mg/kg dry	1	6/21/23 14:13
Arsenic	5.52		0.102	1.43	mg/kg dry	1	6/21/23 14:13
Barium	124		0.0433	0.573	mg/kg dry	1	6/21/23 14:13
Beryllium	1.63		0.00332	0.0286	mg/kg dry	1	6/21/23 14:13
Calcium	20000		3.22	28.6	mg/kg dry	1	6/21/23 14:13
Chromium	16.8		0.0323	0.286	mg/kg dry	1	6/21/23 14:13
Cobalt	7.53		0.0293	0.229	mg/kg dry	1	6/21/23 14:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	118		0.0801	0.286	mg/kg dry	1	6/21/23 14:13
Iron	18800		0.811	5.73	mg/kg dry	1	6/21/23 14:13
Lead	76.8		0.119	1.43	mg/kg dry	1	6/21/23 14:13
Magnesium	3410		10.1	57.3	mg/kg dry	1	6/21/23 14:13
Manganese	177		0.0356	0.286	mg/kg dry	1	6/21/23 14:13
Nickel	19.2		0.0251	0.143	mg/kg dry	1	6/21/23 14:13
Potassium	2050		34.0	115	mg/kg dry	1	6/21/23 14:13
Sodium	765		5.46	57.3	mg/kg dry	1	6/21/23 14:13
Vanadium	41.2		0.0659	0.573	mg/kg dry	1	6/21/23 14:13
Zinc	109		0.0875	0.859	mg/kg dry	1	6/21/23 14:13

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	0.263		0.0220	0.152	mg/kg dry	1	6/15/23 18:55
Benzo(a)anthracene	0.799		0.0153	0.152	mg/kg dry	1	6/15/23 18:55
Benzo(a)pyrene	0.612		0.0264	0.152	mg/kg dry	1	6/15/23 18:55
Benzo(b)fluoranthene	0.775		0.0213	0.152	mg/kg dry	1	6/15/23 18:55
Benzo(g,h,i)perylene	0.487		0.0123	0.152	mg/kg dry	1	6/15/23 18:55
Benzo(k)fluoranthene	0.353		0.0174	0.152	mg/kg dry	1	6/15/23 18:55
Chrysene	0.753		0.0104	0.152	mg/kg dry	1	6/15/23 18:55
Fluoranthene	1.66		0.0142	0.152	mg/kg dry	1	6/15/23 18:55
Indeno(1,2,3-cd)pyrene	0.344		0.0163	0.152	mg/kg dry	1	6/15/23 18:55
Phenanthrene	0.986		0.0199	0.152	mg/kg dry	1	6/15/23 18:55
Pyrene	1.44		0.0112	0.152	mg/kg dry	1	6/15/23 18:55
TIC_Hexadecanoic acid, butyl ester	3.19	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (01)	1.38	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (02)	0.458	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (03)	0.523	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (04)	0.368	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (05)	0.479	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (06)	0.511	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (07)	0.384	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (08)	0.618	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (09)	0.416	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (10)	1.22	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (11)	1.03	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (12)	0.414	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (13)	0.870	J			mg/kg dry	1	6/15/23 18:55
TIC_unknown (14)	0.376	J			mg/kg dry	1	6/15/23 18:55

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.161		0.00767	0.0644	mg/kg dry	1	6/14/23 16:06

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.479		0.00574	0.0230	mg/kg dry	1	6/19/23 13:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	6610		0.163	2.75	mg/kg dry	1	6/21/23 14:15
Antimony	1.78		0.150	1.37	mg/kg dry	1	6/21/23 14:15
Arsenic	5.99		0.0980	1.37	mg/kg dry	1	6/21/23 14:15
Barium	154		0.0415	0.549	mg/kg dry	1	6/21/23 14:15
Beryllium	1.60		0.00318	0.0275	mg/kg dry	1	6/21/23 14:15
Calcium	18400		3.09	27.5	mg/kg dry	1	6/21/23 14:15
Chromium	16.9		0.0310	0.275	mg/kg dry	1	6/21/23 14:15
Cobalt	6.51		0.0281	0.220	mg/kg dry	1	6/21/23 14:15
Copper	108		0.0769	0.275	mg/kg dry	1	6/21/23 14:15
Iron	16500		0.778	5.49	mg/kg dry	1	6/21/23 14:15
Lead	86.3		0.115	1.37	mg/kg dry	1	6/21/23 14:15
Magnesium	2990		9.71	54.9	mg/kg dry	1	6/21/23 14:15
Manganese	138		0.0342	0.275	mg/kg dry	1	6/21/23 14:15
Nickel	20.2		0.0241	0.137	mg/kg dry	1	6/21/23 14:15
Potassium	1670		32.7	110	mg/kg dry	1	6/21/23 14:15
Sodium	631		5.24	54.9	mg/kg dry	1	6/21/23 14:15
Vanadium	37.9		0.0632	0.549	mg/kg dry	1	6/21/23 14:15
Zinc	119		0.0839	0.824	mg/kg dry	1	6/21/23 14:15

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.164	J	0.0366	0.230	mg/kg dry	1	6/15/23 16:28
3+4-Methylphenol	0.247		0.0280	0.153	mg/kg dry	1	6/15/23 16:28
Acenaphthene	0.0736	J	0.00872	0.153	mg/kg dry	1	6/15/23 16:28
Acenaphthylene	0.0815	J	0.00532	0.153	mg/kg dry	1	6/15/23 16:28
Acetophenone	0.0295	J	0.0152	0.153	mg/kg dry	1	6/15/23 16:28
Anthracene	0.271		0.0222	0.153	mg/kg dry	1	6/15/23 16:28
Benzaldehyde	0.148	J	0.0470	0.153	mg/kg dry	1	6/15/23 16:28
Benzo(a)anthracene	0.767		0.0154	0.153	mg/kg dry	1	6/15/23 16:28
Benzo(a)pyrene	0.794		0.0266	0.153	mg/kg dry	1	6/15/23 16:28

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(b)fluoranthene	1.06		0.0215	0.153	mg/kg dry	1	6/15/23 16:28
Benzo(g,h,i)perylene	0.612		0.0124	0.153	mg/kg dry	1	6/15/23 16:28
Benzo(k)fluoranthene	0.371		0.0176	0.153	mg/kg dry	1	6/15/23 16:28
Biphenyl	0.0491	J	0.0134	0.153	mg/kg dry	1	6/15/23 16:28
bis(2-ethylhexyl)phthalate	0.0428	J	0.0305	0.153	mg/kg dry	1	6/15/23 16:28
Carbazole	0.0737	J	0.0294	0.382	mg/kg dry	1	6/15/23 16:28
Chrysene	0.833		0.0105	0.153	mg/kg dry	1	6/15/23 16:28
Dibenzo(a,h)anthracene	0.0309	J	0.0152	0.153	mg/kg dry	1	6/15/23 16:28
Dibenzofuran	0.104	J	0.00911	0.153	mg/kg dry	1	6/15/23 16:28
Fluoranthene	1.65		0.0144	0.153	mg/kg dry	1	6/15/23 16:28
Fluorene	0.108	J	0.0127	0.153	mg/kg dry	1	6/15/23 16:28
Indeno(1,2,3-cd)pyrene	0.438		0.0164	0.153	mg/kg dry	1	6/15/23 16:28
Naphthalene	0.229		0.0113	0.153	mg/kg dry	1	6/15/23 16:28
Phenanthrene	1.02		0.0201	0.153	mg/kg dry	1	6/15/23 16:28
Pyrene	1.26		0.0112	0.153	mg/kg dry	1	6/15/23 16:28
TIC_1,3,4-Thiadiazol-2-amine	0.426	J			mg/kg dry	1	6/15/23 16:28
TIC_3-Penten-2-one, 4-methyl-	0.351	J			mg/kg dry	1	6/15/23 16:28
TIC_Acetic acid, 1-methylpropyl ester	1.83	J			mg/kg dry	1	6/15/23 16:28
TIC_Ethanol, 2-butoxy-	0.935	J			mg/kg dry	1	6/15/23 16:28
TIC_Ethyl Acetate	3.70	J			mg/kg dry	1	6/15/23 16:28
TIC_Hexadecanoic acid, butyl ester	1.62	B, J			mg/kg dry	1	6/15/23 16:28
TIC_Octadecanoic acid, butyl ester	0.863	B, J			mg/kg dry	1	6/15/23 16:28
TIC_unknown (01)	0.791	J			mg/kg dry	1	6/15/23 16:28
TIC_unknown (02)	0.427	J			mg/kg dry	1	6/15/23 16:28

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.252		0.00758	0.0636	mg/kg dry	1	6/14/23 16:06

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	1.50		0.00657	0.0263	mg/kg dry	1	6/19/23 13:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5990		0.186	3.13	mg/kg dry	1	6/21/23 14:18

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	3.22		0.170	1.56	mg/kg dry	1	6/21/23 14:18
Arsenic	7.11		0.112	1.56	mg/kg dry	1	6/21/23 14:18
Barium	107		0.0473	0.626	mg/kg dry	1	6/21/23 14:18
Beryllium	0.867		0.00362	0.0313	mg/kg dry	1	6/21/23 14:18
Calcium	64000	D	35.2	313	mg/kg dry	10	6/21/23 14:59
Chromium	16.0		0.0353	0.313	mg/kg dry	1	6/21/23 14:18
Cobalt	4.29		0.0320	0.250	mg/kg dry	1	6/21/23 14:18
Copper	54.1		0.0875	0.313	mg/kg dry	1	6/21/23 14:18
Iron	12200		0.886	6.26	mg/kg dry	1	6/21/23 14:18
Lead	155		0.130	1.56	mg/kg dry	1	6/21/23 14:18
Magnesium	1830		11.1	62.6	mg/kg dry	1	6/21/23 14:18
Manganese	114		0.0389	0.313	mg/kg dry	1	6/21/23 14:18
Nickel	13.1		0.0275	0.156	mg/kg dry	1	6/21/23 14:18
Potassium	1460		37.2	125	mg/kg dry	1	6/21/23 14:18
Selenium	3.50		0.300	1.56	mg/kg dry	1	6/21/23 14:18
Sodium	2780		5.96	62.6	mg/kg dry	1	6/21/23 14:18
Vanadium	20.6		0.0719	0.626	mg/kg dry	1	6/21/23 14:18
Zinc	239		0.0956	0.938	mg/kg dry	1	6/21/23 14:18

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.166	J	0.0419	0.263	mg/kg dry	1	6/15/23 17:00
3+4-Methylphenol	0.334		0.0321	0.175	mg/kg dry	1	6/15/23 17:00
Acenaphthene	0.0860	J	0.00997	0.175	mg/kg dry	1	6/15/23 17:00
Acenaphthylene	0.243		0.00608	0.175	mg/kg dry	1	6/15/23 17:00
Acetophenone	0.0394	J	0.0173	0.175	mg/kg dry	1	6/15/23 17:00
Anthracene	0.280		0.0254	0.175	mg/kg dry	1	6/15/23 17:00
Benzaldehyde	0.113	J	0.0537	0.175	mg/kg dry	1	6/15/23 17:00
Benzo(a)anthracene	1.29		0.0176	0.175	mg/kg dry	1	6/15/23 17:00
Benzo(a)pyrene	1.86		0.0305	0.175	mg/kg dry	1	6/15/23 17:00
Benzo(b)fluoranthene	2.21		0.0246	0.175	mg/kg dry	1	6/15/23 17:00
Benzo(g,h,i)perylene	1.66		0.0142	0.175	mg/kg dry	1	6/15/23 17:00
Benzo(k)fluoranthene	0.769		0.0201	0.175	mg/kg dry	1	6/15/23 17:00
Biphenyl	0.0678	J	0.0154	0.175	mg/kg dry	1	6/15/23 17:00
Carbazole	0.107	J	0.0336	0.437	mg/kg dry	1	6/15/23 17:00
Chrysene	1.33		0.0120	0.175	mg/kg dry	1	6/15/23 17:00
Dibenzo(a,h)anthracene	0.119	J	0.0173	0.175	mg/kg dry	1	6/15/23 17:00
Dibenzofuran	0.174	J	0.0104	0.175	mg/kg dry	1	6/15/23 17:00
Fluoranthene	2.12		0.0164	0.175	mg/kg dry	1	6/15/23 17:00
Fluorene	0.111	J	0.0146	0.175	mg/kg dry	1	6/15/23 17:00

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Indeno(1,2,3-cd)pyrene	1.27		0.0188	0.175	mg/kg dry	1	6/15/23 17:00
Naphthalene	0.530		0.0130	0.175	mg/kg dry	1	6/15/23 17:00
Phenanthrene	1.02		0.0230	0.175	mg/kg dry	1	6/15/23 17:00
Pyrene	1.77		0.0129	0.175	mg/kg dry	1	6/15/23 17:00
TIC_2-Pentanone, 4-hydroxy-4-methyl-	39.8	B, J			mg/kg dry	1	6/15/23 17:00
TIC_Ethanol, 2-butoxy-	0.899	J			mg/kg dry	1	6/15/23 17:00
TIC_Ethyl Acetate	1.24	J			mg/kg dry	1	6/15/23 17:00
TIC_Hexadecanoic acid, butyl ester	7.70	B, J			mg/kg dry	1	6/15/23 17:00
TIC_Octadecanoic acid, butyl ester	3.25	B, J			mg/kg dry	1	6/15/23 17:00
TIC_unknown (01)	1.43	J			mg/kg dry	1	6/15/23 17:00
TIC_unknown (02)	0.470	J			mg/kg dry	1	6/15/23 17:00
TIC_unknown (03)	0.705	J			mg/kg dry	1	6/15/23 17:00
TIC_unknown (04)	1.04	J			mg/kg dry	1	6/15/23 17:00
TIC_unknown (05)	0.802	J			mg/kg dry	1	6/15/23 17:00
TIC_unknown (06)	1.80	J			mg/kg dry	1	6/15/23 17:00

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	3.78	D	0.0470	0.394	mg/kg dry	5	6/14/23 16:06

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-20230607**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5990		0.176	2.96	mg/kg dry	1	6/21/23 14:20
Arsenic	2.62		0.106	1.48	mg/kg dry	1	6/21/23 14:20
Barium	54.0		0.0447	0.592	mg/kg dry	1	6/21/23 14:20
Beryllium	0.928		0.00343	0.0296	mg/kg dry	1	6/21/23 14:20
Calcium	16300		3.33	29.6	mg/kg dry	1	6/21/23 14:20
Chromium	12.8		0.0334	0.296	mg/kg dry	1	6/21/23 14:20
Cobalt	3.96		0.0302	0.237	mg/kg dry	1	6/21/23 14:20
Copper	20.4		0.0828	0.296	mg/kg dry	1	6/21/23 14:20
Iron	11200		0.838	5.92	mg/kg dry	1	6/21/23 14:20
Lead	32.6		0.123	1.48	mg/kg dry	1	6/21/23 14:20
Magnesium	4960		10.5	59.2	mg/kg dry	1	6/21/23 14:20
Manganese	219		0.0368	0.296	mg/kg dry	1	6/21/23 14:20
Nickel	12.0		0.0260	0.148	mg/kg dry	1	6/21/23 14:20
Potassium	1700		35.2	118	mg/kg dry	1	6/21/23 14:20

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-20230607**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Sodium	667		5.64	59.2	mg/kg dry	1	6/21/23 14:20
Vanadium	16.6		0.0680	0.592	mg/kg dry	1	6/21/23 14:20
Zinc	62.1		0.0904	0.888	mg/kg dry	1	6/21/23 14:20

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.0681	J	0.0385	0.241	mg/kg dry	1	6/15/23 19:23
Naphthalene	0.0995	J	0.0119	0.161	mg/kg dry	1	6/15/23 19:23
Phenanthrene	0.0327	J	0.0211	0.161	mg/kg dry	1	6/15/23 19:23
TIC_Hexadecanoic acid, butyl ester	2.02	B, J			mg/kg dry	1	6/15/23 19:23
TIC_Octadecanoic acid, butyl ester	1.18	B, J			mg/kg dry	1	6/15/23 19:23

23F0430-07 (Soil) Sample Name: **DUP-20230607**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.201		0.00563	0.0225	mg/kg dry	1	6/19/23 13:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5320		0.159	2.68	mg/kg dry	1	6/21/23 14:22
Antimony	1.60		0.146	1.34	mg/kg dry	1	6/21/23 14:22
Arsenic	4.94		0.0957	1.34	mg/kg dry	1	6/21/23 14:22
Barium	139		0.0406	0.537	mg/kg dry	1	6/21/23 14:22
Beryllium	1.30		0.00311	0.0268	mg/kg dry	1	6/21/23 14:22
Calcium	21900		3.02	26.8	mg/kg dry	1	6/21/23 14:22
Chromium	13.3		0.0303	0.268	mg/kg dry	1	6/21/23 14:22
Cobalt	5.07		0.0274	0.215	mg/kg dry	1	6/21/23 14:22
Copper	78.1		0.0751	0.268	mg/kg dry	1	6/21/23 14:22
Iron	13300		0.760	5.37	mg/kg dry	1	6/21/23 14:22
Lead	70.6		0.112	1.34	mg/kg dry	1	6/21/23 14:22
Magnesium	8000		9.48	53.7	mg/kg dry	1	6/21/23 14:22
Manganese	126		0.0334	0.268	mg/kg dry	1	6/21/23 14:22
Nickel	15.9		0.0236	0.134	mg/kg dry	1	6/21/23 14:22
Potassium	1350		31.9	107	mg/kg dry	1	6/21/23 14:22
Sodium	589		5.12	53.7	mg/kg dry	1	6/21/23 14:22
Vanadium	27.9		0.0617	0.537	mg/kg dry	1	6/21/23 14:22
Zinc	93.9		0.0820	0.805	mg/kg dry	1	6/21/23 14:22

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-07 (Soil) Sample Name: **DUP-20230607**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDT	0.00116	J	0.00103	0.00147	mg/kg dry	1	6/16/23 23:50

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.164	J	0.0359	0.225	mg/kg dry	1	6/15/23 21:10
3+4-Methylphenol	0.198		0.0275	0.150	mg/kg dry	1	6/15/23 21:10
Acenaphthene	0.143	J	0.00855	0.150	mg/kg dry	1	6/15/23 21:10
Acenaphthylene	0.125	J	0.00522	0.150	mg/kg dry	1	6/15/23 21:10
Acetophenone	0.0338	J	0.0149	0.150	mg/kg dry	1	6/15/23 21:10
Anthracene	0.344		0.0217	0.150	mg/kg dry	1	6/15/23 21:10
Benzaldehyde	0.123	J	0.0461	0.150	mg/kg dry	1	6/15/23 21:10
Benzo(a)anthracene	0.894		0.0151	0.150	mg/kg dry	1	6/15/23 21:10
Benzo(a)pyrene	0.910		0.0261	0.150	mg/kg dry	1	6/15/23 21:10
Benzo(b)fluoranthene	1.23		0.0211	0.150	mg/kg dry	1	6/15/23 21:10
Benzo(g,h,i)perylene	0.612		0.0122	0.150	mg/kg dry	1	6/15/23 21:10
Benzo(k)fluoranthene	0.346		0.0172	0.150	mg/kg dry	1	6/15/23 21:10
Biphenyl	0.0497	J	0.0132	0.150	mg/kg dry	1	6/15/23 21:10
bis(2-ethylhexyl)phthalate	0.0482	J	0.0300	0.150	mg/kg dry	1	6/15/23 21:10
Carbazole	0.0999	J	0.0288	0.375	mg/kg dry	1	6/15/23 21:10
Chrysene	0.971		0.0103	0.150	mg/kg dry	1	6/15/23 21:10
Dibenzo(a,h)anthracene	0.0568	J	0.0149	0.150	mg/kg dry	1	6/15/23 21:10
Dibenzofuran	0.113	J	0.00894	0.150	mg/kg dry	1	6/15/23 21:10
Fluoranthene	1.96		0.0141	0.150	mg/kg dry	1	6/15/23 21:10
Fluorene	0.157		0.0125	0.150	mg/kg dry	1	6/15/23 21:10
Indeno(1,2,3-cd)pyrene	0.507		0.0161	0.150	mg/kg dry	1	6/15/23 21:10
Naphthalene	0.230		0.0111	0.150	mg/kg dry	1	6/15/23 21:10
Phenanthrene	1.25		0.0197	0.150	mg/kg dry	1	6/15/23 21:10
Pyrene	1.49		0.0110	0.150	mg/kg dry	1	6/15/23 21:10
TIC_2-Pentanone, 4-hydroxy-4-methyl-	79.4	B, J			mg/kg dry	1	6/15/23 21:10
TIC_Ethanol, 2-butoxy-	0.830	J			mg/kg dry	1	6/15/23 21:10
TIC_Ethyl Acetate	3.29	J			mg/kg dry	1	6/15/23 21:10
TIC_Hexadecanoic acid, butyl ester	2.17	B, J			mg/kg dry	1	6/15/23 21:10
TIC_Naphthalene, 1,2,3,4-tetrahydro-1-methyl	0.937	J			mg/kg dry	1	6/15/23 21:10
TIC_Octadecanoic acid, butyl ester	1.39	J, B			mg/kg dry	1	6/15/23 21:10
TIC_unknown	1.56	J, B			mg/kg dry	1	6/15/23 21:10

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0430-07 (Soil) Sample Name: **DUP-20230607**

SW 846 9014 - General Chemistry (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.0615		0.00703	0.0590	mg/kg dry	1	6/14/23 16:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00513	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1221	ND	U	0.0101	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1232	ND	U	0.0128	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1242	ND	U	0.00752	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1248	ND	U	0.00786	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1254	ND	U	0.00617	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1260	ND	U	0.00479	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1262	ND	U	0.0103	0.0383	mg/kg	1	6/16/23 15:45
Aroclor-1268	ND	U	0.00463	0.0383	mg/kg	1	6/16/23 15:45
Total PCBs	ND	U	0.00357	0.0383	mg/kg	1	6/16/23 15:45

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0114	0.116	mg/kg	1	6/22/23 18:57
2,4-D	ND	U	0.0192	0.116	mg/kg	1	6/22/23 18:57

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.678**		**0.00580**	**0.0232**	**mg/kg**	**1**	**6/19/23 13:34**	**J, RC:8**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**7780**		**0.164**	**2.76**	**mg/kg**	**1**	**6/21/23 14:11**	
Antimony	**1.84**		**0.150**	**1.38**	**mg/kg**	**1**	**6/21/23 14:11**	
Arsenic	**6.07**		**0.0985**	**1.38**	**mg/kg**	**1**	**6/21/23 14:11**	
Barium	**196**		**0.0417**	**0.552**	**mg/kg**	**1**	**6/21/23 14:11**	
Beryllium	**1.84**		**0.00320**	**0.0276**	**mg/kg**	**1**	**6/21/23 14:11**	
Cadmium	ND	U	0.0538	0.276	mg/kg	1	6/21/23 14:11	
Calcium	**21900**		**3.10**	**27.6**	**mg/kg**	**1**	**6/21/23 14:11**	
Chromium	**19.8**		**0.0312**	**0.276**	**mg/kg**	**1**	**6/21/23 14:11**	
Cobalt	**7.04**		**0.0282**	**0.221**	**mg/kg**	**1**	**6/21/23 14:11**	
Copper	**111**		**0.0772**	**0.276**	**mg/kg**	**1**	**6/21/23 14:11**	
Iron	**17600**		**0.782**	**5.52**	**mg/kg**	**1**	**6/21/23 14:11**	
Lead	**90.7**		**0.115**	**1.38**	**mg/kg**	**1**	**6/21/23 14:11**	
Magnesium	**3350**		**9.75**	**55.2**	**mg/kg**	**1**	**6/21/23 14:11**	**J, RC:8**
Manganese	**184**		**0.0343**	**0.276**	**mg/kg**	**1**	**6/21/23 14:11**	
Nickel	**21.3**		**0.0242**	**0.138**	**mg/kg**	**1**	**6/21/23 14:11**	
Potassium	**1750**		**32.8**	**110**	**mg/kg**	**1**	**6/21/23 14:11**	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	**1.56**		**0.265**	**1.38**	**mg/kg**	**1**	**6/21/23 14:11**
Silver	ND	U	0.0469	0.166	mg/kg	1	6/21/23 14:11
Sodium	**715**		**5.26**	**55.2**	**mg/kg**	**1**	**6/21/23 14:11**
Thallium	ND	U	0.0929	1.38	mg/kg	1	6/21/23 14:11
Vanadium	**38.6**		**0.0635**	**0.552**	**mg/kg**	**1**	**6/21/23 14:11**
Zinc	**136**		**0.0843**	**0.828**	**mg/kg**	**1**	**6/21/23 14:11**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000690	0.00151	mg/kg	1	6/16/23 19:47	
4,4'-DDE	ND	U	0.000824	0.00151	mg/kg	1	6/16/23 19:47	
4,4'-DDT	ND	U	0.00106	0.00151	mg/kg	1	6/16/23 19:47	
Aldrin	ND	U	0.000714	0.00151	mg/kg	1	6/16/23 19:47	
alpha-BHC	ND	U	0.000449	0.00151	mg/kg	1	6/16/23 19:47	
beta-BHC	ND	U	0.000720	0.00151	mg/kg	1	6/16/23 19:47	
Chlordane	ND	U	0.000670	0.00151	mg/kg	1	6/16/23 19:47	
delta-BHC	ND	U	0.000700	0.00151	mg/kg	1	6/16/23 19:47	
Dieldrin	ND	U	0.000788	0.00151	mg/kg	1	6/16/23 19:47	
Endosulfan I	ND	U	0.000712	0.00151	mg/kg	1	6/16/23 19:47	
Endosulfan II	ND	U	0.000685	0.00151	mg/kg	1	6/16/23 19:47	
Endosulfan sulfate	ND	U	0.000567	0.00151	mg/kg	1	6/16/23 19:47	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000685	0.00151	mg/kg	1	6/16/23 19:47	
Endrin	ND	U	0.000520	0.00151	mg/kg	1	6/16/23 19:47	
Endrin aldehyde	ND	U	0.000600	0.00151	mg/kg	1	6/16/23 19:47	
Endrin ketone	ND	U	0.000531	0.00151	mg/kg	1	6/16/23 19:47	
gamma-BHC (Lindane)	ND	U	0.000478	0.00151	mg/kg	1	6/16/23 19:47	
Heptachlor	ND	U	0.000403	0.00151	mg/kg	1	6/16/23 19:47	
Heptachlor Epoxide	ND	U	0.000760	0.00151	mg/kg	1	6/16/23 19:47	
Methoxychlor	ND	U	0.000442	0.00151	mg/kg	1	6/16/23 19:47	
Toxaphene	ND	U	0.0726	0.0765	mg/kg	1	6/16/23 19:47	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00436	0.0386	mg/kg	1	6/15/23 18:23
2,3,4,6-Tetrachlorophenol	ND	U	0.0238	0.154	mg/kg	1	6/15/23 18:23
2,4,5-Trichlorophenol	ND	U	0.0210	0.154	mg/kg	1	6/15/23 18:23
2,4,6-Trichlorophenol	ND	U	0.00966	0.154	mg/kg	1	6/15/23 18:23

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E - Concentration exceeds highest calibration standard
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0155	0.154	mg/kg	1	6/15/23 18:23	
2,4-Dimethylphenol	ND	U	0.0152	0.154	mg/kg	1	6/15/23 18:23	
2,4-Dinitrophenol	ND	U	0.0223	0.773	mg/kg	1	6/15/23 18:23	
2,4-Dinitrotoluene	ND	U	0.0165	0.154	mg/kg	1	6/15/23 18:23	
2,6-Dinitrotoluene	ND	U	0.0369	0.154	mg/kg	1	6/15/23 18:23	
2-Chloronaphthalene	ND	U	0.0177	0.154	mg/kg	1	6/15/23 18:23	
2-Chlorophenol	ND	U	0.0204	0.154	mg/kg	1	6/15/23 18:23	
2-Methylnaphthalene	**0.123**	J	**0.0370**	**0.232**	**mg/kg**	**1**	**6/15/23 18:23**	
2-Methylphenol	ND	U	0.0305	0.154	mg/kg	1	6/15/23 18:23	
2-Nitroaniline	ND	U	0.0124	0.154	mg/kg	1	6/15/23 18:23	
2-Nitrophenol	ND	U	0.0172	0.154	mg/kg	1	6/15/23 18:23	UJ, RC:Q
3,3'-Dichlorobenzidine	ND	U	0.0162	0.154	mg/kg	1	6/15/23 18:23	
3+4-Methylphenol	ND	U	0.0283	0.154	mg/kg	1	6/15/23 18:23	
3-Nitroaniline	ND	U	0.0286	0.154	mg/kg	1	6/15/23 18:23	
4,6-Dinitro-2-methylphenol	ND	U	0.0291	0.386	mg/kg	1	6/15/23 18:23	
4-Bromophenyl-phenyl ether	ND	U	0.0220	0.154	mg/kg	1	6/15/23 18:23	
4-Chloro-3-methylphenol	ND	U	0.0243	0.154	mg/kg	1	6/15/23 18:23	
4-Chloroaniline	ND	U	0.00540	0.154	mg/kg	1	6/15/23 18:23	
4-Chlorophenyl phenyl ether	ND	U	0.00833	0.154	mg/kg	1	6/15/23 18:23	
4-Nitroaniline	ND	U	0.0772	0.154	mg/kg	1	6/15/23 18:23	
4-Nitrophenol	ND	U	0.00988	0.154	mg/kg	1	6/15/23 18:23	
Acenaphthene	**0.108**	J	**0.00880**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Acenaphthylene	ND	U	0.00537	0.154	mg/kg	1	6/15/23 18:23	
Acetophenone	ND	U	0.0153	0.154	mg/kg	1	6/15/23 18:23	
Anthracene	**0.322**		**0.0224**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Atrazine	ND	U	0.0145	0.154	mg/kg	1	6/15/23 18:23	
Benzaldehyde	ND	U	0.0474	0.154	mg/kg	1	6/15/23 18:23	R, RC:6L,SL
Benzo(a)anthracene	**0.664**		**0.0155**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Benzo(a)pyrene	**0.736**		**0.0269**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Benzo(b)fluoranthene	**0.908**		**0.0217**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Benzo(g,h,i)perylene	**0.554**		**0.0125**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Benzo(k)fluoranthene	**0.390**		**0.0177**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Biphenyl	ND	U	0.0136	0.154	mg/kg	1	6/15/23 18:23	
bis(2-chloroethoxy)methane	ND	U	0.0213	0.154	mg/kg	1	6/15/23 18:23	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0169	0.154	mg/kg	1	6/15/23 18:23	
bis(2-chloroisopropyl)ether	ND	U	0.0555	0.154	mg/kg	1	6/15/23 18:23	
bis(2-ethylhexyl)phthalate	ND	U	0.0308	0.154	mg/kg	1	6/15/23 18:23	
Butylbenzylphthalate	ND	U	0.0140	0.154	mg/kg	1	6/15/23 18:23	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0199	0.154	mg/kg	1	6/15/23 18:23	
Carbazole	ND	U	0.0297	0.386	mg/kg	1	6/15/23 18:23	
Chrysene	**0.779**		**0.0106**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Dibenzo(a,h)anthracene	ND	U	0.0153	0.154	mg/kg	1	6/15/23 18:23	
Dibenzofuran	**0.122**	J	**0.00919**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Diethylphthalate	ND	U	0.0299	0.154	mg/kg	1	6/15/23 18:23	
Dimethylphthalate	ND	U	0.00957	0.154	mg/kg	1	6/15/23 18:23	
Di-n-butylphthalate	ND	U	0.0631	0.154	mg/kg	1	6/15/23 18:23	
Di-n-octylphthalate	ND	U	0.0316	0.154	mg/kg	1	6/15/23 18:23	
Fluoranthene	**1.92**		**0.0145**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Fluorene	**0.139**	J	**0.0129**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Hexachlorobenzene	ND	U	0.0202	0.154	mg/kg	1	6/15/23 18:23	
Hexachlorobutadiene	ND	U	0.0741	0.154	mg/kg	1	6/15/23 18:23	
Hexachlorocyclopentadiene	ND	U	0.0643	0.386	mg/kg	1	6/15/23 18:23	R, RC:6L,SL
Hexachloroethane	ND	U	0.0169	0.154	mg/kg	1	6/15/23 18:23	
Indeno(1,2,3-cd)pyrene	**0.463**		**0.0166**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Isophorone	ND	U	0.0101	0.154	mg/kg	1	6/15/23 18:23	UJ, RC:SL
Naphthalene	**0.181**		**0.0114**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Nitrobenzene	ND	U	0.0262	0.154	mg/kg	1	6/15/23 18:23	
n-Nitroso-di-n-propylamine	ND	U	0.00826	0.154	mg/kg	1	6/15/23 18:23	
n-Nitrosodiphenylamine	ND	U	0.0329	0.154	mg/kg	1	6/15/23 18:23	
Pentachlorophenol	ND	U	0.0212	0.386	mg/kg	1	6/15/23 18:23	UJ, RC:SL
Phenanthrene	**1.04**		**0.0203**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	
Phenol	ND	U	0.0125	0.154	mg/kg	1	6/15/23 18:23	
Pyrene	**1.49**		**0.0113**	**0.154**	**mg/kg**	**1**	**6/15/23 18:23**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,2-Benzenedithiol	0.312	10.42	J	mg/kg	1	6/15/23 18:23
2(1H)-Naphthalenone, 3,4,4a,5,6,7,8,8a.a	0.439	11.14	J	mg/kg	1	6/15/23 18:23
3-(Methylthio)penta-2,4-dione	1.33	9.42	J	mg/kg	1	6/15/23 18:23
Hexadecanoic acid, butyl ester	3.18	11.84	J	mg/kg	1	6/15/23 18:23
unknown (01)	0.348	9.36	J	mg/kg	1	6/15/23 18:23
unknown (02)	0.788	10.24	J	mg/kg	1	6/15/23 18:23
unknown (03)	0.322	10.67	J	mg/kg	1	6/15/23 18:23
unknown (04)	0.770	10.76	J	mg/kg	1	6/15/23 18:23
unknown (05)	0.415	11.06	J	mg/kg	1	6/15/23 18:23

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (06)	0.597	11.51	J	mg/kg	1	6/15/23 18:23
unknown (07)	0.316	12.46	J	mg/kg	1	6/15/23 18:23
unknown (08)	1.68	12.63	J	mg/kg	1	6/15/23 18:23
unknown (09)	0.437	13.00	J	mg/kg	1	6/15/23 18:23
unknown (10)	0.700	14.58	J	mg/kg	1	6/15/23 18:23
unknown (11)	0.429	18.42	J	mg/kg	1	6/15/23 18:23
TIC Total	**12.1**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000313	0.00215	mg/kg	1	6/13/23 8:17
1,1,2,2-Tetrachloroethane	ND	U	0.000296	0.00215	mg/kg	1	6/13/23 8:17
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000919	0.00215	mg/kg	1	6/13/23 8:17
1,1,2-Trichloroethane	ND	U	0.000362	0.00215	mg/kg	1	6/13/23 8:17
1,1-Dichloroethane	ND	U	0.000313	0.00215	mg/kg	1	6/13/23 8:17
1,1-Dichloroethene	ND	U	0.000397	0.00215	mg/kg	1	6/13/23 8:17
1,2,3-Trichlorobenzene	ND	U	0.000464	0.00215	mg/kg	1	6/13/23 8:17
1,2,4-Trichlorobenzene	ND	U	0.000572	0.00215	mg/kg	1	6/13/23 8:17
1,2,4-Trimethylbenzene	ND	U	0.000296	0.00215	mg/kg	1	6/13/23 8:17
1,2-Dibromo-3-chloropropane	ND	U	0.000524	0.00215	mg/kg	1	6/13/23 8:17
1,2-Dibromoethane	ND	U	0.000270	0.00215	mg/kg	1	6/13/23 8:17
1,2-Dichlorobenzene	ND	U	0.000379	0.00215	mg/kg	1	6/13/23 8:17
1,2-Dichloroethane	ND	U	0.000303	0.00215	mg/kg	1	6/13/23 8:17
1,2-Dichloropropane	ND	U	0.000352	0.00215	mg/kg	1	6/13/23 8:17
1,3-Dichlorobenzene	ND	U	0.000158	0.00215	mg/kg	1	6/13/23 8:17
1,4-Dichlorobenzene	ND	U	0.000309	0.00215	mg/kg	1	6/13/23 8:17
2-Butanone	ND	U	0.000350	0.00537	mg/kg	1	6/13/23 8:17
2-Hexanone	ND	U	0.000201	0.00215	mg/kg	1	6/13/23 8:17
4-Methyl-2-pentanone	ND	U	0.000268	0.00215	mg/kg	1	6/13/23 8:17
Acetone	ND	U	0.000650	0.00537	mg/kg	1	6/13/23 8:17
Benzene	ND	U	0.000195	0.00215	mg/kg	1	6/13/23 8:17
Bromochloromethane	ND	U	0.000396	0.00215	mg/kg	1	6/13/23 8:17
Bromodichloromethane	ND	U	0.000269	0.00215	mg/kg	1	6/13/23 8:17
Bromoform	ND	U	0.000377	0.00215	mg/kg	1	6/13/23 8:17
Bromomethane	ND	U	0.000619	0.00215	mg/kg	1	6/13/23 8:17
Carbon disulfide	ND	U	0.000308	0.00215	mg/kg	1	6/13/23 8:17
Carbon Tetrachloride	ND	U	0.000323	0.00215	mg/kg	1	6/13/23 8:17

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chlorobenzene	ND	U	0.000311	0.00215	mg/kg	1	6/13/23 8:17
Chlorodibromomethane	ND	U	0.000264	0.00215	mg/kg	1	6/13/23 8:17
Chloroethane	ND	U	0.000366	0.00215	mg/kg	1	6/13/23 8:17
Chloroform	ND	U	0.000361	0.00215	mg/kg	1	6/13/23 8:17
Chloromethane	ND	U	0.000826	0.00215	mg/kg	1	6/13/23 8:17
cis-1,2-Dichloroethene	ND	U	0.000104	0.00215	mg/kg	1	6/13/23 8:17
cis-1,3-Dichloropropene	ND	U	0.000272	0.00215	mg/kg	1	6/13/23 8:17
Cyclohexane	ND	U	0.000475	0.00215	mg/kg	1	6/13/23 8:17
Dichlorodifluoromethane	ND	U	0.000724	0.00215	mg/kg	1	6/13/23 8:17
EthylBenzene	ND	U	0.000291	0.00215	mg/kg	1	6/13/23 8:17
Isopropylbenzene	ND	U	0.000337	0.00215	mg/kg	1	6/13/23 8:17
m+p-Xylenes	ND	U	0.000542	0.00429	mg/kg	1	6/13/23 8:17
Methyl Acetate	ND	U	0.000284	0.00215	mg/kg	1	6/13/23 8:17
Methyl tert-Butyl Ether	ND	U	0.000363	0.00215	mg/kg	1	6/13/23 8:17
Methylcyclohexane	ND	U	0.000346	0.00215	mg/kg	1	6/13/23 8:17
Methylene Chloride	ND	U	0.000645	0.00215	mg/kg	1	6/13/23 8:17
o-Xylene	ND	U	0.000276	0.00215	mg/kg	1	6/13/23 8:17
Styrene	ND	U	0.000307	0.00215	mg/kg	1	6/13/23 8:17
tert-Butyl alcohol	ND	U	0.00451	0.0215	mg/kg	1	6/13/23 8:17
Tetrachloroethene	ND	U	0.000213	0.00215	mg/kg	1	6/13/23 8:17
Toluene	ND	U	0.000173	0.00215	mg/kg	1	6/13/23 8:17
Total Xylenes	ND	U	0.000276	0.00215	mg/kg	1	6/13/23 8:17
trans-1,2-Dichloroethene	ND	U	0.000291	0.00215	mg/kg	1	6/13/23 8:17
trans-1,3-Dichloropropene	ND	U	0.000410	0.00215	mg/kg	1	6/13/23 8:17
Trichloroethene	ND	U	0.000316	0.00215	mg/kg	1	6/13/23 8:17
Trichlorofluoromethane	ND	U	0.000247	0.00215	mg/kg	1	6/13/23 8:17
Vinyl chloride	ND	U	0.000408	0.00215	mg/kg	1	6/13/23 8:17

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**86.3**				**%**	**1**	**6/9/23 11:09**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-01 (Soil) Sample Name: **MW-04-1.5-2.5-20230607** Collected: **6/7/2023 8:40:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.184**		**0.00751**	**0.0630**	**mg/kg**	**1**	**6/14/23 16:06**

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS** Collected: **6/7/2023 8:50:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00504	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1221	ND	U	0.00992	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1232	ND	U	0.0126	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1242	ND	U	0.00739	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1248	ND	U	0.00773	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1254	ND	U	0.00607	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1260	ND	U	0.00471	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1262	ND	U	0.0101	0.0376	mg/kg	1	6/16/23 16:07
Aroclor-1268	ND	U	0.00455	0.0376	mg/kg	1	6/16/23 16:07
Total PCBs	ND	U	0.00351	0.0376	mg/kg	1	6/16/23 16:07

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0112	0.114	mg/kg	1	6/22/23 19:06
2,4-D	ND	U	0.0189	0.114	mg/kg	1	6/22/23 19:06

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.81**		**0.00570**	**0.0228**	**mg/kg**	**1**	**6/19/23 13:34**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7930**		**0.170**	**2.86**	**mg/kg**	**1**	**6/21/23 14:13**
Antimony	**2.05**		**0.156**	**1.43**	**mg/kg**	**1**	**6/21/23 14:13**
Arsenic	**5.52**		**0.102**	**1.43**	**mg/kg**	**1**	**6/21/23 14:13**
Barium	**124**		**0.0433**	**0.573**	**mg/kg**	**1**	**6/21/23 14:13**
Beryllium	**1.63**		**0.00332**	**0.0286**	**mg/kg**	**1**	**6/21/23 14:13**
Cadmium	ND	U	0.0558	0.286	mg/kg	1	6/21/23 14:13
Calcium	**20000**		**3.22**	**28.6**	**mg/kg**	**1**	**6/21/23 14:13**
Chromium	**16.8**		**0.0323**	**0.286**	**mg/kg**	**1**	**6/21/23 14:13**
Cobalt	**7.53**		**0.0293**	**0.229**	**mg/kg**	**1**	**6/21/23 14:13**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS** Collected: **6/7/2023 8:50:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**118**		**0.0801**	**0.286**	**mg/kg**	**1**	**6/21/23 14:13**
Iron	**18800**		**0.811**	**5.73**	**mg/kg**	**1**	**6/21/23 14:13**
Lead	**76.8**		**0.119**	**1.43**	**mg/kg**	**1**	**6/21/23 14:13**
Magnesium	**3410**		**10.1**	**57.3**	**mg/kg**	**1**	**6/21/23 14:13**
Manganese	**177**		**0.0356**	**0.286**	**mg/kg**	**1**	**6/21/23 14:13**
Nickel	**19.2**		**0.0251**	**0.143**	**mg/kg**	**1**	**6/21/23 14:13**
Potassium	**2050**		**34.0**	**115**	**mg/kg**	**1**	**6/21/23 14:13**
Selenium	ND	U	0.275	1.43	mg/kg	1	6/21/23 14:13
Silver	ND	U	0.0487	0.172	mg/kg	1	6/21/23 14:13
Sodium	**765**		**5.46**	**57.3**	**mg/kg**	**1**	**6/21/23 14:13**
Thallium	ND	U	0.0963	1.43	mg/kg	1	6/21/23 14:13
Vanadium	**41.2**		**0.0659**	**0.573**	**mg/kg**	**1**	**6/21/23 14:13**
Zinc	**109**		**0.0875**	**0.859**	**mg/kg**	**1**	**6/21/23 14:13**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000678	0.00148	mg/kg	1	6/16/23 20:09	
4,4'-DDE	ND	U	0.000810	0.00148	mg/kg	1	6/16/23 20:09	
4,4'-DDT	ND	U	0.00105	0.00148	mg/kg	1	6/16/23 20:09	
Aldrin	ND	U	0.000702	0.00148	mg/kg	1	6/16/23 20:09	
alpha-BHC	ND	U	0.000441	0.00148	mg/kg	1	6/16/23 20:09	
beta-BHC	ND	U	0.000708	0.00148	mg/kg	1	6/16/23 20:09	
Chlordane	ND	U	0.000659	0.00148	mg/kg	1	6/16/23 20:09	
delta-BHC	ND	U	0.000688	0.00148	mg/kg	1	6/16/23 20:09	
Dieldrin	ND	U	0.000775	0.00148	mg/kg	1	6/16/23 20:09	
Endosulfan I	ND	U	0.000700	0.00148	mg/kg	1	6/16/23 20:09	
Endosulfan II	ND	U	0.000673	0.00148	mg/kg	1	6/16/23 20:09	
Endosulfan sulfate	ND	U	0.000557	0.00148	mg/kg	1	6/16/23 20:09	UJ, RC:6L
Endosulfans, Total (alpha and beta)	ND	U	0.000673	0.00148	mg/kg	1	6/16/23 20:09	
Endrin	ND	U	0.000512	0.00148	mg/kg	1	6/16/23 20:09	
Endrin aldehyde	ND	U	0.000590	0.00148	mg/kg	1	6/16/23 20:09	
Endrin ketone	ND	U	0.000522	0.00148	mg/kg	1	6/16/23 20:09	
gamma-BHC (Lindane)	ND	U	0.000469	0.00148	mg/kg	1	6/16/23 20:09	
Heptachlor	ND	U	0.000397	0.00148	mg/kg	1	6/16/23 20:09	
Heptachlor Epoxide	ND	U	0.000748	0.00148	mg/kg	1	6/16/23 20:09	
Methoxychlor	ND	U	0.000434	0.00148	mg/kg	1	6/16/23 20:09	
Toxaphene	ND	U	0.0714	0.0752	mg/kg	1	6/16/23 20:09	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS** Collected: **6/7/2023 8:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00428	0.0379	mg/kg	1	6/15/23 18:55	
2,3,4,6-Tetrachlorophenol	ND	U	0.0234	0.152	mg/kg	1	6/15/23 18:55	
2,4,5-Trichlorophenol	ND	U	0.0206	0.152	mg/kg	1	6/15/23 18:55	
2,4,6-Trichlorophenol	ND	U	0.00949	0.152	mg/kg	1	6/15/23 18:55	
2,4-Dichlorophenol	ND	U	0.0153	0.152	mg/kg	1	6/15/23 18:55	
2,4-Dimethylphenol	ND	U	0.0149	0.152	mg/kg	1	6/15/23 18:55	
2,4-Dinitrophenol	ND	U	0.0219	0.760	mg/kg	1	6/15/23 18:55	
2,4-Dinitrotoluene	ND	U	0.0162	0.152	mg/kg	1	6/15/23 18:55	
2,6-Dinitrotoluene	ND	U	0.0362	0.152	mg/kg	1	6/15/23 18:55	
2-Chloronaphthalene	ND	U	0.0174	0.152	mg/kg	1	6/15/23 18:55	
2-Chlorophenol	ND	U	0.0201	0.152	mg/kg	1	6/15/23 18:55	
2-Methylnaphthalene	ND	U	0.0364	0.228	mg/kg	1	6/15/23 18:55	
2-Methylphenol	ND	U	0.0300	0.152	mg/kg	1	6/15/23 18:55	
2-Nitroaniline	ND	U	0.0122	0.152	mg/kg	1	6/15/23 18:55	
2-Nitrophenol	ND	U	0.0169	0.152	mg/kg	1	6/15/23 18:55	
3,3'-Dichlorobenzidine	ND	U	0.0160	0.152	mg/kg	1	6/15/23 18:55	
3+4-Methylphenol	ND	U	0.0278	0.152	mg/kg	1	6/15/23 18:55	
3-Nitroaniline	ND	U	0.0281	0.152	mg/kg	1	6/15/23 18:55	
4,6-Dinitro-2-methylphenol	ND	U	0.0286	0.379	mg/kg	1	6/15/23 18:55	
4-Bromophenyl-phenyl ether	ND	U	0.0217	0.152	mg/kg	1	6/15/23 18:55	
4-Chloro-3-methylphenol	ND	U	0.0239	0.152	mg/kg	1	6/15/23 18:55	
4-Chloroaniline	ND	U	0.00531	0.152	mg/kg	1	6/15/23 18:55	
4-Chlorophenyl phenyl ether	ND	U	0.00819	0.152	mg/kg	1	6/15/23 18:55	
4-Nitroaniline	ND	U	0.0759	0.152	mg/kg	1	6/15/23 18:55	
4-Nitrophenol	ND	U	0.00971	0.152	mg/kg	1	6/15/23 18:55	
Acenaphthene	ND	U	0.00865	0.152	mg/kg	1	6/15/23 18:55	
Acenaphthylene	ND	U	0.00528	0.152	mg/kg	1	6/15/23 18:55	
Acetophenone	ND	U	0.0150	0.152	mg/kg	1	6/15/23 18:55	
Anthracene	**0.263**		**0.0220**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Atrazine	ND	U	0.0142	0.152	mg/kg	1	6/15/23 18:55	
Benzaldehyde	ND	U	0.0466	0.152	mg/kg	1	6/15/23 18:55	R, RC:6L,SL
Benzo(a)anthracene	**0.799**		**0.0153**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Benzo(a)pyrene	**0.612**		**0.0264**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Benzo(b)fluoranthene	**0.775**		**0.0213**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Benzo(g,h,i)perylene	**0.487**		**0.0123**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Benzo(k)fluoranthene	**0.353**		**0.0174**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Biphenyl	ND	U	0.0133	0.152	mg/kg	1	6/15/23 18:55	
bis(2-chloroethoxy)methane	ND	U	0.0210	0.152	mg/kg	1	6/15/23 18:55	UJ, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS** Collected: **6/7/2023 8:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.0166	0.152	mg/kg	1	6/15/23 18:55	
bis(2-chloroisopropyl)ether	ND	U	0.0546	0.152	mg/kg	1	6/15/23 18:55	
bis(2-ethylhexyl)phthalate	ND	U	0.0303	0.152	mg/kg	1	6/15/23 18:55	
Butylbenzylphthalate	ND	U	0.0138	0.152	mg/kg	1	6/15/23 18:55	
Caprolactam	ND	U	0.0196	0.152	mg/kg	1	6/15/23 18:55	
Carbazole	ND	U	0.0292	0.379	mg/kg	1	6/15/23 18:55	
Chrysene	**0.753**		**0.0104**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Dibenzo(a,h)anthracene	ND	U	0.0150	0.152	mg/kg	1	6/15/23 18:55	
Dibenzofuran	ND	U	0.00904	0.152	mg/kg	1	6/15/23 18:55	
Diethylphthalate	ND	U	0.0294	0.152	mg/kg	1	6/15/23 18:55	
Dimethylphthalate	ND	U	0.00941	0.152	mg/kg	1	6/15/23 18:55	
Di-n-butylphthalate	ND	U	0.0620	0.152	mg/kg	1	6/15/23 18:55	
Di-n-octylphthalate	ND	U	0.0311	0.152	mg/kg	1	6/15/23 18:55	
Fluoranthene	**1.66**		**0.0142**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Fluorene	ND	U	0.0126	0.152	mg/kg	1	6/15/23 18:55	
Hexachlorobenzene	ND	U	0.0198	0.152	mg/kg	1	6/15/23 18:55	
Hexachlorobutadiene	ND	U	0.0728	0.152	mg/kg	1	6/15/23 18:55	
Hexachlorocyclopentadiene	ND	U	0.0632	0.379	mg/kg	1	6/15/23 18:55	R, RC:6L,SL
Hexachloroethane	ND	U	0.0166	0.152	mg/kg	1	6/15/23 18:55	
Indeno(1,2,3-cd)pyrene	**0.344**		**0.0163**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Isophorone	ND	U	0.00994	0.152	mg/kg	1	6/15/23 18:55	UJ, RC:SL
Naphthalene	ND	U	0.0112	0.152	mg/kg	1	6/15/23 18:55	
Nitrobenzene	ND	U	0.0258	0.152	mg/kg	1	6/15/23 18:55	
n-Nitroso-di-n-propylamine	ND	U	0.00812	0.152	mg/kg	1	6/15/23 18:55	
n-Nitrosodiphenylamine	ND	U	0.0324	0.152	mg/kg	1	6/15/23 18:55	
Pentachlorophenol	ND	U	0.0209	0.379	mg/kg	1	6/15/23 18:55	UJ, RC:SL
Phenanthrene	**0.986**		**0.0199**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	
Phenol	ND	U	0.0123	0.152	mg/kg	1	6/15/23 18:55	
Pyrene	**1.44**		**0.0112**	**0.152**	**mg/kg**	**1**	**6/15/23 18:55**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	3.19	11.84	J	mg/kg	1	6/15/23 18:55
unknown (01)	1.38	9.42	J	mg/kg	1	6/15/23 18:55
unknown (02)	0.458	9.70	J	mg/kg	1	6/15/23 18:55
unknown (03)	0.523	10.67	J	mg/kg	1	6/15/23 18:55
unknown (04)	0.368	10.71	J	mg/kg	1	6/15/23 18:55
unknown (05)	0.479	11.06	J	mg/kg	1	6/15/23 18:55

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS** Collected: **6/7/2023 8:50:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
unknown (06)	0.511	11.31	J	mg/kg	1	6/15/23 18:55
unknown (07)	0.384	11.55	J	mg/kg	1	6/15/23 18:55
unknown (08)	0.618	11.58	J	mg/kg	1	6/15/23 18:55
unknown (09)	0.416	11.95	J	mg/kg	1	6/15/23 18:55
unknown (10)	1.22	12.63	J	mg/kg	1	6/15/23 18:55
unknown (11)	1.03	14.58	J	mg/kg	1	6/15/23 18:55
unknown (12)	0.414	15.45	J	mg/kg	1	6/15/23 18:55
unknown (13)	0.870	15.77	J	mg/kg	1	6/15/23 18:55
unknown (14)	0.376	19.82	J	mg/kg	1	6/15/23 18:55
TIC Total	**12.2**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000308	0.00211	mg/kg	1	6/13/23 8:48
1,1,2,2-Tetrachloroethane	ND	U	0.000291	0.00211	mg/kg	1	6/13/23 8:48
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000903	0.00211	mg/kg	1	6/13/23 8:48
1,1,2-Trichloroethane	ND	U	0.000356	0.00211	mg/kg	1	6/13/23 8:48
1,1-Dichloroethane	ND	U	0.000308	0.00211	mg/kg	1	6/13/23 8:48
1,1-Dichloroethene	ND	U	0.000390	0.00211	mg/kg	1	6/13/23 8:48
1,2,3-Trichlorobenzene	ND	U	0.000456	0.00211	mg/kg	1	6/13/23 8:48
1,2,4-Trichlorobenzene	ND	U	0.000562	0.00211	mg/kg	1	6/13/23 8:48
1,2,4-Trimethylbenzene	ND	U	0.000291	0.00211	mg/kg	1	6/13/23 8:48
1,2-Dibromo-3-chloropropane	ND	U	0.000515	0.00211	mg/kg	1	6/13/23 8:48
1,2-Dibromoethane	ND	U	0.000266	0.00211	mg/kg	1	6/13/23 8:48
1,2-Dichlorobenzene	ND	U	0.000372	0.00211	mg/kg	1	6/13/23 8:48
1,2-Dichloroethane	ND	U	0.000298	0.00211	mg/kg	1	6/13/23 8:48
1,2-Dichloropropane	ND	U	0.000346	0.00211	mg/kg	1	6/13/23 8:48
1,3-Dichlorobenzene	ND	U	0.000155	0.00211	mg/kg	1	6/13/23 8:48
1,4-Dichlorobenzene	ND	U	0.000304	0.00211	mg/kg	1	6/13/23 8:48
2-Butanone	ND	U	0.000344	0.00528	mg/kg	1	6/13/23 8:48
2-Hexanone	ND	U	0.000197	0.00211	mg/kg	1	6/13/23 8:48
4-Methyl-2-pentanone	ND	U	0.000264	0.00211	mg/kg	1	6/13/23 8:48
Acetone	ND	U	0.000639	0.00528	mg/kg	1	6/13/23 8:48
Benzene	ND	U	0.000192	0.00211	mg/kg	1	6/13/23 8:48
Bromochloromethane	ND	U	0.000389	0.00211	mg/kg	1	6/13/23 8:48
Bromodichloromethane	ND	U	0.000265	0.00211	mg/kg	1	6/13/23 8:48
Bromoform	ND	U	0.000370	0.00211	mg/kg	1	6/13/23 8:48

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-02 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MS** Collected: **6/7/2023 8:50:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromomethane	ND	U	0.000609	0.00211	mg/kg	1	6/13/23 8:48
Carbon disulfide	ND	U	0.000303	0.00211	mg/kg	1	6/13/23 8:48
Carbon Tetrachloride	ND	U	0.000318	0.00211	mg/kg	1	6/13/23 8:48
Chlorobenzene	ND	U	0.000306	0.00211	mg/kg	1	6/13/23 8:48
Chlorodibromomethane	ND	U	0.000260	0.00211	mg/kg	1	6/13/23 8:48
Chloroethane	ND	U	0.000360	0.00211	mg/kg	1	6/13/23 8:48
Chloroform	ND	U	0.000355	0.00211	mg/kg	1	6/13/23 8:48
Chloromethane	ND	U	0.000812	0.00211	mg/kg	1	6/13/23 8:48
cis-1,2-Dichloroethene	ND	U	0.000102	0.00211	mg/kg	1	6/13/23 8:48
cis-1,3-Dichloropropene	ND	U	0.000267	0.00211	mg/kg	1	6/13/23 8:48
Cyclohexane	ND	U	0.000467	0.00211	mg/kg	1	6/13/23 8:48
Dichlorodifluoromethane	ND	U	0.000712	0.00211	mg/kg	1	6/13/23 8:48
EthylBenzene	ND	U	0.000286	0.00211	mg/kg	1	6/13/23 8:48
Isopropylbenzene	ND	U	0.000331	0.00211	mg/kg	1	6/13/23 8:48
m+p-Xylenes	ND	U	0.000533	0.00422	mg/kg	1	6/13/23 8:48
Methyl Acetate	ND	U	0.000280	0.00211	mg/kg	1	6/13/23 8:48
Methyl tert-Butyl Ether	ND	U	0.000357	0.00211	mg/kg	1	6/13/23 8:48
Methylcyclohexane	ND	U	0.000340	0.00211	mg/kg	1	6/13/23 8:48
Methylene Chloride	ND	U	0.000634	0.00211	mg/kg	1	6/13/23 8:48
o-Xylene	ND	U	0.000271	0.00211	mg/kg	1	6/13/23 8:48
Styrene	ND	U	0.000302	0.00211	mg/kg	1	6/13/23 8:48
tert-Butyl alcohol	ND	U	0.00443	0.0211	mg/kg	1	6/13/23 8:48
Tetrachloroethene	ND	U	0.000209	0.00211	mg/kg	1	6/13/23 8:48
Toluene	ND	U	0.000170	0.00211	mg/kg	1	6/13/23 8:48
Total Xylenes	ND	U	0.000271	0.00211	mg/kg	1	6/13/23 8:48
trans-1,2-Dichloroethene	ND	U	0.000286	0.00211	mg/kg	1	6/13/23 8:48
trans-1,3-Dichloropropene	ND	U	0.000403	0.00211	mg/kg	1	6/13/23 8:48
Trichloroethene	ND	U	0.000310	0.00211	mg/kg	1	6/13/23 8:48
Trichlorofluoromethane	ND	U	0.000243	0.00211	mg/kg	1	6/13/23 8:48
Vinyl chloride	ND	U	0.000401	0.00211	mg/kg	1	6/13/23 8:48

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-02 (Soil)

Sample Name: **MW-04-1.5-2.5-20230607MS**
Collected: **6/7/2023 8:50:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.8**				**%**	**1**	**6/9/23 11:09**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.161**		**0.00767**	**0.0644**	**mg/kg**	**1**	**6/14/23 16:06**

23F0430-03 (Soil)

Sample Name: **MW-04-1.5-2.5-20230607MSD**
Collected: **6/7/2023 8:55:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00508	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1221	ND	U	0.0100	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1232	ND	U	0.0127	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1242	ND	U	0.00745	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1248	ND	U	0.00779	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1254	ND	U	0.00612	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1260	ND	U	0.00475	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1262	ND	U	0.0102	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Aroclor-1268	ND	U	0.00458	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**
Total PCBs	ND	U	0.00354	0.0379	mg/kg	1	6/18/23 2:17 **UJ, RC:3L**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0113	0.115	mg/kg	1	6/28/23 13:04
2,4-D	ND	U	0.0191	0.115	mg/kg	1	6/28/23 13:04

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.479**		**0.00574**	**0.0230**	**mg/kg**	**1**	**6/19/23 13:34**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**6610**		**0.163**	**2.75**	**mg/kg**	**1**	**6/21/23 14:15**
Antimony	**1.78**		**0.150**	**1.37**	**mg/kg**	**1**	**6/21/23 14:15**
Arsenic	**5.99**		**0.0980**	**1.37**	**mg/kg**	**1**	**6/21/23 14:15**
Barium	**154**		**0.0415**	**0.549**	**mg/kg**	**1**	**6/21/23 14:15**
Beryllium	**1.60**		**0.00318**	**0.0275**	**mg/kg**	**1**	**6/21/23 14:15**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD** Collected: **6/7/2023 8:55:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	ND	U	0.0536	0.275	mg/kg	1	6/21/23 14:15
Calcium	**18400**		**3.09**	**27.5**	**mg/kg**	**1**	**6/21/23 14:15**
Chromium	**16.9**		**0.0310**	**0.275**	**mg/kg**	**1**	**6/21/23 14:15**
Cobalt	**6.51**		**0.0281**	**0.220**	**mg/kg**	**1**	**6/21/23 14:15**
Copper	**108**		**0.0769**	**0.275**	**mg/kg**	**1**	**6/21/23 14:15**
Iron	**16500**		**0.778**	**5.49**	**mg/kg**	**1**	**6/21/23 14:15**
Lead	**86.3**		**0.115**	**1.37**	**mg/kg**	**1**	**6/21/23 14:15**
Magnesium	**2990**		**9.71**	**54.9**	**mg/kg**	**1**	**6/21/23 14:15**
Manganese	**138**		**0.0342**	**0.275**	**mg/kg**	**1**	**6/21/23 14:15**
Nickel	**20.2**		**0.0241**	**0.137**	**mg/kg**	**1**	**6/21/23 14:15**
Potassium	**1670**		**32.7**	**110**	**mg/kg**	**1**	**6/21/23 14:15**
Selenium	ND	U	0.264	1.37	mg/kg	1	6/21/23 14:15
Silver	ND	U	0.0467	0.165	mg/kg	1	6/21/23 14:15
Sodium	**631**		**5.24**	**54.9**	**mg/kg**	**1**	**6/21/23 14:15**
Thallium	ND	U	0.0924	1.37	mg/kg	1	6/21/23 14:15
Vanadium	**37.9**		**0.0632**	**0.549**	**mg/kg**	**1**	**6/21/23 14:15**
Zinc	**119**		**0.0839**	**0.824**	**mg/kg**	**1**	**6/21/23 14:15**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000683	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
4,4'-DDE	ND	U	0.000816	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
4,4'-DDT	ND	U	0.00105	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Aldrin	ND	U	0.000707	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
alpha-BHC	ND	U	0.000444	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
beta-BHC	ND	U	0.000713	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Chlordane	ND	U	0.000664	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
delta-BHC	ND	U	0.000694	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Dieldrin	ND	U	0.000781	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Endosulfan I	ND	U	0.000705	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Endosulfan II	ND	U	0.000679	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Endosulfan sulfate	ND	U	0.000562	0.00149	mg/kg	1	6/16/23 22:44	R, RC:3L
Endosulfans, Total (alpha and beta)	ND	U	0.000679	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Endrin	ND	U	0.000516	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Endrin aldehyde	ND	U	0.000595	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Endrin ketone	ND	U	0.000526	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
gamma-BHC (Lindane)	ND	U	0.000473	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD** Collected: **6/7/2023 8:55:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Heptachlor	ND	U	0.000400	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Heptachlor Epoxide	ND	U	0.000753	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Methoxychlor	ND	U	0.000438	0.00149	mg/kg	1	6/16/23 22:44	UJ, RC:3L
Toxaphene	ND	U	0.0719	0.0758	mg/kg	1	6/16/23 22:44	UJ, RC:3L

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00432	0.0382	mg/kg	1	6/15/23 16:28	
2,3,4,6-Tetrachlorophenol	ND	U	0.0235	0.153	mg/kg	1	6/15/23 16:28	
2,4,5-Trichlorophenol	ND	U	0.0208	0.153	mg/kg	1	6/15/23 16:28	
2,4,6-Trichlorophenol	ND	U	0.00957	0.153	mg/kg	1	6/15/23 16:28	
2,4-Dichlorophenol	ND	U	0.0154	0.153	mg/kg	1	6/15/23 16:28	
2,4-Dimethylphenol	ND	U	0.0150	0.153	mg/kg	1	6/15/23 16:28	
2,4-Dinitrophenol	ND	U	0.0220	0.766	mg/kg	1	6/15/23 16:28	
2,4-Dinitrotoluene	ND	U	0.0163	0.153	mg/kg	1	6/15/23 16:28	
2,6-Dinitrotoluene	ND	U	0.0365	0.153	mg/kg	1	6/15/23 16:28	
2-Chloronaphthalene	ND	U	0.0176	0.153	mg/kg	1	6/15/23 16:28	
2-Chlorophenol	ND	U	0.0202	0.153	mg/kg	1	6/15/23 16:28	
2-Methylnaphthalene	**0.164**	J	**0.0366**	**0.230**	**mg/kg**	**1**	**6/15/23 16:28**	
2-Methylphenol	ND	U	0.0302	0.153	mg/kg	1	6/15/23 16:28	
2-Nitroaniline	ND	U	0.0123	0.153	mg/kg	1	6/15/23 16:28	
2-Nitrophenol	ND	U	0.0170	0.153	mg/kg	1	6/15/23 16:28	
3,3'-Dichlorobenzidine	ND	U	0.0161	0.153	mg/kg	1	6/15/23 16:28	
3+4-Methylphenol	**0.247**		**0.0280**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
3-Nitroaniline	ND	U	0.0284	0.153	mg/kg	1	6/15/23 16:28	
4,6-Dinitro-2-methylphenol	ND	U	0.0288	0.382	mg/kg	1	6/15/23 16:28	
4-Bromophenyl-phenyl ether	ND	U	0.0218	0.153	mg/kg	1	6/15/23 16:28	
4-Chloro-3-methylphenol	ND	U	0.0241	0.153	mg/kg	1	6/15/23 16:28	
4-Chloroaniline	ND	U	0.00535	0.153	mg/kg	1	6/15/23 16:28	
4-Chlorophenyl phenyl ether	ND	U	0.00826	0.153	mg/kg	1	6/15/23 16:28	
4-Nitroaniline	ND	U	0.0765	0.153	mg/kg	1	6/15/23 16:28	
4-Nitrophenol	ND	U	0.00978	0.153	mg/kg	1	6/15/23 16:28	
Acenaphthene	**0.0736**	J	**0.00872**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Acenaphthylene	**0.0815**	J	**0.00532**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Acetophenone	**0.0295**	J	**0.0152**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Anthracene	**0.271**		**0.0222**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Atrazine	ND	U	0.0144	0.153	mg/kg	1	6/15/23 16:28	
Benzaldehyde	**0.148**	J	**0.0470**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	J, RC:SL

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-202306 07MSD** Collected: **6/7/2023 8:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	**0.767**		**0.0154**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Benzo(a)pyrene	**0.794**		**0.0266**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Benzo(b)fluoranthene	**1.06**		**0.0215**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Benzo(g,h,i)perylene	**0.612**		**0.0124**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Benzo(k)fluoranthene	**0.371**		**0.0176**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Biphenyl	**0.0491**	J	**0.0134**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
bis(2-chloroethoxy)methane	ND	U	0.0211	0.153	mg/kg	1	6/15/23 16:28	
bis(2-chloroethyl)ether	ND	U	0.0168	0.153	mg/kg	1	6/15/23 16:28	
bis(2-chloroisopropyl)ether	ND	U	0.0550	0.153	mg/kg	1	6/15/23 16:28	
bis(2-ethylhexyl)phthalate	**0.0428**	J	**0.0305**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Butylbenzylphthalate	ND	U	0.0139	0.153	mg/kg	1	6/15/23 16:28	
Caprolactam	ND	U	0.0198	0.153	mg/kg	1	6/15/23 16:28	
Carbazole	**0.0737**	J	**0.0294**	**0.382**	**mg/kg**	**1**	**6/15/23 16:28**	
Chrysene	**0.833**		**0.0105**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Dibenzo(a,h)anthracene	**0.0309**	J	**0.0152**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Dibenzofuran	**0.104**	J	**0.00911**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Diethylphthalate	ND	U	0.0296	0.153	mg/kg	1	6/15/23 16:28	
Dimethylphthalate	ND	U	0.00949	0.153	mg/kg	1	6/15/23 16:28	
Di-n-butylphthalate	ND	U	0.0625	0.153	mg/kg	1	6/15/23 16:28	
Di-n-octylphthalate	ND	U	0.0314	0.153	mg/kg	1	6/15/23 16:28	
Fluoranthene	**1.65**		**0.0144**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Fluorene	**0.108**	J	**0.0127**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Hexachlorobenzene	ND	U	0.0200	0.153	mg/kg	1	6/15/23 16:28	
Hexachlorobutadiene	ND	U	0.0734	0.153	mg/kg	1	6/15/23 16:28	
Hexachlorocyclopentadiene	ND	U	0.0637	0.382	mg/kg	1	6/15/23 16:28	UJ, RC:SL
Hexachloroethane	ND	U	0.0168	0.153	mg/kg	1	6/15/23 16:28	
Indeno(1,2,3-cd)pyrene	**0.438**		**0.0164**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Isophorone	ND	U	0.0100	0.153	mg/kg	1	6/15/23 16:28	
Naphthalene	**0.229**		**0.0113**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Nitrobenzene	ND	U	0.0260	0.153	mg/kg	1	6/15/23 16:28	
n-Nitroso-di-n-propylamine	ND	U	0.00819	0.153	mg/kg	1	6/15/23 16:28	
n-Nitrosodiphenylamine	ND	U	0.0326	0.153	mg/kg	1	6/15/23 16:28	
Pentachlorophenol	ND	U	0.0210	0.382	mg/kg	1	6/15/23 16:28	
Phenanthrene	**1.02**		**0.0201**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	
Phenol	ND	U	0.0124	0.153	mg/kg	1	6/15/23 16:28	
Pyrene	**1.26**		**0.0112**	**0.153**	**mg/kg**	**1**	**6/15/23 16:28**	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD** Collected: **6/7/2023 8:55:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound		Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,4-Thiadiazol-2-amine		0.426	8.49	J	mg/kg	1	6/15/23 16:28
3-Penten-2-one, 4-methyl-		0.351	4.71	J	mg/kg	1	6/15/23 16:28
Acetic acid, 1-methylpropyl ester		1.83	5.98	J	mg/kg	1	6/15/23 16:28
Ethanol, 2-butoxy-		0.935	5.86	J	mg/kg	1	6/15/23 16:28
Ethyl Acetate		3.70	4.55	J	mg/kg	1	6/15/23 16:28
Hexadecanoic acid, butyl ester	R, RC:2	1.62	12.83	B, J	mg/kg	1	6/15/23 16:28
Octadecanoic acid, butyl ester	R, RC:2	0.863	13.64	B, J	mg/kg	1	6/15/23 16:28
unknown (01)		0.791	11.20	J	mg/kg	1	6/15/23 16:28
unknown (02)		0.427	11.64	J	mg/kg	1	6/15/23 16:28
	TIC Total	**10.9**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000329	0.00225	mg/kg	1	6/13/23 9:20
1,1,2,2-Tetrachloroethane	ND	U	0.000311	0.00225	mg/kg	1	6/13/23 9:20
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000964	0.00225	mg/kg	1	6/13/23 9:20
1,1,2-Trichloroethane	ND	U	0.000379	0.00225	mg/kg	1	6/13/23 9:20
1,1-Dichloroethane	ND	U	0.000329	0.00225	mg/kg	1	6/13/23 9:20
1,1-Dichloroethene	ND	U	0.000417	0.00225	mg/kg	1	6/13/23 9:20
1,2,3-Trichlorobenzene	ND	U	0.000486	0.00225	mg/kg	1	6/13/23 9:20
1,2,4-Trichlorobenzene	ND	U	0.000600	0.00225	mg/kg	1	6/13/23 9:20
1,2,4-Trimethylbenzene	ND	U	0.000311	0.00225	mg/kg	1	6/13/23 9:20
1,2-Dibromo-3-chloropropane	ND	U	0.000549	0.00225	mg/kg	1	6/13/23 9:20
1,2-Dibromoethane	ND	U	0.000284	0.00225	mg/kg	1	6/13/23 9:20
1,2-Dichlorobenzene	ND	U	0.000397	0.00225	mg/kg	1	6/13/23 9:20
1,2-Dichloroethane	ND	U	0.000317	0.00225	mg/kg	1	6/13/23 9:20
1,2-Dichloropropane	ND	U	0.000369	0.00225	mg/kg	1	6/13/23 9:20
1,3-Dichlorobenzene	ND	U	0.000166	0.00225	mg/kg	1	6/13/23 9:20
1,4-Dichlorobenzene	ND	U	0.000324	0.00225	mg/kg	1	6/13/23 9:20
2-Butanone	ND	U	0.000367	0.00563	mg/kg	1	6/13/23 9:20
2-Hexanone	ND	U	0.000211	0.00225	mg/kg	1	6/13/23 9:20
4-Methyl-2-pentanone	ND	U	0.000281	0.00225	mg/kg	1	6/13/23 9:20
Acetone	ND	U	0.000682	0.00563	mg/kg	1	6/13/23 9:20
Benzene	ND	U	0.000205	0.00225	mg/kg	1	6/13/23 9:20
Bromochloromethane	ND	U	0.000415	0.00225	mg/kg	1	6/13/23 9:20
Bromodichloromethane	ND	U	0.000283	0.00225	mg/kg	1	6/13/23 9:20
Bromoform	ND	U	0.000395	0.00225	mg/kg	1	6/13/23 9:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD** Collected: **6/7/2023 8:55:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromomethane	ND	U	0.000650	0.00225	mg/kg	1	6/13/23 9:20
Carbon disulfide	ND	U	0.000323	0.00225	mg/kg	1	6/13/23 9:20
Carbon Tetrachloride	ND	U	0.000339	0.00225	mg/kg	1	6/13/23 9:20
Chlorobenzene	ND	U	0.000326	0.00225	mg/kg	1	6/13/23 9:20
Chlorodibromomethane	ND	U	0.000277	0.00225	mg/kg	1	6/13/23 9:20
Chloroethane	ND	U	0.000384	0.00225	mg/kg	1	6/13/23 9:20
Chloroform	ND	U	0.000378	0.00225	mg/kg	1	6/13/23 9:20
Chloromethane	ND	U	0.000867	0.00225	mg/kg	1	6/13/23 9:20
cis-1,2-Dichloroethene	ND	U	0.000109	0.00225	mg/kg	1	6/13/23 9:20
cis-1,3-Dichloropropene	ND	U	0.000285	0.00225	mg/kg	1	6/13/23 9:20
Cyclohexane	ND	U	0.000499	0.00225	mg/kg	1	6/13/23 9:20
Dichlorodifluoromethane	ND	U	0.000760	0.00225	mg/kg	1	6/13/23 9:20
EthylBenzene	ND	U	0.000305	0.00225	mg/kg	1	6/13/23 9:20
Isopropylbenzene	ND	U	0.000354	0.00225	mg/kg	1	6/13/23 9:20
m+p-Xylenes	ND	U	0.000569	0.00450	mg/kg	1	6/13/23 9:20
Methyl Acetate	ND	U	0.000298	0.00225	mg/kg	1	6/13/23 9:20
Methyl tert-Butyl Ether	ND	U	0.000381	0.00225	mg/kg	1	6/13/23 9:20
Methylcyclohexane	ND	U	0.000363	0.00225	mg/kg	1	6/13/23 9:20
Methylene Chloride	ND	U	0.000677	0.00225	mg/kg	1	6/13/23 9:20
o-Xylene	ND	U	0.000289	0.00225	mg/kg	1	6/13/23 9:20
Styrene	ND	U	0.000322	0.00225	mg/kg	1	6/13/23 9:20
tert-Butyl alcohol	ND	U	0.00473	0.0225	mg/kg	1	6/13/23 9:20
Tetrachloroethene	ND	U	0.000223	0.00225	mg/kg	1	6/13/23 9:20
Toluene	ND	U	0.000181	0.00225	mg/kg	1	6/13/23 9:20
Total Xylenes	ND	U	0.000289	0.00225	mg/kg	1	6/13/23 9:20
trans-1,2-Dichloroethene	ND	U	0.000305	0.00225	mg/kg	1	6/13/23 9:20
trans-1,3-Dichloropropene	ND	U	0.000430	0.00225	mg/kg	1	6/13/23 9:20
Trichloroethene	ND	U	0.000331	0.00225	mg/kg	1	6/13/23 9:20
Trichlorofluoromethane	ND	U	0.000259	0.00225	mg/kg	1	6/13/23 9:20
Vinyl chloride	ND	U	0.000428	0.00225	mg/kg	1	6/13/23 9:20

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-03 (Soil) Sample Name: **MW-04-1.5-2.5-20230607MSD** Collected: **6/7/2023 8:55:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.1**				**%**	**1**	**6/9/23 11:09**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.252**		**0.00758**	**0.0636**	**mg/kg**	**1**	**6/14/23 16:06**

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607** Collected: **6/7/2023 10:25:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00581	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1221	ND	U	0.0114	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1232	ND	U	0.0145	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1242	ND	U	0.00852	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1248	ND	U	0.00891	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1254	ND	U	0.00700	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1260	ND	U	0.00543	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1262	ND	U	0.0117	0.0434	mg/kg	1	6/18/23 2:39
Aroclor-1268	ND	U	0.00524	0.0434	mg/kg	1	6/18/23 2:39
Total PCBs	ND	U	0.00405	0.0434	mg/kg	1	6/18/23 2:39

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0129	0.131	mg/kg	1	6/28/23 13:13
2,4-D	ND	U	0.0218	0.131	mg/kg	1	6/28/23 13:13

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**1.50**		**0.00657**	**0.0263**	**mg/kg**	**1**	**6/19/23 13:34**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5990**		**0.186**	**3.13**	**mg/kg**	**1**	**6/21/23 14:18**
Antimony	**3.22**		**0.170**	**1.56**	**mg/kg**	**1**	**6/21/23 14:18**
Arsenic	**7.11**		**0.112**	**1.56**	**mg/kg**	**1**	**6/21/23 14:18**
Barium	**107**		**0.0473**	**0.626**	**mg/kg**	**1**	**6/21/23 14:18**
Beryllium	**0.867**		**0.00362**	**0.0313**	**mg/kg**	**1**	**6/21/23 14:18**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607** Collected: **6/7/2023 10:25:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cadmium	ND	U	0.0610	0.313	mg/kg	1	6/21/23 14:18
Calcium	**64000**	D	**35.2**	**313**	**mg/kg**	**10**	**6/21/23 14:59**
Chromium	**16.0**		**0.0353**	**0.313**	**mg/kg**	**1**	**6/21/23 14:18**
Cobalt	**4.29**		**0.0320**	**0.250**	**mg/kg**	**1**	**6/21/23 14:18**
Copper	**54.1**		**0.0875**	**0.313**	**mg/kg**	**1**	**6/21/23 14:18**
Iron	**12200**		**0.886**	**6.26**	**mg/kg**	**1**	**6/21/23 14:18**
Lead	**155**		**0.130**	**1.56**	**mg/kg**	**1**	**6/21/23 14:18**
Magnesium	**1830**		**11.1**	**62.6**	**mg/kg**	**1**	**6/21/23 14:18**
Manganese	**114**		**0.0389**	**0.313**	**mg/kg**	**1**	**6/21/23 14:18**
Nickel	**13.1**		**0.0275**	**0.156**	**mg/kg**	**1**	**6/21/23 14:18**
Potassium	**1460**		**37.2**	**125**	**mg/kg**	**1**	**6/21/23 14:18**
Selenium	**3.50**		**0.300**	**1.56**	**mg/kg**	**1**	**6/21/23 14:18**
Silver	ND	U	0.0532	0.188	mg/kg	1	6/21/23 14:18
Sodium	**2780**		**5.96**	**62.6**	**mg/kg**	**1**	**6/21/23 14:18**
Thallium	ND	U	0.105	1.56	mg/kg	1	6/21/23 14:18
Vanadium	**20.6**		**0.0719**	**0.626**	**mg/kg**	**1**	**6/21/23 14:18**
Zinc	**239**		**0.0956**	**0.938**	**mg/kg**	**1**	**6/21/23 14:18**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000782	0.00171	mg/kg	1	6/16/23 23:06
4,4'-DDE	ND	U	0.000934	0.00171	mg/kg	1	6/16/23 23:06
4,4'-DDT	ND	U	0.00121	0.00171	mg/kg	1	6/16/23 23:06
Aldrin	ND	U	0.000809	0.00171	mg/kg	1	6/16/23 23:06
alpha-BHC	ND	U	0.000508	0.00171	mg/kg	1	6/16/23 23:06
beta-BHC	ND	U	0.000816	0.00171	mg/kg	1	6/16/23 23:06
Chlordane	ND	U	0.000759	0.00171	mg/kg	1	6/16/23 23:06
delta-BHC	ND	U	0.000793	0.00171	mg/kg	1	6/16/23 23:06
Dieldrin	ND	U	0.000893	0.00171	mg/kg	1	6/16/23 23:06
Endosulfan I	ND	U	0.000807	0.00171	mg/kg	1	6/16/23 23:06
Endosulfan II	ND	U	0.000776	0.00171	mg/kg	1	6/16/23 23:06
Endosulfan sulfate	ND	U	0.000642	0.00171	mg/kg	1	6/16/23 23:06
Endosulfans, Total (alpha and beta)	ND	U	0.000776	0.00171	mg/kg	1	6/16/23 23:06
Endrin	ND	U	0.000590	0.00171	mg/kg	1	6/16/23 23:06
Endrin aldehyde	ND	U	0.000681	0.00171	mg/kg	1	6/16/23 23:06
Endrin ketone	ND	U	0.000602	0.00171	mg/kg	1	6/16/23 23:06
gamma-BHC (Lindane)	ND	U	0.000541	0.00171	mg/kg	1	6/16/23 23:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607** Collected: **6/7/2023 10:25:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Heptachlor	ND	U	0.000457	0.00171	mg/kg	1	6/16/23 23:06	
Heptachlor Epoxide	ND	U	0.000862	0.00171	mg/kg	1	6/16/23 23:06	
Methoxychlor	ND	U	0.000501	0.00171	mg/kg	1	6/16/23 23:06	
Toxaphene	ND	U	0.0823	0.0867	mg/kg	1	6/16/23 23:06	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00494	0.0437	mg/kg	1	6/15/23 17:00	
2,3,4,6-Tetrachlorophenol	ND	U	0.0269	0.175	mg/kg	1	6/15/23 17:00	
2,4,5-Trichlorophenol	ND	U	0.0238	0.175	mg/kg	1	6/15/23 17:00	
2,4,6-Trichlorophenol	ND	U	0.0109	0.175	mg/kg	1	6/15/23 17:00	
2,4-Dichlorophenol	ND	U	0.0176	0.175	mg/kg	1	6/15/23 17:00	
2,4-Dimethylphenol	ND	U	0.0172	0.175	mg/kg	1	6/15/23 17:00	
2,4-Dinitrophenol	ND	U	0.0252	0.876	mg/kg	1	6/15/23 17:00	
2,4-Dinitrotoluene	ND	U	0.0187	0.175	mg/kg	1	6/15/23 17:00	
2,6-Dinitrotoluene	ND	U	0.0418	0.175	mg/kg	1	6/15/23 17:00	
2-Chloronaphthalene	ND	U	0.0201	0.175	mg/kg	1	6/15/23 17:00	
2-Chlorophenol	ND	U	0.0231	0.175	mg/kg	1	6/15/23 17:00	
2-Methylnaphthalene	**0.166**	J	**0.0419**	**0.263**	**mg/kg**	**1**	**6/15/23 17:00**	
2-Methylphenol	ND	U	0.0346	0.175	mg/kg	1	6/15/23 17:00	
2-Nitroaniline	ND	U	0.0141	0.175	mg/kg	1	6/15/23 17:00	
2-Nitrophenol	ND	U	0.0194	0.175	mg/kg	1	6/15/23 17:00	UJ, RC:Q
3,3'-Dichlorobenzidine	ND	U	0.0184	0.175	mg/kg	1	6/15/23 17:00	
3+4-Methylphenol	**0.334**		**0.0321**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
3-Nitroaniline	ND	U	0.0324	0.175	mg/kg	1	6/15/23 17:00	
4,6-Dinitro-2-methylphenol	ND	U	0.0330	0.437	mg/kg	1	6/15/23 17:00	
4-Bromophenyl-phenyl ether	ND	U	0.0250	0.175	mg/kg	1	6/15/23 17:00	
4-Chloro-3-methylphenol	ND	U	0.0276	0.175	mg/kg	1	6/15/23 17:00	
4-Chloroaniline	ND	U	0.00612	0.175	mg/kg	1	6/15/23 17:00	
4-Chlorophenyl phenyl ether	ND	U	0.00945	0.175	mg/kg	1	6/15/23 17:00	
4-Nitroaniline	ND	U	0.0875	0.175	mg/kg	1	6/15/23 17:00	
4-Nitrophenol	ND	U	0.0112	0.175	mg/kg	1	6/15/23 17:00	
Acenaphthene	**0.0860**	J	**0.00997**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Acenaphthylene	**0.243**		**0.00608**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Acetophenone	**0.0394**	J	**0.0173**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Anthracene	**0.280**		**0.0254**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Atrazine	ND	U	0.0164	0.175	mg/kg	1	6/15/23 17:00	
Benzaldehyde	**0.113**	J	**0.0537**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	J, RC:SL

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607** Collected: **6/7/2023 10:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(a)anthracene	**1.29**		**0.0176**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Benzo(a)pyrene	**1.86**		**0.0305**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Benzo(b)fluoranthene	**2.21**		**0.0246**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Benzo(g,h,i)perylene	**1.66**		**0.0142**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Benzo(k)fluoranthene	**0.769**		**0.0201**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Biphenyl	**0.0678**	J	**0.0154**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
bis(2-chloroethoxy)methane	ND	U	0.0242	0.175	mg/kg	1	6/15/23 17:00	
bis(2-chloroethyl)ether	ND	U	0.0192	0.175	mg/kg	1	6/15/23 17:00	
bis(2-chloroisopropyl)ether	ND	U	0.0629	0.175	mg/kg	1	6/15/23 17:00	
bis(2-ethylhexyl)phthalate	ND	U	0.0349	0.175	mg/kg	1	6/15/23 17:00	
Butylbenzylphthalate	ND	U	0.0159	0.175	mg/kg	1	6/15/23 17:00	
Caprolactam	ND	U	0.0226	0.175	mg/kg	1	6/15/23 17:00	
Carbazole	**0.107**	J	**0.0336**	**0.437**	**mg/kg**	**1**	**6/15/23 17:00**	
Chrysene	**1.33**		**0.0120**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Dibenzo(a,h)anthracene	**0.119**	J	**0.0173**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Dibenzofuran	**0.174**	J	**0.0104**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Diethylphthalate	ND	U	0.0339	0.175	mg/kg	1	6/15/23 17:00	
Dimethylphthalate	ND	U	0.0109	0.175	mg/kg	1	6/15/23 17:00	
Di-n-butylphthalate	ND	U	0.0715	0.175	mg/kg	1	6/15/23 17:00	
Di-n-octylphthalate	ND	U	0.0359	0.175	mg/kg	1	6/15/23 17:00	
Fluoranthene	**2.12**		**0.0164**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Fluorene	**0.111**	J	**0.0146**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Hexachlorobenzene	ND	U	0.0229	0.175	mg/kg	1	6/15/23 17:00	
Hexachlorobutadiene	ND	U	0.0839	0.175	mg/kg	1	6/15/23 17:00	
Hexachlorocyclopentadiene	ND	U	0.0729	0.437	mg/kg	1	6/15/23 17:00	**UJ, RC:SL**
Hexachloroethane	ND	U	0.0192	0.175	mg/kg	1	6/15/23 17:00	
Indeno(1,2,3-cd)pyrene	**1.27**		**0.0188**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Isophorone	ND	U	0.0115	0.175	mg/kg	1	6/15/23 17:00	
Naphthalene	**0.530**		**0.0130**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Nitrobenzene	ND	U	0.0297	0.175	mg/kg	1	6/15/23 17:00	
n-Nitroso-di-n-propylamine	ND	U	0.00937	0.175	mg/kg	1	6/15/23 17:00	
n-Nitrosodiphenylamine	ND	U	0.0373	0.175	mg/kg	1	6/15/23 17:00	
Pentachlorophenol	ND	U	0.0240	0.437	mg/kg	1	6/15/23 17:00	
Phenanthrene	**1.02**		**0.0230**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	
Phenol	ND	U	0.0142	0.175	mg/kg	1	6/15/23 17:00	
Pyrene	**1.77**		**0.0129**	**0.175**	**mg/kg**	**1**	**6/15/23 17:00**	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607** Collected: **6/7/2023 10:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	39.8	5.22	B, JR, RC:2	mg/kg	1	6/15/23 17:00
Ethanol, 2-butoxy-	0.899	5.86	J	mg/kg	1	6/15/23 17:00
Ethyl Acetate	1.24	4.55	J	mg/kg	1	6/15/23 17:00
Hexadecanoic acid, butyl ester	7.70	12.83	B, JR, RC:2	mg/kg	1	6/15/23 17:00
Octadecanoic acid, butyl ester	3.25	13.64	B, JR, RC:2	mg/kg	1	6/15/23 17:00
unknown (01)	1.43	5.98	J	mg/kg	1	6/15/23 17:00
unknown (02)	0.470	6.72	J	mg/kg	1	6/15/23 17:00
unknown (03)	0.705	6.76	J	mg/kg	1	6/15/23 17:00
unknown (04)	1.04	10.93	J	mg/kg	1	6/15/23 17:00
unknown (05)	0.802	11.40	J	mg/kg	1	6/15/23 17:00
unknown (06)	1.80	16.72	J	mg/kg	1	6/15/23 17:00
TIC Total	**59.1**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000384	0.00263	mg/kg	1	6/14/23 16:10
1,1,2,2-Tetrachloroethane	ND	U	0.000363	0.00263	mg/kg	1	6/14/23 16:10
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00112	0.00263	mg/kg	1	6/14/23 16:10
1,1,2-Trichloroethane	ND	U	0.000443	0.00263	mg/kg	1	6/14/23 16:10
1,1-Dichloroethane	ND	U	0.000384	0.00263	mg/kg	1	6/14/23 16:10
1,1-Dichloroethene	ND	U	0.000486	0.00263	mg/kg	1	6/14/23 16:10
1,2,3-Trichlorobenzene	ND	U	0.000568	0.00263	mg/kg	1	6/14/23 16:10
1,2,4-Trichlorobenzene	ND	U	0.000700	0.00263	mg/kg	1	6/14/23 16:10
1,2,4-Trimethylbenzene	ND	U	0.000363	0.00263	mg/kg	1	6/14/23 16:10
1,2-Dibromo-3-chloropropane	ND	U	0.000641	0.00657	mg/kg	1	6/14/23 16:10
1,2-Dibromoethane	ND	U	0.000331	0.00263	mg/kg	1	6/14/23 16:10
1,2-Dichlorobenzene	ND	U	0.000464	0.00263	mg/kg	1	6/14/23 16:10
1,2-Dichloroethane	ND	U	0.000370	0.00263	mg/kg	1	6/14/23 16:10
1,2-Dichloropropane	ND	U	0.000431	0.00263	mg/kg	1	6/14/23 16:10
1,3-Dichlorobenzene	ND	U	0.000193	0.00263	mg/kg	1	6/14/23 16:10
1,4-Dichlorobenzene	ND	U	0.000378	0.00263	mg/kg	1	6/14/23 16:10
2-Butanone	ND	U	0.000428	0.0131	mg/kg	1	6/14/23 16:10
2-Hexanone	ND	U	0.000246	0.00263	mg/kg	1	6/14/23 16:10
4-Methyl-2-pentanone	ND	U	0.000328	0.00263	mg/kg	1	6/14/23 16:10
Acetone	ND	U	0.000796	0.0657	mg/kg	1	6/14/23 16:10
Benzene	ND	U	0.000239	0.00263	mg/kg	1	6/14/23 16:10
Bromochloromethane	ND	U	0.000485	0.00263	mg/kg	1	6/14/23 16:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-04 (Soil) Sample Name: **MW-04-5.5-6.5-20230607** Collected: **6/7/2023 10:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromodichloromethane	ND	U	0.000330	0.00263	mg/kg	1	6/14/23 16:10
Bromoform	ND	U	0.000461	0.00263	mg/kg	1	6/14/23 16:10
Bromomethane	ND	U	0.000758	0.00263	mg/kg	1	6/14/23 16:10
Carbon disulfide	ND	U	0.000377	0.00263	mg/kg	1	6/14/23 16:10
Carbon Tetrachloride	ND	U	0.000395	0.00263	mg/kg	1	6/14/23 16:10
Chlorobenzene	ND	U	0.000381	0.00263	mg/kg	1	6/14/23 16:10
Chlorodibromomethane	ND	U	0.000323	0.00263	mg/kg	1	6/14/23 16:10
Chloroethane	ND	U	0.000448	0.00263	mg/kg	1	6/14/23 16:10
Chloroform	ND	U	0.000441	0.00263	mg/kg	1	6/14/23 16:10
Chloromethane	ND	U	0.00101	0.00263	mg/kg	1	6/14/23 16:10
cis-1,2-Dichloroethene	ND	U	0.000127	0.00263	mg/kg	1	6/14/23 16:10
cis-1,3-Dichloropropene	ND	U	0.000332	0.00263	mg/kg	1	6/14/23 16:10
Cyclohexane	ND	U	0.000582	0.00263	mg/kg	1	6/14/23 16:10
Dichlorodifluoromethane	ND	U	0.000887	0.00263	mg/kg	1	6/14/23 16:10
EthylBenzene	ND	U	0.000356	0.00263	mg/kg	1	6/14/23 16:10
Isopropylbenzene	ND	U	0.000413	0.00263	mg/kg	1	6/14/23 16:10
m+p-Xylenes	ND	U	0.000663	0.00525	mg/kg	1	6/14/23 16:10
Methyl Acetate	ND	U	0.000348	0.00263	mg/kg	1	6/14/23 16:10
Methyl tert-Butyl Ether	ND	U	0.000444	0.00263	mg/kg	1	6/14/23 16:10
Methylcyclohexane	ND	U	0.000423	0.00263	mg/kg	1	6/14/23 16:10
Methylene Chloride	ND	U	0.000790	0.00657	mg/kg	1	6/14/23 16:10
o-Xylene	ND	U	0.000338	0.00263	mg/kg	1	6/14/23 16:10
Styrene	ND	U	0.000376	0.00263	mg/kg	1	6/14/23 16:10
tert-Butyl alcohol	ND	U	0.00552	0.0263	mg/kg	1	6/14/23 16:10
Tetrachloroethene	ND	U	0.000260	0.00263	mg/kg	1	6/14/23 16:10
Toluene	ND	U	0.000212	0.00263	mg/kg	1	6/14/23 16:10
Total Xylenes	ND	U	0.000338	0.00263	mg/kg	1	6/14/23 16:10
trans-1,2-Dichloroethene	ND	U	0.000356	0.00263	mg/kg	1	6/14/23 16:10
trans-1,3-Dichloropropene	ND	U	0.000502	0.00263	mg/kg	1	6/14/23 16:10
Trichloroethene	ND	U	0.000386	0.00263	mg/kg	1	6/14/23 16:10
Trichlorofluoromethane	ND	U	0.000302	0.00263	mg/kg	1	6/14/23 16:10
Vinyl chloride	ND	U	0.000499	0.00263	mg/kg	1	6/14/23 16:10

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-04 (Soil) Sample Name: MW-04-5.5-6.5-20230607 Collected: 6/7/2023 10:25:00AM

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**76.1**				**%**	**1**	**6/9/23 11:09**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**3.78**	D	**0.0470**	**0.394**	**mg/kg**	**5**	**6/14/23 16:06**

23F0430-05 (Ground Water) Sample Name: FB-20230607 Collected: 6/7/2023 12:00:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/11/23 0:34	UJ, RC:3L

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/29/23 12:32
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/29/23 12:32
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/29/23 12:32

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/15/23 14:24

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/21/23 11:27
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/21/23 11:27
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/21/23 11:27
Barium	ND	U	0.000558	0.0200	mg/L	1	6/21/23 11:27

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-05 (Ground Water) Sample Name: **FB-20230607** Collected: **6/7/2023 12:00:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/21/23 11:27
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/21/23 11:27
Calcium	ND	U	0.256	1.00	mg/L	1	6/21/23 11:27
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/21/23 11:27
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/21/23 11:27
Copper	ND	U	0.00177	0.0100	mg/L	1	6/21/23 11:27
Iron	ND	U	0.0580	0.200	mg/L	1	6/21/23 11:27
Lead	ND	U	0.00510	0.0500	mg/L	1	6/21/23 11:27
Magnesium	ND	U	0.681	2.00	mg/L	1	6/21/23 11:27
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/21/23 11:27
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/21/23 11:27
Potassium	ND	U	2.41	4.00	mg/L	1	6/21/23 11:27
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/21/23 11:27
Silver	ND	U	0.00465	0.0200	mg/L	1	6/21/23 11:27
Sodium	ND	U	0.205	2.00	mg/L	1	6/21/23 11:27
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/21/23 11:27
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/21/23 11:27
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/21/23 11:27

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 20:11 **UJ, RC:3L**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-05 (Ground Water) Sample Name: **FB-20230607** Collected: **6/7/2023 12:00:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 20:11	UJ, RC:3L
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 20:11	UJ, RC:3L

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/14/23 15:17	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/14/23 15:17	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/14/23 15:17	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/14/23 15:17	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/14/23 15:17	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/14/23 15:17	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/14/23 15:17	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/14/23 15:17	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/14/23 15:17	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/14/23 15:17	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/14/23 15:17	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/14/23 15:17	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/14/23 15:17	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/14/23 15:17	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/14/23 15:17	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/14/23 15:17	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/14/23 15:17	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/14/23 15:17	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/14/23 15:17	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/14/23 15:17	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/14/23 15:17	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/14/23 15:17	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/14/23 15:17	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/14/23 15:17	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/14/23 15:17	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/14/23 15:17	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/14/23 15:17	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/14/23 15:17	
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/14/23 15:17	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/14/23 15:17	UJ, RC:SL,Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/14/23 15:17	
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/14/23 15:17	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/14/23 15:17	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/14/23 15:17	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-05 (Ground Water) Sample Name: **FB-20230607** Collected: **6/7/2023 12:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/14/23 15:17	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/14/23 15:17	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/14/23 15:17	
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/14/23 15:17	
Carbazole	ND	U	0.188	2.00	ug/L	1	6/14/23 15:17	
Chrysene	ND	U	0.129	2.00	ug/L	1	6/14/23 15:17	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/14/23 15:17	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/14/23 15:17	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/14/23 15:17	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/14/23 15:17	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/14/23 15:17	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/14/23 15:17	
Fluorene	ND	U	0.109	2.00	ug/L	1	6/14/23 15:17	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/14/23 15:17	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/14/23 15:17	
Isophorone	ND	U	0.111	2.00	ug/L	1	6/14/23 15:17	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/14/23 15:17	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/14/23 15:17	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/14/23 15:17	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/14/23 15:17	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/14/23 15:17	
Phenol	ND	U	0.0973	2.00	ug/L	1	6/14/23 15:17	
Pyrene	ND	U	0.115	2.00	ug/L	1	6/14/23 15:17	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/13/23 17:29
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/13/23 17:29
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/13/23 17:29
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/13/23 17:29
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/13/23 17:29
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/13/23 17:29
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/13/23 17:29
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/13/23 17:29

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-05 (Ground Water) Sample Name: **FB-20230607** Collected: **6/7/2023 12:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/13/23 17:29	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/13/23 17:29	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/13/23 17:29	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/13/23 17:29	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/13/23 17:29	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/13/23 17:29	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/13/23 17:29	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/13/23 17:29	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/13/23 17:29	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/13/23 17:29	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/13/23 17:29	
Acetone	ND	U	10.0	10.0	ug/L	1	6/13/23 17:29	
Benzene	ND	U	0.129	1.00	ug/L	1	6/13/23 17:29	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/13/23 17:29	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/13/23 17:29	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/13/23 17:29	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/13/23 17:29	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/13/23 17:29	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/13/23 17:29	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/13/23 17:29	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/13/23 17:29	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/13/23 17:29	UJ, RC:SL
Chloroform	ND	U	0.365	1.00	ug/L	1	6/13/23 17:29	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/13/23 17:29	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/13/23 17:29	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/13/23 17:29	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/13/23 17:29	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/13/23 17:29	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/13/23 17:29	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/13/23 17:29	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/13/23 17:29	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/13/23 17:29	UJ, RC:SL
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/13/23 17:29	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/13/23 17:29	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/13/23 17:29	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/13/23 17:29	
Styrene	ND	U	0.176	1.00	ug/L	1	6/13/23 17:29	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/13/23 17:29	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/13/23 17:29	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-05 (Ground Water) Sample Name: FB-20230607 Collected: 6/7/2023 12:00:00PM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	ND	U	0.205	1.00	ug/L	1	6/13/23 17:29
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/13/23 17:29
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/13/23 17:29
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/13/23 17:29
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/13/23 17:29
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/13/23 17:29
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/13/23 17:29

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/9/23 17:05

23F0430-06 (Soil) Sample Name: MW-04-41.5-42.5-20230607 Collected: 6/7/2023 12:30:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00534	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1221	ND	U	0.0105	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1232	ND	U	0.0134	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1242	ND	U	0.00783	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1248	ND	U	0.00819	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1254	ND	U	0.00643	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1260	ND	U	0.00499	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1262	ND	U	0.0107	0.0398	mg/kg	1	6/18/23 3:01
Aroclor-1268	ND	U	0.00482	0.0398	mg/kg	1	6/18/23 3:01
Total PCBs	ND	U	0.00372	0.0398	mg/kg	1	6/18/23 3:01

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0118	0.121	mg/kg	1	6/27/23 13:55	UJ, RC:3L
2,4-D	ND	U	0.0200	0.121	mg/kg	1	6/27/23 13:55	UJ, RC:3L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-2023 0607** Collected: **6/7/2023 12:30:00PM**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.00604	0.0241	mg/kg	1	6/19/23 13:34

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5990**		**0.176**	**2.96**	**mg/kg**	**1**	**6/21/23 14:20**
Antimony	ND	U	0.161	1.48	mg/kg	1	6/21/23 14:20
Arsenic	**2.62**		**0.106**	**1.48**	**mg/kg**	**1**	**6/21/23 14:20**
Barium	**54.0**		**0.0447**	**0.592**	**mg/kg**	**1**	**6/21/23 14:20**
Beryllium	**0.928**		**0.00343**	**0.0296**	**mg/kg**	**1**	**6/21/23 14:20**
Cadmium	ND	U	0.0577	0.296	mg/kg	1	6/21/23 14:20
Calcium	**16300**		**3.33**	**29.6**	**mg/kg**	**1**	**6/21/23 14:20**
Chromium	**12.8**		**0.0334**	**0.296**	**mg/kg**	**1**	**6/21/23 14:20**
Cobalt	**3.96**		**0.0302**	**0.237**	**mg/kg**	**1**	**6/21/23 14:20**
Copper	**20.4**		**0.0828**	**0.296**	**mg/kg**	**1**	**6/21/23 14:20**
Iron	**11200**		**0.838**	**5.92**	**mg/kg**	**1**	**6/21/23 14:20**
Lead	**32.6**		**0.123**	**1.48**	**mg/kg**	**1**	**6/21/23 14:20**
Magnesium	**4960**		**10.5**	**59.2**	**mg/kg**	**1**	**6/21/23 14:20**
Manganese	**219**		**0.0368**	**0.296**	**mg/kg**	**1**	**6/21/23 14:20**
Nickel	**12.0**		**0.0260**	**0.148**	**mg/kg**	**1**	**6/21/23 14:20**
Potassium	**1700**		**35.2**	**118**	**mg/kg**	**1**	**6/21/23 14:20**
Selenium	ND	U	0.284	1.48	mg/kg	1	6/21/23 14:20
Silver	ND	U	0.0503	0.178	mg/kg	1	6/21/23 14:20
Sodium	**667**		**5.64**	**59.2**	**mg/kg**	**1**	**6/21/23 14:20**
Thallium	ND	U	0.0995	1.48	mg/kg	1	6/21/23 14:20
Vanadium	**16.6**		**0.0680**	**0.592**	**mg/kg**	**1**	**6/21/23 14:20**
Zinc	**62.1**		**0.0904**	**0.888**	**mg/kg**	**1**	**6/21/23 14:20**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000718	0.00157	mg/kg	1	6/16/23 23:28
4,4'-DDE	ND	U	0.000858	0.00157	mg/kg	1	6/16/23 23:28
4,4'-DDT	ND	U	0.00111	0.00157	mg/kg	1	6/16/23 23:28
Aldrin	ND	U	0.000744	0.00157	mg/kg	1	6/16/23 23:28
alpha-BHC	ND	U	0.000467	0.00157	mg/kg	1	6/16/23 23:28
beta-BHC	ND	U	0.000750	0.00157	mg/kg	1	6/16/23 23:28
Chlordane	ND	U	0.000698	0.00157	mg/kg	1	6/16/23 23:28
delta-BHC	ND	U	0.000729	0.00157	mg/kg	1	6/16/23 23:28
Dieldrin	ND	U	0.000821	0.00157	mg/kg	1	6/16/23 23:28

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-2023 0607** Collected: **6/7/2023 12:30:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Endosulfan I	ND	U	0.000741	0.00157	mg/kg	1	6/16/23 23:28
Endosulfan II	ND	U	0.000713	0.00157	mg/kg	1	6/16/23 23:28
Endosulfan sulfate	ND	U	0.000590	0.00157	mg/kg	1	6/16/23 23:28
Endosulfans, Total (alpha and beta)	ND	U	0.000713	0.00157	mg/kg	1	6/16/23 23:28
Endrin	ND	U	0.000542	0.00157	mg/kg	1	6/16/23 23:28
Endrin aldehyde	ND	U	0.000625	0.00157	mg/kg	1	6/16/23 23:28
Endrin ketone	ND	U	0.000553	0.00157	mg/kg	1	6/16/23 23:28
gamma-BHC (Lindane)	ND	U	0.000497	0.00157	mg/kg	1	6/16/23 23:28
Heptachlor	ND	U	0.000420	0.00157	mg/kg	1	6/16/23 23:28
Heptachlor Epoxide	ND	U	0.000792	0.00157	mg/kg	1	6/16/23 23:28
Methoxychlor	ND	U	0.000460	0.00157	mg/kg	1	6/16/23 23:28
Toxaphene	ND	U	0.0756	0.0797	mg/kg	1	6/16/23 23:28

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00454	0.0402	mg/kg	1	6/15/23 19:23	
2,3,4,6-Tetrachlorophenol	ND	U	0.0247	0.161	mg/kg	1	6/15/23 19:23	
2,4,5-Trichlorophenol	ND	U	0.0218	0.161	mg/kg	1	6/15/23 19:23	
2,4,6-Trichlorophenol	ND	U	0.0101	0.161	mg/kg	1	6/15/23 19:23	
2,4-Dichlorophenol	ND	U	0.0162	0.161	mg/kg	1	6/15/23 19:23	
2,4-Dimethylphenol	ND	U	0.0158	0.161	mg/kg	1	6/15/23 19:23	
2,4-Dinitrophenol	ND	U	0.0232	0.805	mg/kg	1	6/15/23 19:23	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.0171	0.161	mg/kg	1	6/15/23 19:23	
2,6-Dinitrotoluene	ND	U	0.0384	0.161	mg/kg	1	6/15/23 19:23	
2-Chloronaphthalene	ND	U	0.0185	0.161	mg/kg	1	6/15/23 19:23	
2-Chlorophenol	ND	U	0.0212	0.161	mg/kg	1	6/15/23 19:23	
2-Methylnaphthalene	**0.0681**	J	**0.0385**	**0.241**	**mg/kg**	**1**	**6/15/23 19:23**	
2-Methylphenol	ND	U	0.0317	0.161	mg/kg	1	6/15/23 19:23	
2-Nitroaniline	ND	U	0.0129	0.161	mg/kg	1	6/15/23 19:23	
2-Nitrophenol	ND	U	0.0179	0.161	mg/kg	1	6/15/23 19:23	
3,3'-Dichlorobenzidine	ND	U	0.0169	0.161	mg/kg	1	6/15/23 19:23	
3+4-Methylphenol	ND	U	0.0295	0.161	mg/kg	1	6/15/23 19:23	
3-Nitroaniline	ND	U	0.0298	0.161	mg/kg	1	6/15/23 19:23	
4,6-Dinitro-2-methylphenol	ND	U	0.0303	0.402	mg/kg	1	6/15/23 19:23	
4-Bromophenyl-phenyl ether	ND	U	0.0229	0.161	mg/kg	1	6/15/23 19:23	
4-Chloro-3-methylphenol	ND	U	0.0253	0.161	mg/kg	1	6/15/23 19:23	
4-Chloroaniline	ND	U	0.00562	0.161	mg/kg	1	6/15/23 19:23	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-2023 0607** Collected: **6/7/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chlorophenyl phenyl ether	ND	U	0.00868	0.161	mg/kg	1	6/15/23 19:23	
4-Nitroaniline	ND	U	0.0804	0.161	mg/kg	1	6/15/23 19:23	
4-Nitrophenol	ND	U	0.0103	0.161	mg/kg	1	6/15/23 19:23	UJ, RC:SL
Acenaphthene	ND	U	0.00916	0.161	mg/kg	1	6/15/23 19:23	
Acenaphthylene	ND	U	0.00559	0.161	mg/kg	1	6/15/23 19:23	
Acetophenone	ND	U	0.0159	0.161	mg/kg	1	6/15/23 19:23	
Anthracene	ND	U	0.0233	0.161	mg/kg	1	6/15/23 19:23	
Atrazine	ND	U	0.0151	0.161	mg/kg	1	6/15/23 19:23	
Benzaldehyde	ND	U	0.0494	0.161	mg/kg	1	6/15/23 19:23	UJ, RC:SL,Q
Benzo(a)anthracene	ND	U	0.0162	0.161	mg/kg	1	6/15/23 19:23	
Benzo(a)pyrene	ND	U	0.0280	0.161	mg/kg	1	6/15/23 19:23	
Benzo(b)fluoranthene	ND	U	0.0226	0.161	mg/kg	1	6/15/23 19:23	
Benzo(g,h,i)perylene	ND	U	0.0130	0.161	mg/kg	1	6/15/23 19:23	
Benzo(k)fluoranthene	ND	U	0.0185	0.161	mg/kg	1	6/15/23 19:23	
Biphenyl	ND	U	0.0141	0.161	mg/kg	1	6/15/23 19:23	
bis(2-chloroethoxy)methane	ND	U	0.0222	0.161	mg/kg	1	6/15/23 19:23	
bis(2-chloroethyl)ether	ND	U	0.0176	0.161	mg/kg	1	6/15/23 19:23	
bis(2-chloroisopropyl)ether	ND	U	0.0578	0.161	mg/kg	1	6/15/23 19:23	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.0321	0.161	mg/kg	1	6/15/23 19:23	
Butylbenzylphthalate	ND	U	0.0146	0.161	mg/kg	1	6/15/23 19:23	
Caprolactam	ND	U	0.0208	0.161	mg/kg	1	6/15/23 19:23	
Carbazole	ND	U	0.0309	0.402	mg/kg	1	6/15/23 19:23	
Chrysene	ND	U	0.0110	0.161	mg/kg	1	6/15/23 19:23	
Dibenzo(a,h)anthracene	ND	U	0.0159	0.161	mg/kg	1	6/15/23 19:23	
Dibenzofuran	ND	U	0.00957	0.161	mg/kg	1	6/15/23 19:23	
Diethylphthalate	ND	U	0.0311	0.161	mg/kg	1	6/15/23 19:23	
Dimethylphthalate	ND	U	0.00997	0.161	mg/kg	1	6/15/23 19:23	
Di-n-butylphthalate	ND	U	0.0657	0.161	mg/kg	1	6/15/23 19:23	
Di-n-octylphthalate	ND	U	0.0330	0.161	mg/kg	1	6/15/23 19:23	
Fluoranthene	ND	U	0.0151	0.161	mg/kg	1	6/15/23 19:23	
Fluorene	ND	U	0.0134	0.161	mg/kg	1	6/15/23 19:23	
Hexachlorobenzene	ND	U	0.0210	0.161	mg/kg	1	6/15/23 19:23	
Hexachlorobutadiene	ND	U	0.0771	0.161	mg/kg	1	6/15/23 19:23	
Hexachlorocyclopentadiene	ND	U	0.0670	0.402	mg/kg	1	6/15/23 19:23	UJ, RC:SL
Hexachloroethane	ND	U	0.0176	0.161	mg/kg	1	6/15/23 19:23	
Indeno(1,2,3-cd)pyrene	ND	U	0.0173	0.161	mg/kg	1	6/15/23 19:23	
Isophorone	ND	U	0.0105	0.161	mg/kg	1	6/15/23 19:23	
Naphthalene	**0.0995**	J	**0.0119**	**0.161**	**mg/kg**	**1**	**6/15/23 19:23**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-2023 0607** Collected: **6/7/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Nitrobenzene	ND	U	0.0273	0.161	mg/kg	1	6/15/23 19:23
n-Nitroso-di-n-propylamine	ND	U	0.00861	0.161	mg/kg	1	6/15/23 19:23
n-Nitrosodiphenylamine	ND	U	0.0343	0.161	mg/kg	1	6/15/23 19:23
Pentachlorophenol	ND	U	0.0221	0.402	mg/kg	1	6/15/23 19:23
Phenanthrene	**0.0327**	J	**0.0211**	**0.161**	**mg/kg**	**1**	**6/15/23 19:23**
Phenol	ND	U	0.0130	0.161	mg/kg	1	6/15/23 19:23
Pyrene	ND	U	0.0118	0.161	mg/kg	1	6/15/23 19:23

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	2.02	11.78	B, J R, RC:2	mg/kg	1	6/15/23 19:23
Octadecanoic acid, butyl ester	1.18	12.55	B, J R, RC:2	mg/kg	1	6/15/23 19:23
TIC Total	**3.20**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.000267	0.00183	mg/kg	1	6/13/23 10:23
1,1,2,2-Tetrachloroethane	ND	U	0.000252	0.00183	mg/kg	1	6/13/23 10:23
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000783	0.00183	mg/kg	1	6/13/23 10:23
1,1,2-Trichloroethane	ND	U	0.000308	0.00183	mg/kg	1	6/13/23 10:23
1,1-Dichloroethane	ND	U	0.000267	0.00183	mg/kg	1	6/13/23 10:23
1,1-Dichloroethene	ND	U	0.000338	0.00183	mg/kg	1	6/13/23 10:23
1,2,3-Trichlorobenzene	ND	U	0.000395	0.00183	mg/kg	1	6/13/23 10:23
1,2,4-Trichlorobenzene	ND	U	0.000487	0.00183	mg/kg	1	6/13/23 10:23
1,2,4-Trimethylbenzene	ND	U	0.000252	0.00183	mg/kg	1	6/13/23 10:23
1,2-Dibromo-3-chloropropane	ND	U	0.000446	0.00183	mg/kg	1	6/13/23 10:23
1,2-Dibromoethane	ND	U	0.000230	0.00183	mg/kg	1	6/13/23 10:23
1,2-Dichlorobenzene	ND	U	0.000323	0.00183	mg/kg	1	6/13/23 10:23
1,2-Dichloroethane	ND	U	0.000258	0.00183	mg/kg	1	6/13/23 10:23
1,2-Dichloropropane	ND	U	0.000300	0.00183	mg/kg	1	6/13/23 10:23
1,3-Dichlorobenzene	ND	U	0.000134	0.00183	mg/kg	1	6/13/23 10:23
1,4-Dichlorobenzene	ND	U	0.000263	0.00183	mg/kg	1	6/13/23 10:23
2-Butanone	ND	U	0.000298	0.00457	mg/kg	1	6/13/23 10:23
2-Hexanone	ND	U	0.000171	0.00183	mg/kg	1	6/13/23 10:23
4-Methyl-2-pentanone	ND	U	0.000229	0.00183	mg/kg	1	6/13/23 10:23
Acetone	ND	U	0.000554	0.00457	mg/kg	1	6/13/23 10:23
Benzene	ND	U	0.000166	0.00183	mg/kg	1	6/13/23 10:23

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-2023 0607** Collected: **6/7/2023 12:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Bromochloromethane	ND	U	0.000337	0.00183	mg/kg	1	6/13/23 10:23
Bromodichloromethane	ND	U	0.000230	0.00183	mg/kg	1	6/13/23 10:23
Bromoform	ND	U	0.000321	0.00183	mg/kg	1	6/13/23 10:23
Bromomethane	ND	U	0.000528	0.00183	mg/kg	1	6/13/23 10:23
Carbon disulfide	ND	U	0.000262	0.00183	mg/kg	1	6/13/23 10:23
Carbon Tetrachloride	ND	U	0.000275	0.00183	mg/kg	1	6/13/23 10:23
Chlorobenzene	ND	U	0.000265	0.00183	mg/kg	1	6/13/23 10:23
Chlorodibromomethane	ND	U	0.000225	0.00183	mg/kg	1	6/13/23 10:23
Chloroethane	ND	U	0.000312	0.00183	mg/kg	1	6/13/23 10:23
Chloroform	ND	U	0.000307	0.00183	mg/kg	1	6/13/23 10:23
Chloromethane	ND	U	0.000704	0.00183	mg/kg	1	6/13/23 10:23
cis-1,2-Dichloroethene	ND	U	0.0000884	0.00183	mg/kg	1	6/13/23 10:23
cis-1,3-Dichloropropene	ND	U	0.000231	0.00183	mg/kg	1	6/13/23 10:23
Cyclohexane	ND	U	0.000405	0.00183	mg/kg	1	6/13/23 10:23
Dichlorodifluoromethane	ND	U	0.000617	0.00183	mg/kg	1	6/13/23 10:23
EthylBenzene	ND	U	0.000248	0.00183	mg/kg	1	6/13/23 10:23
Isopropylbenzene	ND	U	0.000287	0.00183	mg/kg	1	6/13/23 10:23
m+p-Xylenes	ND	U	0.000462	0.00366	mg/kg	1	6/13/23 10:23
Methyl Acetate	ND	U	0.000242	0.00183	mg/kg	1	6/13/23 10:23
Methyl tert-Butyl Ether	ND	U	0.000309	0.00183	mg/kg	1	6/13/23 10:23
Methylcyclohexane	ND	U	0.000294	0.00183	mg/kg	1	6/13/23 10:23
Methylene Chloride	ND	U	0.000550	0.00183	mg/kg	1	6/13/23 10:23
o-Xylene	ND	U	0.000235	0.00183	mg/kg	1	6/13/23 10:23
Styrene	ND	U	0.000262	0.00183	mg/kg	1	6/13/23 10:23
tert-Butyl alcohol	ND	U	0.00384	0.0183	mg/kg	1	6/13/23 10:23
Tetrachloroethene	ND	U	0.000181	0.00183	mg/kg	1	6/13/23 10:23
Toluene	ND	U	0.000147	0.00183	mg/kg	1	6/13/23 10:23
Total Xylenes	ND	U	0.000235	0.00183	mg/kg	1	6/13/23 10:23
trans-1,2-Dichloroethene	ND	U	0.000248	0.00183	mg/kg	1	6/13/23 10:23
trans-1,3-Dichloropropene	ND	U	0.000349	0.00183	mg/kg	1	6/13/23 10:23
Trichloroethene	ND	U	0.000269	0.00183	mg/kg	1	6/13/23 10:23
Trichlorofluoromethane	ND	U	0.000210	0.00183	mg/kg	1	6/13/23 10:23
Vinyl chloride	ND	U	0.000347	0.00183	mg/kg	1	6/13/23 10:23

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-06 (Soil) Sample Name: **MW-04-41.5-42.5-2023 0607** Collected: **6/7/2023 12:30:00PM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**82.8**				**%**	**1**	**6/9/23 11:09**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00782	0.0656	mg/kg	1	6/14/23 16:06

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00499	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1221	ND	U	0.00981	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1232	ND	U	0.0125	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1242	ND	U	0.00731	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1248	ND	U	0.00764	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1254	ND	U	0.00600	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1260	ND	U	0.00466	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1262	ND	U	0.0100	0.0372	mg/kg	1	6/18/23 3:23
Aroclor-1268	ND	U	0.00450	0.0372	mg/kg	1	6/18/23 3:23
Total PCBs	ND	U	0.00347	0.0372	mg/kg	1	6/18/23 3:23

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0110	0.113	mg/kg	1	6/27/23 14:05	**UJ, RC:3L**
2,4-D	ND	U	0.0187	0.113	mg/kg	1	6/27/23 14:05	**UJ, RC:3L**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Mercury	**0.201**		**0.00563**	**0.0225**	**mg/kg**	**1**	**6/19/23 13:34**	**J, RC:8**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5320**		**0.159**	**2.68**	**mg/kg**	**1**	**6/21/23 14:22**
Antimony	**1.60**		**0.146**	**1.34**	**mg/kg**	**1**	**6/21/23 14:22**
Arsenic	**4.94**		**0.0957**	**1.34**	**mg/kg**	**1**	**6/21/23 14:22**
Barium	**139**		**0.0406**	**0.537**	**mg/kg**	**1**	**6/21/23 14:22**
Beryllium	**1.30**		**0.00311**	**0.0268**	**mg/kg**	**1**	**6/21/23 14:22**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cadmium	ND	U	0.0523	0.268	mg/kg	1	6/21/23 14:22	
Calcium	**21900**		**3.02**	**26.8**	**mg/kg**	**1**	**6/21/23 14:22**	
Chromium	**13.3**		**0.0303**	**0.268**	**mg/kg**	**1**	**6/21/23 14:22**	
Cobalt	**5.07**		**0.0274**	**0.215**	**mg/kg**	**1**	**6/21/23 14:22**	
Copper	**78.1**		**0.0751**	**0.268**	**mg/kg**	**1**	**6/21/23 14:22**	
Iron	**13300**		**0.760**	**5.37**	**mg/kg**	**1**	**6/21/23 14:22**	
Lead	**70.6**		**0.112**	**1.34**	**mg/kg**	**1**	**6/21/23 14:22**	
Magnesium	**8000**		**9.48**	**53.7**	**mg/kg**	**1**	**6/21/23 14:22**	**J, RC:8**
Manganese	**126**		**0.0334**	**0.268**	**mg/kg**	**1**	**6/21/23 14:22**	
Nickel	**15.9**		**0.0236**	**0.134**	**mg/kg**	**1**	**6/21/23 14:22**	
Potassium	**1350**		**31.9**	**107**	**mg/kg**	**1**	**6/21/23 14:22**	
Selenium	ND	U	0.258	1.34	mg/kg	1	6/21/23 14:22	
Silver	ND	U	0.0456	0.161	mg/kg	1	6/21/23 14:22	
Sodium	**589**		**5.12**	**53.7**	**mg/kg**	**1**	**6/21/23 14:22**	
Thallium	ND	U	0.0903	1.34	mg/kg	1	6/21/23 14:22	
Vanadium	**27.9**		**0.0617**	**0.537**	**mg/kg**	**1**	**6/21/23 14:22**	
Zinc	**93.9**		**0.0820**	**0.805**	**mg/kg**	**1**	**6/21/23 14:22**	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000671	0.00147	mg/kg	1	6/16/23 23:50
4,4'-DDE [2C]	ND	U	0.000801	0.00147	mg/kg	1	6/16/23 23:50
4,4'-DDT	**0.00116**	J	**0.00103**	**0.00147**	**mg/kg**	**1**	**6/16/23 23:50**
Aldrin	ND	U	0.000694	0.00147	mg/kg	1	6/16/23 23:50
alpha-BHC	ND	U	0.000436	0.00147	mg/kg	1	6/16/23 23:50
beta-BHC	ND	U	0.000700	0.00147	mg/kg	1	6/16/23 23:50
Chlordane	ND	U	0.000651	0.00147	mg/kg	1	6/16/23 23:50
delta-BHC	ND	U	0.000681	0.00147	mg/kg	1	6/16/23 23:50
Dieldrin	ND	U	0.000766	0.00147	mg/kg	1	6/16/23 23:50
Endosulfan I	ND	U	0.000692	0.00147	mg/kg	1	6/16/23 23:50
Endosulfan II	ND	U	0.000666	0.00147	mg/kg	1	6/16/23 23:50
Endosulfan sulfate	ND	U	0.000551	0.00147	mg/kg	1	6/16/23 23:50
Endosulfans, Total (alpha and beta)	ND	U	0.000666	0.00147	mg/kg	1	6/16/23 23:50
Endrin	ND	U	0.000506	0.00147	mg/kg	1	6/16/23 23:50
Endrin aldehyde	ND	U	0.000584	0.00147	mg/kg	1	6/16/23 23:50
Endrin ketone	ND	U	0.000516	0.00147	mg/kg	1	6/16/23 23:50
gamma-BHC (Lindane)	ND	U	0.000464	0.00147	mg/kg	1	6/16/23 23:50
Heptachlor	ND	U	0.000392	0.00147	mg/kg	1	6/16/23 23:50

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor Epoxide	ND	U	0.000739	0.00147	mg/kg	1	6/16/23 23:50
Methoxychlor	ND	U	0.000429	0.00147	mg/kg	1	6/16/23 23:50
Toxaphene	ND	U	0.0706	0.0744	mg/kg	1	6/16/23 23:50

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00424	0.0375	mg/kg	1	6/15/23 21:10	
2,3,4,6-Tetrachlorophenol	ND	U	0.0231	0.150	mg/kg	1	6/15/23 21:10	
2,4,5-Trichlorophenol	ND	U	0.0204	0.150	mg/kg	1	6/15/23 21:10	
2,4,6-Trichlorophenol	ND	U	0.00939	0.150	mg/kg	1	6/15/23 21:10	
2,4-Dichlorophenol	ND	U	0.0151	0.150	mg/kg	1	6/15/23 21:10	
2,4-Dimethylphenol	ND	U	0.0148	0.150	mg/kg	1	6/15/23 21:10	
2,4-Dinitrophenol	ND	U	0.0216	0.752	mg/kg	1	6/15/23 21:10	
2,4-Dinitrotoluene	ND	U	0.0160	0.150	mg/kg	1	6/15/23 21:10	
2,6-Dinitrotoluene	ND	U	0.0358	0.150	mg/kg	1	6/15/23 21:10	
2-Chloronaphthalene	ND	U	0.0172	0.150	mg/kg	1	6/15/23 21:10	
2-Chlorophenol	ND	U	0.0198	0.150	mg/kg	1	6/15/23 21:10	
2-Methylnaphthalene	**0.164**	J	**0.0359**	**0.225**	**mg/kg**	**1**	**6/15/23 21:10**	
2-Methylphenol	ND	U	0.0296	0.150	mg/kg	1	6/15/23 21:10	
2-Nitroaniline	ND	U	0.0121	0.150	mg/kg	1	6/15/23 21:10	
2-Nitrophenol	ND	U	0.0167	0.150	mg/kg	1	6/15/23 21:10	
3,3'-Dichlorobenzidine	ND	U	0.0158	0.150	mg/kg	1	6/15/23 21:10	
3+4-Methylphenol	**0.198**		**0.0275**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
3-Nitroaniline	ND	U	0.0278	0.150	mg/kg	1	6/15/23 21:10	
4,6-Dinitro-2-methylphenol	ND	U	0.0283	0.375	mg/kg	1	6/15/23 21:10	
4-Bromophenyl-phenyl ether	ND	U	0.0214	0.150	mg/kg	1	6/15/23 21:10	
4-Chloro-3-methylphenol	ND	U	0.0237	0.150	mg/kg	1	6/15/23 21:10	
4-Chloroaniline	ND	U	0.00525	0.150	mg/kg	1	6/15/23 21:10	
4-Chlorophenyl phenyl ether	ND	U	0.00810	0.150	mg/kg	1	6/15/23 21:10	
4-Nitroaniline	ND	U	0.0751	0.150	mg/kg	1	6/15/23 21:10	
4-Nitrophenol	ND	U	0.00960	0.150	mg/kg	1	6/15/23 21:10	
Acenaphthene	**0.143**	J	**0.00855**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Acenaphthylene	**0.125**	J	**0.00522**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Acetophenone	**0.0338**	J	**0.0149**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Anthracene	**0.344**		**0.0217**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Atrazine	ND	U	0.0141	0.150	mg/kg	1	6/15/23 21:10	
Benzaldehyde	**0.123**	J	**0.0461**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	J, RC:SL
Benzo(a)anthracene	**0.894**		**0.0151**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Benzo(a)pyrene	**0.910**		**0.0261**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	

ND, U - Indicates compound analyzed for but not detected
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MDL - Minimum detection limit, **RL** - Reporting limit
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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzo(b)fluoranthene	**1.23**		**0.0211**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Benzo(g,h,i)perylene	**0.612**		**0.0122**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Benzo(k)fluoranthene	**0.346**		**0.0172**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Biphenyl	**0.0497**	J	**0.0132**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
bis(2-chloroethoxy)methane	ND	U	0.0207	0.150	mg/kg	1	6/15/23 21:10	
bis(2-chloroethyl)ether	ND	U	0.0165	0.150	mg/kg	1	6/15/23 21:10	
bis(2-chloroisopropyl)ether	ND	U	0.0540	0.150	mg/kg	1	6/15/23 21:10	
bis(2-ethylhexyl)phthalate	**0.0482**	J	**0.0300**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Butylbenzylphthalate	ND	U	0.0136	0.150	mg/kg	1	6/15/23 21:10	
Caprolactam	ND	U	0.0194	0.150	mg/kg	1	6/15/23 21:10	
Carbazole	**0.0999**	J	**0.0288**	**0.375**	**mg/kg**	**1**	**6/15/23 21:10**	
Chrysene	**0.971**		**0.0103**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Dibenzo(a,h)anthracene	**0.0568**	J	**0.0149**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Dibenzofuran	**0.113**	J	**0.00894**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Diethylphthalate	ND	U	0.0291	0.150	mg/kg	1	6/15/23 21:10	
Dimethylphthalate	ND	U	0.00931	0.150	mg/kg	1	6/15/23 21:10	
Di-n-butylphthalate	ND	U	0.0613	0.150	mg/kg	1	6/15/23 21:10	
Di-n-octylphthalate	ND	U	0.0308	0.150	mg/kg	1	6/15/23 21:10	
Fluoranthene	**1.96**		**0.0141**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Fluorene	**0.157**		**0.0125**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Hexachlorobenzene	ND	U	0.0196	0.150	mg/kg	1	6/15/23 21:10	
Hexachlorobutadiene	ND	U	0.0720	0.150	mg/kg	1	6/15/23 21:10	
Hexachlorocyclopentadiene	ND	U	0.0625	0.375	mg/kg	1	6/15/23 21:10	UJ, RC:SL
Hexachloroethane	ND	U	0.0165	0.150	mg/kg	1	6/15/23 21:10	
Indeno(1,2,3-cd)pyrene	**0.507**		**0.0161**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Isophorone	ND	U	0.00983	0.150	mg/kg	1	6/15/23 21:10	
Naphthalene	**0.230**		**0.0111**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Nitrobenzene	ND	U	0.0255	0.150	mg/kg	1	6/15/23 21:10	
n-Nitroso-di-n-propylamine	ND	U	0.00804	0.150	mg/kg	1	6/15/23 21:10	
n-Nitrosodiphenylamine	ND	U	0.0320	0.150	mg/kg	1	6/15/23 21:10	
Pentachlorophenol	ND	U	0.0206	0.375	mg/kg	1	6/15/23 21:10	
Phenanthrene	**1.25**		**0.0197**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	
Phenol	ND	U	0.0122	0.150	mg/kg	1	6/15/23 21:10	
Pyrene	**1.49**		**0.0110**	**0.150**	**mg/kg**	**1**	**6/15/23 21:10**	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	79.4	5.24	B, J R, RC:2	mg/kg	1	6/15/23 21:10
Ethanol, 2-butoxy-	0.830	5.86	J	mg/kg	1	6/15/23 21:10

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Ethyl Acetate	3.29	4.56	J	mg/kg	1	6/15/23 21:10
Hexadecanoic acid, butyl ester	2.17	12.83	B, J R, RC:2	mg/kg	1	6/15/23 21:10
Naphthalene, 1,2,3,4-tetrahydro-1-methyl	0.937	11.20	J	mg/kg	1	6/15/23 21:10
Octadecanoic acid, butyl ester	1.39	13.64	J, B R, RC:2	mg/kg	1	6/15/23 21:10
unknown	1.56	5.98	J, B R, RC:2	mg/kg	1	6/15/23 21:10
TIC Total	**89.6**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000336	0.00230	mg/kg	1	6/13/23 10:55	
1,1,2,2-Tetrachloroethane	ND	U	0.000317	0.00230	mg/kg	1	6/13/23 10:55	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000984	0.00230	mg/kg	1	6/13/23 10:55	
1,1,2-Trichloroethane	ND	U	0.000388	0.00230	mg/kg	1	6/13/23 10:55	
1,1-Dichloroethane	ND	U	0.000336	0.00230	mg/kg	1	6/13/23 10:55	
1,1-Dichloroethene	ND	U	0.000425	0.00230	mg/kg	1	6/13/23 10:55	
1,2,3-Trichlorobenzene	ND	U	0.000497	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
1,2,4-Trichlorobenzene	ND	U	0.000613	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
1,2,4-Trimethylbenzene	ND	U	0.000317	0.00230	mg/kg	1	6/13/23 10:55	
1,2-Dibromo-3-chloropropane	ND	U	0.000561	0.00230	mg/kg	1	6/13/23 10:55	
1,2-Dibromoethane	ND	U	0.000290	0.00230	mg/kg	1	6/13/23 10:55	
1,2-Dichlorobenzene	ND	U	0.000406	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
1,2-Dichloroethane	ND	U	0.000324	0.00230	mg/kg	1	6/13/23 10:55	
1,2-Dichloropropane	ND	U	0.000377	0.00230	mg/kg	1	6/13/23 10:55	
1,3-Dichlorobenzene	ND	U	0.000169	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
1,4-Dichlorobenzene	ND	U	0.000331	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
2-Butanone	ND	U	0.000375	0.00575	mg/kg	1	6/13/23 10:55	
2-Hexanone	ND	U	0.000215	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
4-Methyl-2-pentanone	ND	U	0.000287	0.00230	mg/kg	1	6/13/23 10:55	
Acetone	ND	U	0.000697	0.00575	mg/kg	1	6/13/23 10:55	
Benzene	ND	U	0.000209	0.00230	mg/kg	1	6/13/23 10:55	
Bromochloromethane	ND	U	0.000424	0.00230	mg/kg	1	6/13/23 10:55	
Bromodichloromethane	ND	U	0.000289	0.00230	mg/kg	1	6/13/23 10:55	
Bromoform	ND	U	0.000404	0.00230	mg/kg	1	6/13/23 10:55	
Bromomethane	ND	U	0.000664	0.00230	mg/kg	1	6/13/23 10:55	
Carbon disulfide	ND	U	0.000330	0.00230	mg/kg	1	6/13/23 10:55	
Carbon Tetrachloride	ND	U	0.000346	0.00230	mg/kg	1	6/13/23 10:55	
Chlorobenzene	ND	U	0.000333	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chlorodibromomethane	ND	U	0.000283	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Chloroethane	ND	U	0.000392	0.00230	mg/kg	1	6/13/23 10:55	
Chloroform	ND	U	0.000386	0.00230	mg/kg	1	6/13/23 10:55	
Chloromethane	ND	U	0.000885	0.00230	mg/kg	1	6/13/23 10:55	
cis-1,2-Dichloroethene	ND	U	0.000111	0.00230	mg/kg	1	6/13/23 10:55	
cis-1,3-Dichloropropene	ND	U	0.000291	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Cyclohexane	ND	U	0.000509	0.00230	mg/kg	1	6/13/23 10:55	
Dichlorodifluoromethane	ND	U	0.000776	0.00230	mg/kg	1	6/13/23 10:55	
EthylBenzene	ND	U	0.000312	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Isopropylbenzene	ND	U	0.000361	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
m+p-Xylenes	ND	U	0.000581	0.00460	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Methyl Acetate	ND	U	0.000305	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Methyl tert-Butyl Ether	ND	U	0.000389	0.00230	mg/kg	1	6/13/23 10:55	
Methylcyclohexane	ND	U	0.000370	0.00230	mg/kg	1	6/13/23 10:55	
Methylene Chloride	ND	U	0.000691	0.00230	mg/kg	1	6/13/23 10:55	
o-Xylene	ND	U	0.000296	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Styrene	ND	U	0.000329	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
tert-Butyl alcohol	ND	U	0.00483	0.0230	mg/kg	1	6/13/23 10:55	
Tetrachloroethene	ND	U	0.000228	0.00230	mg/kg	1	6/13/23 10:55	
Toluene	ND	U	0.000185	0.00230	mg/kg	1	6/13/23 10:55	
Total Xylenes	ND	U	0.000296	0.00230	mg/kg	1	6/13/23 10:55	
trans-1,2-Dichloroethene	ND	U	0.000312	0.00230	mg/kg	1	6/13/23 10:55	
trans-1,3-Dichloropropene	ND	U	0.000439	0.00230	mg/kg	1	6/13/23 10:55	UJ, RC:4L
Trichloroethene	ND	U	0.000338	0.00230	mg/kg	1	6/13/23 10:55	
Trichlorofluoromethane	ND	U	0.000264	0.00230	mg/kg	1	6/13/23 10:55	
Vinyl chloride	ND	U	0.000437	0.00230	mg/kg	1	6/13/23 10:55	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**88.7**				**%**	**1**	**6/9/23 11:09**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-07 (Soil) Sample Name: **DUP-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.0615**		**0.00703**	**0.0590**	**mg/kg**	**1**	**6/14/23 16:06**

23F0430-08 (Ground Water) Sample Name: **TB-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/13/23 17:55	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/13/23 17:55	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/13/23 17:55	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/13/23 17:55	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/13/23 17:55	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/13/23 17:55	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/13/23 17:55	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/13/23 17:55	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/13/23 17:55	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/13/23 17:55	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/13/23 17:55	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/13/23 17:55	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/13/23 17:55	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/13/23 17:55	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/13/23 17:55	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/13/23 17:55	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/13/23 17:55	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/13/23 17:55	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/13/23 17:55	
Acetone	ND	U	10.0	10.0	ug/L	1	6/13/23 17:55	
Benzene	ND	U	0.129	1.00	ug/L	1	6/13/23 17:55	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/13/23 17:55	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/13/23 17:55	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/13/23 17:55	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/13/23 17:55	UJ, RC:6L,SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/13/23 17:55	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/13/23 17:55	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/13/23 17:55	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/13/23 17:55	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/13/23 17:55	UJ, RC:SL
Chloroform	ND	U	0.365	1.00	ug/L	1	6/13/23 17:55	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0430
Date to Lab: 6/8/2023 4:05:00PM

23F0430-08 (Ground Water) Sample Name: **TB-20230607** Collected: **6/7/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/13/23 17:55	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/13/23 17:55	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/13/23 17:55	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/13/23 17:55	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/13/23 17:55	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/13/23 17:55	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/13/23 17:55	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/13/23 17:55	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/13/23 17:55	UJ, RC:SL
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/13/23 17:55	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/13/23 17:55	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/13/23 17:55	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/13/23 17:55	
Styrene	ND	U	0.176	1.00	ug/L	1	6/13/23 17:55	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/13/23 17:55	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/13/23 17:55	
Toluene	ND	U	0.205	1.00	ug/L	1	6/13/23 17:55	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/13/23 17:55	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/13/23 17:55	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/13/23 17:55	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/13/23 17:55	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/13/23 17:55	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/13/23 17:55	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2332837
Project Name	: 23F0430	Project Number	: 23F0430
Lab ID	: L2332837-01	Date Collected	: 06/07/23 08:40
Client ID	: MW-04-1.5-2.5-20230607	Date Received	: 06/09/23
Sample Location	:	Date Analyzed	: 07/14/23 15:48
Sample Matrix	: SOIL	Date Extracted	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1407132323	Analyst	: MJS
Sample Amount	: 15.6 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 85
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	273	3.48	1.00	J, RC:8
91-20-3C1	C1-Naphthalenes	154	3.48	1.00	
91-20-3C2	C2-Naphthalenes	187	3.48	1.00	
91-20-3C3	C3-Naphthalenes	191	3.48	1.00	
91-20-3C4	C4-Naphthalenes	125	3.48	1.00	
208-96-8	Acenaphthylene	73.9	3.48	0.665	
83-32-9	Acenaphthene	81.0	3.48	0.614	
86-73-7	Fluorene	116	3.48	0.930	
86-73-7C1	C1-Fluorenes	86.5	3.48	0.930	
86-73-7C2	C2-Fluorenes	210	3.48	0.930	
86-73-7C3	C3-Fluorenes	280	3.48	0.930	
85-01-8	Phenanthrene	894	3.48	1.15	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	617	3.48	1.15	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	655	3.48	1.15	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	388	3.48	1.15	J, RC:8
PHENANTHC4	C4-Phenanthrenes/Anthracenes	263	3.48	1.15	J, RC:8
120-12-7	Anthracene	264	3.48	0.718	
206-44-0	Fluoranthene	1470	3.48	1.11	
129-00-0	Pyrene	1380	3.48	0.916	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	828	3.48	0.916	
56-55-3	Benz(a)anthracene	814	3.48	0.710	
218-01-9	Chrysene	826	3.48	0.704	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-01	**Date Collected**	: 06/07/23 08:40
Client ID	: MW-04-1.5-2.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 15:48
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132323	**Analyst**	: MJS
Sample Amount	: 15.6 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 85
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	537	3.48	0.704	
218-01-9C2	C2-Chrysenes BS	385	3.48	0.704	
218-01-9C3	C3-Chrysenes	334	3.48	0.704	
218-01-9C4	C4-Chrysenes	197	3.48	0.704	
205-99-2	Benzo(b)fluoranthene	786	3.48	0.906	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	662	3.48	0.692	
192-97-2	Benzo(e)pyrene	643	3.48	0.719	
50-32-8	Benzo(a)pyrene	776	3.48	0.995	
198-55-0	Perylene	214	3.48	0.672	
193-39-5	Indeno(1,2,3-cd)pyrene	504	3.48	0.946	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	146	3.48	0.941	
191-24-2	Benzo(g,h,i)perylene	573	3.48	0.926	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-02	**Date Collected**	: 06/07/23 08:50
Client ID	: MW-04-1.5-2.5-20230607MS	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 17:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132324	**Analyst**	: MJS
Sample Amount	: 15.17 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	177	2.50	0.718	
91-20-3C1	C1-Naphthalenes	110	2.50	0.718	
91-20-3C2	C2-Naphthalenes	140	2.50	0.718	
91-20-3C3	C3-Naphthalenes	149	2.50	0.718	
91-20-3C4	C4-Naphthalenes	91.6	2.50	0.718	
208-96-8	Acenaphthylene	58.8	2.50	0.477	
83-32-9	Acenaphthene	65.3	2.50	0.440	
86-73-7	Fluorene	90.1	2.50	0.666	
86-73-7C1	C1-Fluorenes	65.0	2.50	0.666	
86-73-7C2	C2-Fluorenes	148	2.50	0.666	
86-73-7C3	C3-Fluorenes	204	2.50	0.666	
85-01-8	Phenanthrene	737	2.50	0.828	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	473	2.50	0.828	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	462	2.50	0.828	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	251	2.50	0.828	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	157	2.50	0.828	
120-12-7	Anthracene	201	2.50	0.515	
206-44-0	Fluoranthene	1160	2.50	0.794	
129-00-0	Pyrene	1090	2.50	0.657	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	628	2.50	0.657	
56-55-3	Benz(a)anthracene	695	2.50	0.509	
218-01-9	Chrysene	713	2.50	0.505	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-02	**Date Collected**	: 06/07/23 08:50
Client ID	: MW-04-1.5-2.5-20230607MS	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 17:13
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132324	**Analyst**	: MJS
Sample Amount	: 15.17 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 83
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	440	2.50	0.505	
218-01-9C2	C2-Chrysenes BS	296	2.50	0.505	
218-01-9C3	C3-Chrysenes	237	2.50	0.505	
218-01-9C4	C4-Chrysenes	133	2.50	0.505	
205-99-2	Benzo(b)fluoranthene	686	2.50	0.650	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	537	2.50	0.496	
192-97-2	Benzo(e)pyrene	531	2.50	0.516	
50-32-8	Benzo(a)pyrene	658	2.50	0.713	
198-55-0	Perylene	179	2.50	0.482	
193-39-5	Indeno(1,2,3-cd)pyrene	446	2.50	0.678	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	131	2.50	0.675	
191-24-2	Benzo(g,h,i)perylene	493	2.50	0.664	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-03	**Date Collected**	: 06/07/23 08:55
Client ID	: MW-04-1.5-2.5-20230607MSD	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 18:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132325	**Analyst**	: MJS
Sample Amount	: 15.89 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	221	2.69	0.774	
91-20-3C1	C1-Naphthalenes	136	2.69	0.774	
91-20-3C2	C2-Naphthalenes	176	2.69	0.774	
91-20-3C3	C3-Naphthalenes	179	2.69	0.774	
91-20-3C4	C4-Naphthalenes	109	2.69	0.774	
208-96-8	Acenaphthylene	70.1	2.69	0.514	
83-32-9	Acenaphthene	69.5	2.69	0.475	
86-73-7	Fluorene	103	2.69	0.718	
86-73-7C1	C1-Fluorenes	76.0	2.69	0.718	
86-73-7C2	C2-Fluorenes	173	2.69	0.718	
86-73-7C3	C3-Fluorenes	232	2.69	0.718	
85-01-8	Phenanthrene	806	2.69	0.893	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	550	2.69	0.893	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	541	2.69	0.893	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	303	2.69	0.893	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	194	2.69	0.893	
120-12-7	Anthracene	232	2.69	0.555	
206-44-0	Fluoranthene	1280	2.69	0.856	
129-00-0	Pyrene	1190	2.69	0.708	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	714	2.69	0.708	
56-55-3	Benz(a)anthracene	711	2.69	0.549	
218-01-9	Chrysene	720	2.69	0.544	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-03	**Date Collected**	: 06/07/23 08:55
Client ID	: MW-04-1.5-2.5-20230607MSD	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 18:38
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132325	**Analyst**	: MJS
Sample Amount	: 15.89 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 88
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	471	2.69	0.544	
218-01-9C2	C2-Chrysenes BS	329	2.69	0.544	
218-01-9C3	C3-Chrysenes	272	2.69	0.544	
218-01-9C4	C4-Chrysenes	167	2.69	0.544	
205-99-2	Benzo(b)fluoranthene	691	2.69	0.701	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	586	2.69	0.535	
192-97-2	Benzo(e)pyrene	563	2.69	0.556	
50-32-8	Benzo(a)pyrene	691	2.69	0.769	
198-55-0	Perylene	188	2.69	0.520	
193-39-5	Indeno(1,2,3-cd)pyrene	463	2.69	0.731	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	133	2.69	0.728	
191-24-2	Benzo(g,h,i)perylene	512	2.69	0.716	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-04	**Date Collected**	: 06/07/23 10:25
Client ID	: MW-04-5.5-6.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/17/23 23:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407172307	**Analyst**	: CNC
Sample Amount	: 20.27 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 62
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	19.8	2.37	0.682	
91-20-3C1	C1-Naphthalenes	7.26	2.37	0.682	
91-20-3C2	C2-Naphthalenes	7.19	2.37	0.682	
91-20-3C3	C3-Naphthalenes	6.68	2.37	0.682	
91-20-3C4	C4-Naphthalenes	5.73	2.37	0.682	
208-96-8	Acenaphthylene	7.49	2.37	0.452	
83-32-9	Acenaphthene	2.41	2.37	0.418	
86-73-7	Fluorene	4.12	2.37	0.633	
86-73-7C1	C1-Fluorenes	3.53	2.37	0.633	
86-73-7C2	C2-Fluorenes	8.60	2.37	0.633	
86-73-7C3	C3-Fluorenes	18.6	2.37	0.633	G
85-01-8	Phenanthrene	61.8	2.37	0.786	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	36.9	2.37	0.786	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	29.1	2.37	0.786	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	19.3	2.37	0.786	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	14.8	2.37	0.786	
120-12-7	Anthracene	13.1	2.37	0.489	
206-44-0	Fluoranthene	99.7	2.37	0.754	
129-00-0	Pyrene	106	2.37	0.624	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	58.4	2.37	0.624	
56-55-3	Benz(a)anthracene	50.0	2.37	0.484	
218-01-9	Chrysene	61.6	2.37	0.479	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-04	**Date Collected**	: 06/07/23 10:25
Client ID	: MW-04-5.5-6.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/17/23 23:46
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407172307	**Analyst**	: CNC
Sample Amount	: 20.27 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 62
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	32.7	2.37	0.479	
218-01-9C2	C2-Chrysenes BS	16.7	2.37	0.479	
218-01-9C3	C3-Chrysenes	17.4	2.37	0.479	
218-01-9C4	C4-Chrysenes	ND	2.37	0.479	U
205-99-2	Benzo(b)fluoranthene	53.6	2.37	0.617	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	48.6	2.37	0.471	
192-97-2	Benzo(e)pyrene	51.7	2.37	0.489	
50-32-8	Benzo(a)pyrene	54.8	2.37	0.677	
198-55-0	Perylene	13.5	2.37	0.458	
193-39-5	Indeno(1,2,3-cd)pyrene	46.7	2.37	0.644	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	10.9	2.37	0.641	
191-24-2	Benzo(g,h,i)perylene	54.2	2.37	0.630	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-05	**Date Collected**	: 06/07/23 12:30
Client ID	: MW-04-41.5-42.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 21:27
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132327	**Analyst**	: MJS
Sample Amount	: 30.08 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	1.18	1.19	0.342	J
91-20-3C1	C1-Naphthalenes	0.443	1.19	0.342	J
91-20-3C2	C2-Naphthalenes	ND	1.19	0.342	U
91-20-3C3	C3-Naphthalenes	ND	1.19	0.342	U
91-20-3C4	C4-Naphthalenes	ND	1.19	0.342	U
208-96-8	Acenaphthylene	ND	1.19	0.227	U
83-32-9	Acenaphthene	ND	1.19	0.210	U
86-73-7	Fluorene	ND	1.19	0.317	U
86-73-7C1	C1-Fluorenes	ND	1.19	0.317	U
86-73-7C2	C2-Fluorenes	ND	1.19	0.317	U
86-73-7C3	C3-Fluorenes	ND	1.19	0.317	U
85-01-8	Phenanthrene	0.786	1.19	0.394	J
PHENANTHC1	C1-Phenanthrenes/Anthracenes	0.623	1.19	0.394	J
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.19	0.394	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.19	0.394	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.19	0.394	U
120-12-7	Anthracene	ND	1.19	0.245	U
206-44-0	Fluoranthene	ND	1.19	0.378	U
129-00-0	Pyrene	0.318	1.19	0.313	J
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	0.719	1.19	0.313	J
56-55-3	Benz(a)anthracene	ND	1.19	0.243	U
218-01-9	Chrysene	ND	1.19	0.240	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-05	**Date Collected**	: 06/07/23 12:30
Client ID	: MW-04-41.5-42.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 21:27
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132327	**Analyst**	: MJS
Sample Amount	: 30.08 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.19	0.240	U
218-01-9C2	C2-Chrysenes BS	ND	1.19	0.240	U
218-01-9C3	C3-Chrysenes	ND	1.19	0.240	U
218-01-9C4	C4-Chrysenes	ND	1.19	0.240	U
205-99-2	Benzo(b)fluoranthene	ND	1.19	0.310	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.19	0.236	U
192-97-2	Benzo(e)pyrene	ND	1.19	0.246	U
50-32-8	Benzo(a)pyrene	ND	1.19	0.340	U
198-55-0	Perylene	1.58	1.19	0.230	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.19	0.323	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.19	0.321	U
191-24-2	Benzo(g,h,i)perylene	ND	1.19	0.316	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2332837
Project Name	: 23F0430	Project Number	: 23F0430
Lab ID	: L2332837-06	Date Collected	: 06/07/23 00:00
Client ID	: DUP-20230607	Date Received	: 06/09/23
Sample Location	:	Date Analyzed	: 07/14/23 22:52
Sample Matrix	: SOIL	Date Extracted	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F1407132328	Analyst	: MJS
Sample Amount	: 15.72 g	Instrument ID	: PAH14
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 84
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
91-20-3	Naphthalene	144	2.28	0.654	J, RC:8
91-20-3C1	C1-Naphthalenes	102	2.28	0.654	
91-20-3C2	C2-Naphthalenes	144	2.28	0.654	
91-20-3C3	C3-Naphthalenes	160	2.28	0.654	
91-20-3C4	C4-Naphthalenes	99.4	2.28	0.654	
208-96-8	Acenaphthylene	56.3	2.28	0.434	
83-32-9	Acenaphthene	53.3	2.28	0.401	
86-73-7	Fluorene	74.5	2.28	0.607	
86-73-7C1	C1-Fluorenes	60.7	2.28	0.607	
86-73-7C2	C2-Fluorenes	148	2.28	0.607	
86-73-7C3	C3-Fluorenes	209	2.28	0.607	
85-01-8	Phenanthrene	685	2.28	0.754	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	464	2.28	0.754	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	437	2.28	0.754	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	227	2.28	0.754	J, RC:8
PHENANTHC4	C4-Phenanthrenes/Anthracenes	125	2.28	0.754	J, RC:8
120-12-7	Anthracene	181	2.28	0.469	
206-44-0	Fluoranthene	1140	2.28	0.724	
129-00-0	Pyrene	1070	2.28	0.599	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	599	2.28	0.599	
56-55-3	Benz(a)anthracene	629	2.28	0.464	
218-01-9	Chrysene	648	2.28	0.460	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-06	**Date Collected**	: 06/07/23 00:00
Client ID	: DUP-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 07/14/23 22:52
Sample Matrix	: SOIL	**Date Extracted**	: 06/20/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132328	**Analyst**	: MJS
Sample Amount	: 15.72 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	402	2.28	0.460	
218-01-9C2	C2-Chrysenes BS	268	2.28	0.460	
218-01-9C3	C3-Chrysenes	217	2.28	0.460	
218-01-9C4	C4-Chrysenes	135	2.28	0.460	
205-99-2	Benzo(b)fluoranthene	604	2.28	0.592	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	537	2.28	0.452	
192-97-2	Benzo(e)pyrene	487	2.28	0.470	
50-32-8	Benzo(a)pyrene	597	2.28	0.650	
198-55-0	Perylene	167	2.28	0.440	
193-39-5	Indeno(1,2,3-cd)pyrene	424	2.28	0.618	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	116	2.28	0.615	
191-24-2	Benzo(g,h,i)perylene	446	2.28	0.605	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-01	**Date Collected**	: 06/07/23 08:40
Client ID	: MW-04-1.5-2.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 85
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-02	**Date Collected**	: 06/07/23 08:50
Client ID	: MW-04-1.5-2.5-20230607MS	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 83
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-03	**Date Collected**	: 06/07/23 08:55
Client ID	: MW-04-1.5-2.5-20230607MSD	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 88
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.1	1.1	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-04	**Date Collected**	: 06/07/23 10:25
Client ID	: MW-04-5.5-6.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 62
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-05	**Date Collected**	: 06/07/23 12:30
Client ID	: MW-04-41.5-42.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-06	**Date Collected**	: 06/07/23 00:00
Client ID	: DUP-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: WG1792792-1	**Date Collected**	: NA
Client ID	: WG1792792-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-01	**Date Collected**	: 06/07/23 08:40
Client ID	: MW-04-1.5-2.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 85
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**84.9**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-02	**Date Collected**	: 06/07/23 08:50
Client ID	: MW-04-1.5-2.5-20230607MS	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 83
Digestion Method	:	**Date Digested**	:

CAS NO.	Parameter	% Results	RL	MDL	Qualifier
NONE	Solids, Total	83.3	0.100	0.100	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-03	**Date Collected**	: 06/07/23 08:55
Client ID	: MW-04-1.5-2.5-20230607MSD	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 88
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**87.6**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-04	**Date Collected**	: 06/07/23 10:25
Client ID	: MW-04-5.5-6.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 62
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**62.4**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2332837
Project Name	: 23F0430	**Project Number**	: 23F0430
Lab ID	: L2332837-05	**Date Collected**	: 06/07/23 12:30
Client ID	: MW-04-41.5-42.5-20230607	**Date Received**	: 06/09/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**83.8**	**0.100**	**0.100**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2333076 and 23F0501
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 25, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
MW-04-67.0-68.0-20230609	23F0501-01 L2333076-01	06/09/2023	Soil
FB-20230609	23F0618-02	06/09/2023	Water
TB-20230609	23F0618-03	06/09/2023	Water

Data validation was performed on the analytical data for three (3) samples collected on June 9, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004

- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial and continuing calibration, surrogates and laboratory control samples.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.
- Samples FB-20230609 was listed for Alkylated PAH analysis; these samples were not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- All surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When

parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB-20230609 FB-20230609	Bromomethane	CCV %D > 20% (decrease in response)	UJ (non-detects)	SL
		Acetone	CCV %D > 20% (increase in response)	No action (NDs)	SH
	MW-04-67.0-68.0-20230609	1,2-Dibromo-3-chloropropane Bromomethane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	MW-04-67.0-68.0-20230609	Hexachlorocyclopentadiene	%R < CL	J (Detects) UJ (NDs)	6L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	MW-04-67.0-68.0-20230609	Benzaldehyde	%RSD >20%	UJ (NDs)	Q
8270E-SIM	MW-04-67.0-68.0-20230609	Benzo[a]pyrene	%RSD >20%	UJ (NDs)	Q
		Perylene			

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230609	2,4-Dimethylphenol 2,4-Dinitrophenol 4-Nitrophenol Benzaldehyde bis(2-Chloroisopropyl)ether	CCV %D > 20% (decrease in response)	UJ (NDs)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
		Hexachlorocyclopentadiene			
	MW-04-67.0-68.0-20230609	4-Nitrophenol	CCV %D > 20% (increase in response)	No action (NDs)	SH
	MW-04-67.0-68.0-20230609	Benzaldehyde bis(2-chloroethoxy)methane Hexachlorocyclopentadiene Isophorone Pentachlorophenol	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
8270E-SIM	MW-04-67.0-68.0-20230609	Acenaphthene Phenanthrene Anthracene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	FB-20230609	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R < CL	J (Detects) UJ (NDs)	3L
8151A	FB-20230609	2,4-DCAA 2,4-DCAA-2	%R > CL	No action (NDs)	3H
	MW-04-67.0-68.0-20230609	2,4-DCAA 2,4-DCAA-2	%R <CL	J (Detects) UJ (NDs)	3L
8081B	FB-20230609	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R < CL	J (Detects) UJ (NDs)	3L

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	FB-20230609	Endosulfan sulfate	%R < CL (<10%)	J (Detects) R (NDs)	6L
		Methoxychlor	%R > CL	No action (NDs)	6H
	MW-04-67.0-68.0-20230609	Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis percent recoveries were within control limits for project samples.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230609	Cadmium	%R < CL	No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 25, 2024 Peer Review: JLD

Corey Strauss
Project Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

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ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0501

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 31, 2023

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APL
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Certified Environmental Testing

Sample Summary

Work Order: 23F0501

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-04-67.0-68.0-20230609	23F0501-01	Soil	06/09/2023 10:45	06/09/2023 17:18
FB-20230609	23F0501-02	Ground Water	06/09/2023 12:30	06/09/2023 17:18
TB-20230609	23F0501-03	Ground Water	06/09/2023 00:00	06/09/2023 17:18

PN: 23F0501

APL 23F0501

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: YU & Associates	SEND REPORT TO: same
ADDRESS: 611 River Drive, 3rd floor Emwood Park, NJ 07407	ADDRESS:
PHONE: 201-712-9621	PHONE:
E-MAIL: Swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus OH OOP	SEND INVOICE TO: as
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 156856.	SAMPLED BY: left XP.

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

PWSID#

[x] NYS Category B.

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0501 -01	MW-04-GW-20230609	06/09	1045	X		S	5		VOC, SVOC, PCB, Pesticide, Herbicide TAL Metal, Alkylated PAH, TCN, TCLP.
-02	FB-20230609	06/09	1230			DI water	10		" "
-03	TB-20230609	06/09	1145	X		DI water	2		VOC.

RELINQUISHED BY (Print) Vanda	DATE 06/09/23	RECEIVED BY (Print) MIKE D'ANGELO	
Signature	Time 1212	Signature	
RELINQUISHED BY (Print) MIKE D'ANGELO	DATE 6/9/23	RECEIVED BY (Print) Roxnay	
Signature	Time 17:15	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 3.8°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 200.7 / 7473 / 245.1 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Sample 23F0501-01 has surrogates outside of the QC limits (low), due to matrix interference.

ANALYSIS: PCBs [8082A]
All samples met the QC criteria.

ANALYSIS: PESTICIDES [8081B]
The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).
The percent recovery for Endosulfan II was outside of the QC limits for the blank spike (low).

The percent recovery for 4,4'-DDT was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spike, matrix spike and matrix spike duplicate (low).

Reviewed By: _____ (SK) 8/31/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-20230609**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.0433		0.00574	0.0230	mg/kg dry	1	6/22/23 14:49

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	3830		0.172	2.90	mg/kg dry	1	6/23/23 11:05
Arsenic	1.95		0.103	1.45	mg/kg dry	1	6/23/23 11:05
Barium	37.3		0.0438	0.580	mg/kg dry	1	6/23/23 11:05
Beryllium	0.225		0.00336	0.0290	mg/kg dry	1	6/23/23 11:05
Calcium	7720		3.26	29.0	mg/kg dry	1	6/23/23 11:05
Chromium	8.53		0.0327	0.290	mg/kg dry	1	6/23/23 11:05
Cobalt	2.87		0.0296	0.232	mg/kg dry	1	6/23/23 11:05
Copper	9.80		0.0811	0.290	mg/kg dry	1	6/23/23 11:05
Iron	9450		0.821	5.80	mg/kg dry	1	6/23/23 11:05
Lead	5.43		0.121	1.45	mg/kg dry	1	6/23/23 11:05
Magnesium	2800		10.2	58.0	mg/kg dry	1	6/23/23 11:05
Manganese	194		0.0361	0.290	mg/kg dry	1	6/23/23 11:05
Nickel	6.52		0.0255	0.145	mg/kg dry	1	6/23/23 11:05
Potassium	856		34.5	116	mg/kg dry	1	6/23/23 11:05
Sodium	303		5.53	58.0	mg/kg dry	1	6/23/23 11:05
Vanadium	17.5		0.0667	0.580	mg/kg dry	1	6/23/23 11:05
Zinc	20.4		0.0886	0.870	mg/kg dry	1	6/23/23 11:05

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Hexadecanoic acid, butyl ester	9.78	J			mg/kg dry	1	6/15/23 19:27
TIC_Octadecanoic acid, butyl ester	5.00	J, B			mg/kg dry	1	6/15/23 19:27
TIC_unknown	0.341	J			mg/kg dry	1	6/15/23 19:27

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Lab Contamination	0.00819	J			mg/kg dry	1	6/16/23 21:21

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.276		0.00876	0.0735	mg/kg dry	1	6/14/23 16:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-2023 0609** Collected: **6/9/2023 10:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00508	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1221	ND	U	0.0100	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1232	ND	U	0.0127	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1242	ND	U	0.00745	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1248	ND	U	0.00779	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1254	ND	U	0.00612	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1260	ND	U	0.00475	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1262	ND	U	0.0102	0.0379	mg/kg	1	6/20/23 17:58
Aroclor-1268	ND	U	0.00458	0.0379	mg/kg	1	6/20/23 17:58
Total PCBs	ND	U	0.00354	0.0379	mg/kg	1	6/20/23 17:58

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0113	0.115	mg/kg	1	6/27/23 13:46 **UJ, RC:3L**
2,4-D	ND	U	0.0191	0.115	mg/kg	1	6/27/23 13:46 **UJ, RC:3L**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.0433**		**0.00574**	**0.0230**	**mg/kg**	**1**	**6/22/23 14:49**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**3830**		**0.172**	**2.90**	**mg/kg**	**1**	**6/23/23 11:05**
Antimony	ND	U	0.158	1.45	mg/kg	1	6/23/23 11:05
Arsenic	**1.95**		**0.103**	**1.45**	**mg/kg**	**1**	**6/23/23 11:05**
Barium	**37.3**		**0.0438**	**0.580**	**mg/kg**	**1**	**6/23/23 11:05**
Beryllium	**0.225**		**0.00336**	**0.0290**	**mg/kg**	**1**	**6/23/23 11:05**
Cadmium	ND	U	0.0565	0.290	mg/kg	1	6/23/23 11:05
Calcium	**7720**		**3.26**	**29.0**	**mg/kg**	**1**	**6/23/23 11:05**
Chromium	**8.53**		**0.0327**	**0.290**	**mg/kg**	**1**	**6/23/23 11:05**
Cobalt	**2.87**		**0.0296**	**0.232**	**mg/kg**	**1**	**6/23/23 11:05**
Copper	**9.80**		**0.0811**	**0.290**	**mg/kg**	**1**	**6/23/23 11:05**
Iron	**9450**		**0.821**	**5.80**	**mg/kg**	**1**	**6/23/23 11:05**
Lead	**5.43**		**0.121**	**1.45**	**mg/kg**	**1**	**6/23/23 11:05**
Magnesium	**2800**		**10.2**	**58.0**	**mg/kg**	**1**	**6/23/23 11:05**
Manganese	**194**		**0.0361**	**0.290**	**mg/kg**	**1**	**6/23/23 11:05**
Nickel	**6.52**		**0.0255**	**0.145**	**mg/kg**	**1**	**6/23/23 11:05**
Potassium	**856**		**34.5**	**116**	**mg/kg**	**1**	**6/23/23 11:05**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-2023 0609** Collected: **6/9/2023 10:45:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.278	1.45	mg/kg	1	6/23/23 11:05
Silver	ND	U	0.0493	0.174	mg/kg	1	6/23/23 11:05
Sodium	**303**		**5.53**	**58.0**	**mg/kg**	**1**	**6/23/23 11:05**
Thallium	ND	U	0.0976	1.45	mg/kg	1	6/23/23 11:05
Vanadium	**17.5**		**0.0667**	**0.580**	**mg/kg**	**1**	**6/23/23 11:05**
Zinc	**20.4**		**0.0886**	**0.870**	**mg/kg**	**1**	**6/23/23 11:05**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000683	0.00149	mg/kg	1	6/19/23 23:02	
4,4'-DDE	ND	U	0.000816	0.00149	mg/kg	1	6/19/23 23:02	
4,4'-DDT	ND	U	0.00105	0.00149	mg/kg	1	6/19/23 23:02	
Aldrin	ND	U	0.000707	0.00149	mg/kg	1	6/19/23 23:02	
alpha-BHC	ND	U	0.000444	0.00149	mg/kg	1	6/19/23 23:02	
beta-BHC	ND	U	0.000713	0.00149	mg/kg	1	6/19/23 23:02	
Chlordane	ND	U	0.000664	0.00149	mg/kg	1	6/19/23 23:02	
delta-BHC	ND	U	0.000694	0.00149	mg/kg	1	6/19/23 23:02	
Dieldrin	ND	U	0.000781	0.00149	mg/kg	1	6/19/23 23:02	
Endosulfan I	ND	U	0.000705	0.00149	mg/kg	1	6/19/23 23:02	
Endosulfan II	ND	U	0.000679	0.00149	mg/kg	1	6/19/23 23:02	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000562	0.00149	mg/kg	1	6/19/23 23:02	
Endosulfans, Total (alpha and beta)	ND	U	0.000679	0.00149	mg/kg	1	6/19/23 23:02	
Endrin	ND	U	0.000516	0.00149	mg/kg	1	6/19/23 23:02	
Endrin aldehyde	ND	U	0.000595	0.00149	mg/kg	1	6/19/23 23:02	
Endrin ketone	ND	U	0.000526	0.00149	mg/kg	1	6/19/23 23:02	
gamma-BHC (Lindane)	ND	U	0.000473	0.00149	mg/kg	1	6/19/23 23:02	
Heptachlor	ND	U	0.000400	0.00149	mg/kg	1	6/19/23 23:02	
Heptachlor Epoxide	ND	U	0.000753	0.00149	mg/kg	1	6/19/23 23:02	
Methoxychlor	ND	U	0.000438	0.00149	mg/kg	1	6/19/23 23:02	
Toxaphene	ND	U	0.0719	0.0758	mg/kg	1	6/19/23 23:02	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00432	0.0382	mg/kg	1	6/15/23 19:27
2,3,4,6-Tetrachlorophenol	ND	U	0.0235	0.153	mg/kg	1	6/15/23 19:27
2,4,5-Trichlorophenol	ND	U	0.0208	0.153	mg/kg	1	6/15/23 19:27
2,4,6-Trichlorophenol	ND	U	0.00957	0.153	mg/kg	1	6/15/23 19:27

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-2023 0609** Collected: **6/9/2023 10:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0154	0.153	mg/kg	1	6/15/23 19:27	
2,4-Dimethylphenol	ND	U	0.0150	0.153	mg/kg	1	6/15/23 19:27	
2,4-Dinitrophenol	ND	U	0.0220	0.766	mg/kg	1	6/15/23 19:27	
2,4-Dinitrotoluene	ND	U	0.0163	0.153	mg/kg	1	6/15/23 19:27	
2,6-Dinitrotoluene	ND	U	0.0365	0.153	mg/kg	1	6/15/23 19:27	
2-Chloronaphthalene	ND	U	0.0176	0.153	mg/kg	1	6/15/23 19:27	
2-Chlorophenol	ND	U	0.0202	0.153	mg/kg	1	6/15/23 19:27	
2-Methylnaphthalene	ND	U	0.0366	0.230	mg/kg	1	6/15/23 19:27	
2-Methylphenol	ND	U	0.0302	0.153	mg/kg	1	6/15/23 19:27	
2-Nitroaniline	ND	U	0.0123	0.153	mg/kg	1	6/15/23 19:27	
2-Nitrophenol	ND	U	0.0170	0.153	mg/kg	1	6/15/23 19:27	
3,3'-Dichlorobenzidine	ND	U	0.0161	0.153	mg/kg	1	6/15/23 19:27	
3+4-Methylphenol	ND	U	0.0280	0.153	mg/kg	1	6/15/23 19:27	
3-Nitroaniline	ND	U	0.0284	0.153	mg/kg	1	6/15/23 19:27	
4,6-Dinitro-2-methylphenol	ND	U	0.0288	0.382	mg/kg	1	6/15/23 19:27	
4-Bromophenyl-phenyl ether	ND	U	0.0218	0.153	mg/kg	1	6/15/23 19:27	
4-Chloro-3-methylphenol	ND	U	0.0241	0.153	mg/kg	1	6/15/23 19:27	
4-Chloroaniline	ND	U	0.00535	0.153	mg/kg	1	6/15/23 19:27	
4-Chlorophenyl phenyl ether	ND	U	0.00826	0.153	mg/kg	1	6/15/23 19:27	
4-Nitroaniline	ND	U	0.0765	0.153	mg/kg	1	6/15/23 19:27	
4-Nitrophenol	ND	U	0.00978	0.153	mg/kg	1	6/15/23 19:27	
Acenaphthene	ND	U	0.00872	0.153	mg/kg	1	6/15/23 19:27	
Acenaphthylene	ND	U	0.00532	0.153	mg/kg	1	6/15/23 19:27	
Acetophenone	ND	U	0.0152	0.153	mg/kg	1	6/15/23 19:27	
Anthracene	ND	U	0.0222	0.153	mg/kg	1	6/15/23 19:27	
Atrazine	ND	U	0.0144	0.153	mg/kg	1	6/15/23 19:27	
Benzaldehyde	ND	U	0.0470	0.153	mg/kg	1	6/15/23 19:27	UJ, RC:SL
Benzo(a)anthracene	ND	U	0.0154	0.153	mg/kg	1	6/15/23 19:27	
Benzo(a)pyrene	ND	U	0.0266	0.153	mg/kg	1	6/15/23 19:27	
Benzo(b)fluoranthene	ND	U	0.0215	0.153	mg/kg	1	6/15/23 19:27	
Benzo(g,h,i)perylene	ND	U	0.0124	0.153	mg/kg	1	6/15/23 19:27	
Benzo(k)fluoranthene	ND	U	0.0176	0.153	mg/kg	1	6/15/23 19:27	
Biphenyl	ND	U	0.0134	0.153	mg/kg	1	6/15/23 19:27	
bis(2-chloroethoxy)methane	ND	U	0.0211	0.153	mg/kg	1	6/15/23 19:27	UJ, RC:SL
bis(2-chloroethyl)ether	ND	U	0.0168	0.153	mg/kg	1	6/15/23 19:27	
bis(2-chloroisopropyl)ether	ND	U	0.0550	0.153	mg/kg	1	6/15/23 19:27	
bis(2-ethylhexyl)phthalate	ND	U	0.0305	0.153	mg/kg	1	6/15/23 19:27	
Butylbenzylphthalate	ND	U	0.0139	0.153	mg/kg	1	6/15/23 19:27	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-2023 0609** Collected: **6/9/2023 10:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Caprolactam	ND	U	0.0198	0.153	mg/kg	1	6/15/23 19:27	
Carbazole	ND	U	0.0294	0.382	mg/kg	1	6/15/23 19:27	
Chrysene	ND	U	0.0105	0.153	mg/kg	1	6/15/23 19:27	
Dibenzo(a,h)anthracene	ND	U	0.0152	0.153	mg/kg	1	6/15/23 19:27	
Dibenzofuran	ND	U	0.00911	0.153	mg/kg	1	6/15/23 19:27	
Diethylphthalate	ND	U	0.0296	0.153	mg/kg	1	6/15/23 19:27	
Dimethylphthalate	ND	U	0.00949	0.153	mg/kg	1	6/15/23 19:27	
Di-n-butylphthalate	ND	U	0.0625	0.153	mg/kg	1	6/15/23 19:27	
Di-n-octylphthalate	ND	U	0.0314	0.153	mg/kg	1	6/15/23 19:27	
Fluoranthene	ND	U	0.0144	0.153	mg/kg	1	6/15/23 19:27	
Fluorene	ND	U	0.0127	0.153	mg/kg	1	6/15/23 19:27	
Hexachlorobenzene	ND	U	0.0200	0.153	mg/kg	1	6/15/23 19:27	
Hexachlorobutadiene	ND	U	0.0734	0.153	mg/kg	1	6/15/23 19:27	
Hexachlorocyclopentadiene	ND	U	0.0637	0.382	mg/kg	1	6/15/23 19:27	UJ, RC:6L,SL
Hexachloroethane	ND	U	0.0168	0.153	mg/kg	1	6/15/23 19:27	
Indeno(1,2,3-cd)pyrene	ND	U	0.0164	0.153	mg/kg	1	6/15/23 19:27	
Isophorone	ND	U	0.0100	0.153	mg/kg	1	6/15/23 19:27	UJ, RC:SL
Naphthalene	ND	U	0.0113	0.153	mg/kg	1	6/15/23 19:27	
Nitrobenzene	ND	U	0.0260	0.153	mg/kg	1	6/15/23 19:27	
n-Nitroso-di-n-propylamine	ND	U	0.00819	0.153	mg/kg	1	6/15/23 19:27	
n-Nitrosodiphenylamine	ND	U	0.0326	0.153	mg/kg	1	6/15/23 19:27	
Pentachlorophenol	ND	U	0.0210	0.382	mg/kg	1	6/15/23 19:27	UJ, RC:SL
Phenanthrene	ND	U	0.0201	0.153	mg/kg	1	6/15/23 19:27	
Phenol	ND	U	0.0124	0.153	mg/kg	1	6/15/23 19:27	
Pyrene	ND	U	0.0112	0.153	mg/kg	1	6/15/23 19:27	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Hexadecanoic acid, butyl ester	9.78	11.84	J	mg/kg	1	6/15/23 19:27
Octadecanoic acid, butyl ester	5.00	12.63	J, B	mg/kg	1	6/15/23 19:27
unknown	0.341	17.24	J	mg/kg	1	6/15/23 19:27
TIC Total	**15.1**					

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-2023 0609** Collected: **6/9/2023 10:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000254	0.00174	mg/kg	1	6/16/23 21:21	
1,1,2,2-Tetrachloroethane	ND	U	0.000240	0.00174	mg/kg	1	6/16/23 21:21	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000745	0.00174	mg/kg	1	6/16/23 21:21	
1,1,2-Trichloroethane	ND	U	0.000293	0.00174	mg/kg	1	6/16/23 21:21	
1,1-Dichloroethane	ND	U	0.000254	0.00174	mg/kg	1	6/16/23 21:21	
1,1-Dichloroethene	ND	U	0.000322	0.00174	mg/kg	1	6/16/23 21:21	
1,2,3-Trichlorobenzene	ND	U	0.000376	0.00174	mg/kg	1	6/16/23 21:21	
1,2,4-Trichlorobenzene	ND	U	0.000464	0.00174	mg/kg	1	6/16/23 21:21	
1,2,4-Trimethylbenzene	ND	U	0.000240	0.00174	mg/kg	1	6/16/23 21:21	
1,2-Dibromo-3-chloropropane	ND	U	0.000425	0.00435	mg/kg	1	6/16/23 21:21	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000219	0.00174	mg/kg	1	6/16/23 21:21	
1,2-Dichlorobenzene	ND	U	0.000307	0.00174	mg/kg	1	6/16/23 21:21	
1,2-Dichloroethane	ND	U	0.000245	0.00174	mg/kg	1	6/16/23 21:21	
1,2-Dichloropropane	ND	U	0.000285	0.00174	mg/kg	1	6/16/23 21:21	
1,3-Dichlorobenzene	ND	U	0.000128	0.00174	mg/kg	1	6/16/23 21:21	
1,4-Dichlorobenzene	ND	U	0.000251	0.00174	mg/kg	1	6/16/23 21:21	
2-Butanone	ND	U	0.000284	0.00870	mg/kg	1	6/16/23 21:21	
2-Hexanone	ND	U	0.000163	0.00174	mg/kg	1	6/16/23 21:21	
4-Methyl-2-pentanone	ND	U	0.000217	0.00174	mg/kg	1	6/16/23 21:21	
Acetone	ND	U	0.000527	0.0435	mg/kg	1	6/16/23 21:21	
Benzene	ND	U	0.000158	0.00174	mg/kg	1	6/16/23 21:21	
Bromochloromethane	ND	U	0.000321	0.00174	mg/kg	1	6/16/23 21:21	
Bromodichloromethane	ND	U	0.000218	0.00174	mg/kg	1	6/16/23 21:21	
Bromoform	ND	U	0.000305	0.00174	mg/kg	1	6/16/23 21:21	
Bromomethane	ND	U	0.000502	0.00174	mg/kg	1	6/16/23 21:21	UJ, RC:SL
Carbon disulfide	ND	U	0.000250	0.00174	mg/kg	1	6/16/23 21:21	
Carbon Tetrachloride	ND	U	0.000262	0.00174	mg/kg	1	6/16/23 21:21	
Chlorobenzene	ND	U	0.000252	0.00174	mg/kg	1	6/16/23 21:21	
Chlorodibromomethane	ND	U	0.000214	0.00174	mg/kg	1	6/16/23 21:21	
Chloroethane	ND	U	0.000297	0.00174	mg/kg	1	6/16/23 21:21	
Chloroform	ND	U	0.000292	0.00174	mg/kg	1	6/16/23 21:21	
Chloromethane	ND	U	0.000670	0.00174	mg/kg	1	6/16/23 21:21	
cis-1,2-Dichloroethene	ND	U	0.0000841	0.00174	mg/kg	1	6/16/23 21:21	
cis-1,3-Dichloropropene	ND	U	0.000220	0.00174	mg/kg	1	6/16/23 21:21	
Cyclohexane	ND	U	0.000385	0.00174	mg/kg	1	6/16/23 21:21	
Dichlorodifluoromethane	ND	U	0.000587	0.00174	mg/kg	1	6/16/23 21:21	UJ, RC:SL
EthylBenzene	ND	U	0.000236	0.00174	mg/kg	1	6/16/23 21:21	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-01 (Soil) Sample Name: **MW-04-67.0-68.0-2023 0609** Collected: **6/9/2023 10:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000273	0.00174	mg/kg	1	6/16/23 21:21
m+p-Xylenes	ND	U	0.000439	0.00348	mg/kg	1	6/16/23 21:21
Methyl Acetate	ND	U	0.000231	0.00174	mg/kg	1	6/16/23 21:21
Methyl tert-Butyl Ether	ND	U	0.000294	0.00174	mg/kg	1	6/16/23 21:21
Methylcyclohexane	ND	U	0.000280	0.00174	mg/kg	1	6/16/23 21:21
Methylene Chloride	ND	U	0.000523	0.00435	mg/kg	1	6/16/23 21:21
o-Xylene	ND	U	0.000224	0.00174	mg/kg	1	6/16/23 21:21
Styrene	ND	U	0.000249	0.00174	mg/kg	1	6/16/23 21:21
tert-Butyl alcohol	ND	U	0.00365	0.0174	mg/kg	1	6/16/23 21:21
Tetrachloroethene	ND	U	0.000172	0.00174	mg/kg	1	6/16/23 21:21
Toluene	ND	U	0.000140	0.00174	mg/kg	1	6/16/23 21:21
Total Xylenes	ND	U	0.000224	0.00174	mg/kg	1	6/16/23 21:21
trans-1,2-Dichloroethene	ND	U	0.000236	0.00174	mg/kg	1	6/16/23 21:21
trans-1,3-Dichloropropene	ND	U	0.000332	0.00174	mg/kg	1	6/16/23 21:21
Trichloroethene	ND	U	0.000256	0.00174	mg/kg	1	6/16/23 21:21
Trichlorofluoromethane	ND	U	0.000200	0.00174	mg/kg	1	6/16/23 21:21
Vinyl chloride	ND	U	0.000331	0.00174	mg/kg	1	6/16/23 21:21

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Lab Contamination	0.00819	3.93	J	mg/kg	1	6/16/23 21:21
TIC Total	**0.008**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**87.1**				**%**	**1**	**6/12/23 11:17**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.276**		**0.00876**	**0.0735**	**mg/kg**	**1**	**6/14/23 16:06**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-02 (Ground Water) Sample Name: **FB-20230609** Collected: **6/9/2023 12:30:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/11/23 0:56	UJ, RC:3L

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/29/23 12:41
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/29/23 12:41
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/29/23 12:41

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/15/23 14:26

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/21/23 11:29
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/21/23 11:29
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/21/23 11:29
Barium	ND	U	0.000558	0.0200	mg/L	1	6/21/23 11:29
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/21/23 11:29
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/21/23 11:29
Calcium	ND	U	0.256	1.00	mg/L	1	6/21/23 11:29
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/21/23 11:29
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/21/23 11:29
Copper	ND	U	0.00177	0.0100	mg/L	1	6/21/23 11:29
Iron	ND	U	0.0580	0.200	mg/L	1	6/21/23 11:29
Lead	ND	U	0.00510	0.0500	mg/L	1	6/21/23 11:29
Magnesium	ND	U	0.681	2.00	mg/L	1	6/21/23 11:29
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/21/23 11:29
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/21/23 11:29
Potassium	ND	U	2.41	4.00	mg/L	1	6/21/23 11:29

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-02 (Ground Water) Sample Name: **FB-20230609** Collected: **6/9/2023 12:30:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/21/23 11:29
Silver	ND	U	0.00465	0.0200	mg/L	1	6/21/23 11:29
Sodium	ND	U	0.205	2.00	mg/L	1	6/21/23 11:29
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/21/23 11:29
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/21/23 11:29
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/21/23 11:29

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/13/23 20:33	UJ, RC:3L
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/13/23 20:33	R, RC:3L,6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/13/23 20:33	UJ, RC:3L
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/13/23 20:33	UJ, RC:3L

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/14/23 15:47	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/14/23 15:47	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/14/23 15:47	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/14/23 15:47	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/14/23 15:47	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/14/23 15:47	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/14/23 15:47	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-02 (Ground Water) Sample Name: **FB-20230609** Collected: **6/9/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/14/23 15:47	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/14/23 15:47	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/14/23 15:47	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/14/23 15:47	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/14/23 15:47	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/14/23 15:47	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/14/23 15:47	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/14/23 15:47	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/14/23 15:47	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/14/23 15:47	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/14/23 15:47	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/14/23 15:47	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/14/23 15:47	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/14/23 15:47	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/14/23 15:47	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/14/23 15:47	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/14/23 15:47	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/14/23 15:47	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/14/23 15:47	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/14/23 15:47	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/14/23 15:47	
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/14/23 15:47	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/14/23 15:47	UJ, RC:SL
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/14/23 15:47	
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/14/23 15:47	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/14/23 15:47	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/14/23 15:47	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/14/23 15:47	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/14/23 15:47	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/14/23 15:47	
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/14/23 15:47	
Carbazole	ND	U	0.188	2.00	ug/L	1	6/14/23 15:47	
Chrysene	ND	U	0.129	2.00	ug/L	1	6/14/23 15:47	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/14/23 15:47	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/14/23 15:47	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/14/23 15:47	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/14/23 15:47	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/14/23 15:47	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/14/23 15:47	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-02 (Ground Water) Sample Name: **FB-20230609** Collected: **6/9/2023 12:30:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Fluorene	ND	U	0.109	2.00	ug/L	1	6/14/23 15:47	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/14/23 15:47	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/14/23 15:47	
Isophorone	ND	U	0.111	2.00	ug/L	1	6/14/23 15:47	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/14/23 15:47	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/14/23 15:47	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/14/23 15:47	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/14/23 15:47	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/14/23 15:47	
Phenol	ND	U	0.0973	2.00	ug/L	1	6/14/23 15:47	
Pyrene	ND	U	0.115	2.00	ug/L	1	6/14/23 15:47	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/14/23 0:10
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/14/23 0:10
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/14/23 0:10
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/14/23 0:10
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/14/23 0:10
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/14/23 0:10
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/14/23 0:10
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/14/23 0:10
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/14/23 0:10
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/14/23 0:10
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/14/23 0:10
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/14/23 0:10
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/14/23 0:10
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/14/23 0:10
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/14/23 0:10
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/14/23 0:10
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/14/23 0:10
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/14/23 0:10
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/14/23 0:10
Acetone	ND	U	10.0	10.0	ug/L	1	6/14/23 0:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-02 (Ground Water) Sample Name: **FB-20230609** Collected: **6/9/2023 12:30:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Benzene	ND	U	0.129	1.00	ug/L	1	6/14/23 0:10	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/14/23 0:10	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/14/23 0:10	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/14/23 0:10	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/14/23 0:10	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/14/23 0:10	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/14/23 0:10	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/14/23 0:10	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/14/23 0:10	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/14/23 0:10	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/14/23 0:10	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/14/23 0:10	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/14/23 0:10	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/14/23 0:10	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/14/23 0:10	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/14/23 0:10	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/14/23 0:10	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/14/23 0:10	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/14/23 0:10	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/14/23 0:10	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/14/23 0:10	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/14/23 0:10	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/14/23 0:10	
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/14/23 0:10	
Styrene	ND	U	0.176	1.00	ug/L	1	6/14/23 0:10	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/14/23 0:10	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/14/23 0:10	
Toluene	ND	U	0.205	1.00	ug/L	1	6/14/23 0:10	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/14/23 0:10	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/14/23 0:10	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/14/23 0:10	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/14/23 0:10	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/14/23 0:10	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/14/23 0:10	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-02 (Ground Water) Sample Name: FB-20230609 Collected: 6/9/2023 12:30:00PM

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/13/23 15:29	

23F0501-03 (Ground Water) Sample Name: TB-20230609 Collected: 6/9/2023 12:00:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/14/23 0:40	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/14/23 0:40	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/14/23 0:40	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/14/23 0:40	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/14/23 0:40	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/14/23 0:40	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/14/23 0:40	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/14/23 0:40	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/14/23 0:40	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/14/23 0:40	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/14/23 0:40	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/14/23 0:40	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/14/23 0:40	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/14/23 0:40	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/14/23 0:40	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/14/23 0:40	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/14/23 0:40	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/14/23 0:40	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/14/23 0:40	
Acetone	ND	U	10.0	10.0	ug/L	1	6/14/23 0:40	
Benzene	ND	U	0.129	1.00	ug/L	1	6/14/23 0:40	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/14/23 0:40	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/14/23 0:40	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/14/23 0:40	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/14/23 0:40	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/14/23 0:40	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/14/23 0:40	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/14/23 0:40	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/14/23 0:40	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/14/23 0:40	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/14/23 0:40	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0501
Date to Lab: 6/9/2023 5:18:00PM

23F0501-03 (Ground Water) Sample Name: **TB-20230609** Collected: **6/9/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/14/23 0:40
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/14/23 0:40
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/14/23 0:40
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/14/23 0:40
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/14/23 0:40
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/14/23 0:40
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/14/23 0:40
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/14/23 0:40
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/14/23 0:40
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/14/23 0:40
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/14/23 0:40
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/14/23 0:40
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/14/23 0:40
Styrene	ND	U	0.176	1.00	ug/L	1	6/14/23 0:40
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/14/23 0:40
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/14/23 0:40
Toluene	ND	U	0.205	1.00	ug/L	1	6/14/23 0:40
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/14/23 0:40
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/14/23 0:40
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/14/23 0:40
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/14/23 0:40
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/14/23 0:40
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/14/23 0:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2333076
Project Name	: 23F0501	Project Number	: 23F0501
Lab ID	: L2333076-01	Date Collected	: 06/09/23 10:45
Client ID	: MW-04-67.0-68.0-20230609	Date Received	: 06/12/23
Sample Location	:	Date Analyzed	: 07/21/23 17:20
Sample Matrix	: SOIL	Date Extracted	: 06/22/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F207202315	Analyst	: CNC
Sample Amount	: 30.34 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg				
CAS NO.	Parameter	Results	RL	MDL	Qualifier	
91-20-3	Naphthalene	1.40	1.21	0.347		
91-20-3C1	C1-Naphthalenes	0.658	1.21	0.347	J	
91-20-3C2	C2-Naphthalenes	0.882	1.21	0.347	J	
91-20-3C3	C3-Naphthalenes	0.885	1.21	0.347	J	
91-20-3C4	C4-Naphthalenes	ND	1.21	0.347	U	
208-96-8	Acenaphthylene	0.374	1.21	0.231	J	
83-32-9	Acenaphthene	0.277	1.21	0.213	J	J, RC:SH
86-73-7	Fluorene	0.814	1.21	0.322	J	
86-73-7C1	C1-Fluorenes	0.518	1.21	0.322	J	
86-73-7C2	C2-Fluorenes	0.648	1.21	0.322	J	
86-73-7C3	C3-Fluorenes	ND	1.21	0.322	U	
85-01-8	Phenanthrene	3.60	1.21	0.400		J, RC:SH
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1.72	1.21	0.400		
PHENANTHC2	C2-Phenanthrenes/Anthr BS	0.781	1.21	0.400	J	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	0.558	1.21	0.400	J	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.21	0.400	U	
120-12-7	Anthracene	0.432	1.21	0.249	J	J, RC:SH
206-44-0	Fluoranthene	0.861	1.21	0.384	J	
129-00-0	Pyrene	1.12	1.21	0.318	J	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	1.01	1.21	0.318	J	
56-55-3	Benz(a)anthracene	0.463	1.21	0.246	J	
218-01-9	Chrysene	0.558	1.21	0.244	J	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	Lab Number	: L2333076
Project Name	: 23F0501	Project Number	: 23F0501
Lab ID	: L2333076-01	Date Collected	: 06/09/23 10:45
Client ID	: MW-04-67.0-68.0-20230609	Date Received	: 06/12/23
Sample Location	:	Date Analyzed	: 07/21/23 17:20
Sample Matrix	: SOIL	Date Extracted	: 06/22/23
Analytical Method	: 1,8270E-SIM(M)	Dilution Factor	: 1
Lab File ID	: F207202315	Analyst	: CNC
Sample Amount	: 30.34 g	Instrument ID	: PAH2
Extraction Method	: ALPHA OP-013	GC Column	: ZB-5
Extract Volume	: 4000 uL	%Solids	: 82
GPC Cleanup	: N	Injection Volume	: 1 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
218-01-9C1	C1-Chrysenes	0.337	1.21	0.244	J
218-01-9C2	C2-Chrysenes BS	ND	1.21	0.244	U
218-01-9C3	C3-Chrysenes	ND	1.21	0.244	U
218-01-9C4	C4-Chrysenes	ND	1.21	0.244	U
205-99-2	Benzo(b)fluoranthene	ND	1.21	0.314	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	0.311	1.21	0.240	J
192-97-2	Benzo(e)pyrene	0.262	1.21	0.249	J
50-32-8	Benzo(a)pyrene	ND	1.21	0.345	U UJ, RC:Q
198-55-0	Perylene	0.234	1.21	0.233	J J, RC:Q
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.21	0.328	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.21	0.326	U
191-24-2	Benzo(g,h,i)perylene	ND	1.21	0.321	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2333076
Project Name	: 23F0501	**Project Number**	: 23F0501
Lab ID	: L2333076-01	**Date Collected**	: 06/09/23 10:45
Client ID	: MW-04-67.0-68.0-20230609	**Date Received**	: 06/12/23
Sample Location	:	**Date Analyzed**	: 06/17/23 23:50
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: MRM
Lab File ID	: --	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 82
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2333076
Project Name	: 23F0501	**Project Number**	: 23F0501
Lab ID	: L2333076-01	**Date Collected**	: 06/09/23 10:45
Client ID	: MW-04-67.0-68.0-20230609	**Date Received**	: 06/12/23
Sample Location	:	**Date Analyzed**	: 06/14/23 15:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1791310.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 82
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**81.8**	**0.100**	**0.100**	

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: L2334122 and 23F0618
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: March 26, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-SB-62-1.0-2.0-20230612	23F0618-01 L2334122-01	06/12/2023	Soil
OH-SB-62-9.0-10.0-20230612	23F0618-02 L2334122-02	06/12/2023	Soil
FB-20230612	23F0618-03 L2334122-03	06/12/2023	Water
TB-20230613	23F0618-04 L2334122-04	06/13/2023	Water
OH-SB-61-1.0-2.0-20230613	23F0618-05 L2334122-05	06/13/2023	Soil
OH-SB-61-9.0-10.0-20230613	23F0618-06 L2334122-06	06/13/2023	Soil

Data validation was performed on the analytical data for six (6) samples collected between June 12 and June 13, 2023, by Yu and associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Semivolatiles - Alkylated PAHs	USEPA SW-846 8270D-SIM
Pesticides	USEPA SW-846 8081B
Herbicides	USEPA SW-846 8151A
PCBs	USEPA SW-846 8082A
Metals	USEPA SW846 6010D
Mercury	USEPA 7473/245.1
Cyanide	USEPA SW846 9014
Free Cyanide	SM 4500NC-E(M)

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020

- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Herbicide results associated FB-20230612 were rejected due to major surrogate recovery issues. Minor analytical issues were found with the following data quality indicators resulting in qualified results: initial calibration, continuing calibration, surrogates, matrix spike/matrix spike duplicates, and laboratory control samples.

Chain of Custody:

- Aqua Protech Labs (APL) subcontracted alkylated PAHs and Free Cyanide analyses to Alpha labs and transferred samples to Alpha using the APL lab IDs.
- Sample FB-20230612 was listed for Alkylated PAH analysis; this sample was not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for Dibromofluoromethane in sample OH-SB-62-1.0-2.0-20230612, which recovered below control limits. Associated sample results were qualified as estimated J/UJ, reason code 3L.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When

both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB-20230613 FB-20230612	Bromomethane	CCV %D > 20% (decrease in response)	UJ (non-detects)	SL
	OH-SB-62-1.0-2.0-20230612 OH-SB-62-9.0-10.0-20230612 OH-SB-61-1.0-2.0-20230613 OH-SB-61-9.0-10.0-20230613	1,2-Dibromo-3-chloropropane Bromomethane Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (non-detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries for all samples.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample

results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met except for analytes presented in the following table.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230612	Benzaldehyde	%RSD >20%	UJ (NDs)	Q

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	FB-20230612	2,4-Dimethylphenol 2,4-Dinitrophenol 2-Nitroaniline 4-Nitrophenol Benzaldehyde bis(2-Chloroisopropyl)ether bis(2-Ethylhexyl)phthalate Benzyl butyl phthalate Hexachlorocyclopentadiene N-Nitrosodiphenylamine	CCV %D > 20% (decrease in response)	UJ (NDs)	SL
	OH-SB-62-1.0-2.0-20230612 OH-SB-62-9.0-10.0-20230612 OH-SB-61-1.0-2.0-20230613	2,4-Dinitrotoluene 2-Nitroaniline 4-Nitrophenol	CCV %D > 20% (decrease in	J (detects) UJ (non-detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	OH-SB-61-9.0-10.0-20230613	Benzaldehyde	response)		

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-SB-61-9.0-10.0-20230613	Decachlorobiphenyl Decachlorobiphenyl [2C]	%R > CL	No action (NDs)	3H
8151A	FB-20230612	2,4-DCAA 2,4-DCAA [2C]	%R <CL<10%	J (Detects) R (NDs)	3L
	OH-SB-62-1.0-2.0-20230612 OH-SB-62-9.0-10.0-20230612 OH-SB-61-1.0-2.0-20230613	2,4-DCAA 2,4-DCAA [2C]	%R <CL	J (Detects) UJ (NDs)	3L
8081B	OH-SB-61-9.0-10.0-20230613	Tetrachloro-m-xylene Decachlorobiphenyl	%R > CL	No action (NDs)	3H
		Tetrachloro-m-xylene [2C]	%R > CL		

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8082A	OH-SB-61-1.0-2.0-20230613	Aroclor-1016	%R < CL	J (Detects) UJ (NDs)	6L
8081B	OH-SB-62-1.0-2.0-20230612 OH-SB-62-9.0-10.0-20230612 OH-SB-61-1.0-2.0-20230613 OH-SB-61-9.0-10.0-20230613	Endosulfan II	%R < CL	J (Detects) UJ (NDs)	6L
	FB-20230612	Endosulfan sulfate Endrin	%R < CL	J (Detects) UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- CCVs exhibited compounds above control limits; however, associated samples results were non-detect, and qualification was not warranted.
- The original lab report had issues affecting how pesticide and PCB calibration factors were reported in the CCV summaries. That information was later corrected and provided as an addendum to the data package.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 601D	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by SW-846 7473	Soil	28 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SW-846 9014	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	FB-20230612	Antimony	%R < CL	UJ (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibit6ed acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
6010D	OH-SB-62-1.0-2.0-20230612	Cyanide	%R > CL	J (detects) No action (NDs)	4H

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The lab duplicate analysis was not performed on samples evaluated in this report.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- The serial dilution analysis was not performed on samples evaluated in this report.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for the SDGs evaluated in this report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: March 26, 2024 Peer Review: JLD

Corey Strauss
Project Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
AA	Serial dilution problem
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

APL

AQUA PRO-TECH LABORATORIES
A Pace® Analytical Laboratory
1275 Bloomfield Avenue, Fairfield, NJ 07004 (973) 227-0422

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

APL Work Order Number: 23F0618

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Aug 31, 2023

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Certified Environmental Testing

Sample Summary

Work Order: 23F0618

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-SB-62-1.0-2.0-20230612	23F0618-01	Soil	06/12/2023 10:30	06/13/2023 17:15
OH-SB-62-9.0-10.0-20230612	23F0618-02	Soil	06/12/2023 11:45	06/13/2023 17:15
FB-20230612	23F0618-03	Ground Water	06/12/2023 13:00	06/13/2023 17:15
TB-20230613	23F0618-04	Ground Water	06/13/2023 00:00	06/13/2023 17:15
OH-SB-61-1.0-2.0-20230613	23F0618-05	Soil	06/13/2023 09:30	06/13/2023 17:15
OH-SB-61-9.0-10.0-20230613	23F0618-06	Soil	06/13/2023 11:00	06/13/2023 17:15

PN: 23F0618

APL 23F0618

AQUA PRO-TECH LABORATORIES

www.aquaprotechlabs.com

FAIRFIELD, NEW JERSEY

TEL: 973.227.0422
FAX: 973.227.2813

CHAIN OF CUSTODY

CLIENT: YU & Associates	SEND REPORT TO: Same
ADDRESS: 611 River Drive, 3rd floor	ADDRESS:
Elmwood Park, NJ 07407	
PHONE: 201-763-9621	PHONE: as
E-MAIL: swang@yu-associates.com	FAX:
PROJECT NAME: Gowanus OH 007	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS: left
PROJECT or PO #: 156854	SAMPLED BY: YP.

PAGE ___ OF ___

TURN-AROUND TIME

- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required ___
  - [ ] 48 hr. date & time required ___
  - [ ] 72 hr. date & time required ___
  - [ ] 1 week

REPORT FORMAT

- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

ELECTRONIC FORMAT

- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ___

PWSID# ___

[x] NYS Category B.

CONTAMINATION LEVEL

[ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
23F0618 -01	OH-SB-62-1.0-2.0-20230612	06/12/23	10:30	X		S	5		Voc, SVOC, PCB, Pesticide, Herbicide, TAL Metals, Alkylated PAH, TCN, FCN
-02	OH-SB-62-9.0-10.0-20230612	06/12/23	11:45	X		S	5		" "
-03	FB-20230612	06/12/23	1300	X		DI	10		" "
-04	TB-20230613	06/13/23	LAB			DI	2		VOC
-05	OH-SB-61-1.0-2.0-20230613	06/13/23	0930			S	5		VOC, SVOC, PCB, Pesticide, Herbicide, TAL Metals, Alkylated PAH, TCN, FCN
-06	OH-SB-61-9.0-10.0-20230613	06/13/23	1100			S	5		" "

RELINQUISHED BY (Print) Yaxuda	DATE 06/13/23	RECEIVED BY (Print) Alfonso Rivera	6/13/23
Signature	Time 1268	Signature (AAL)	1248
RELINQUISHED BY (Print) Alfonso Rivera (AAL)	DATE 6/13/23	RECEIVED BY (Print) Rose Wang	
Signature	Time 1715	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 2.5C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015B or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1, Method 8260C.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8260C.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1, Method 8270D.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8270D.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537.

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8081B.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3, Method 8082A.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 19th Edition".

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of APL's certified Methods are accessible on the Standards And Docs page of the Results Retrieval System

MDL:

Method Detection Limit. The minimum reportable concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. The value is calculated from the analysis of seven replicates of a spike sample. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

RL:

Reporting Limit. The Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc) / Result:

If the compound is detected, the measured concentration is reported. If this column is left blank, or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search.

Qualifiers:

- **U:** Indicates the compound was analyzed for but was not detected.
- **J:** Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
- **B:** Indicates the analyte was found in the method blank as well as the sample.
- **N:** Used when reporting a specific tentatively identified compound.
- **E:** Indicates that the concentration of the compound exceeds the calibration range of the instrument. The results of a diluted analysis will also be reported. The results of the dilution should be used for those compounds exceeding the calibration range in the undiluted analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [6010D / 200.7 / 7473 / 245.1 / 9014 / SM 4500-CN C-16 plus E-16]

Method 6010D:
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 9014:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (high). The blank spike met all QC criteria.

Method 200.7:
The percent recovery for Antimony was outside of the QC limits for the blank spike (low).
The percent recoveries for some metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low).

Methods 7473 / 245.1 / SM 4500-CN C-16 plus E-16:
All samples met the QC criteria.

ANALYSIS: Herbicides [8151A]
Samples 23F0618-01, -02 and -05 have surrogates outside of the QC limits (low), due to matrix interferences.

ANALYSIS: PCBs [8082A]
Sample 23F0618-06 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]
The percent recoveries for some compounds were outside of the QC limits for the blank spikes (low).

The percent recovery for 4,4'-DDT was outside of the QC limits for the matrix spike and matrix spike duplicate (low).
The blank spike met all QC criteria.

Sample 23F0618-06 has surrogates outside of the QC limits (high), due to matrix interference.

ANALYSIS: VOLATILES BY GC/MS [8260D]
The continuing calibrations were outside of the QC limits for some compounds (low).

Sample 23F0618-01 has one surrogate (Dibromofluoromethane) outside of the QC limits (low), due to matrix interference.
Sample 23F0618-02 has one internal standard (1,4-Dichlorobenzene-d4) outside of the QC limits (low), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]
The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for Benzaldehyde was outside of the QC limits for the blank spike (low).
The percent recoveries for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Reviewed By: _____ (SK) 8/31/2023

Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.310		0.00554	0.0222	mg/kg dry	1	6/22/23 11:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7010		0.164	2.76	mg/kg dry	1	6/25/23 10:01
Antimony	2.31		0.150	1.38	mg/kg dry	1	6/25/23 10:01
Arsenic	8.11		0.0983	1.38	mg/kg dry	1	6/25/23 10:01
Barium	124		0.0417	0.551	mg/kg dry	1	6/25/23 10:01
Beryllium	0.369		0.00319	0.0276	mg/kg dry	1	6/25/23 10:01
Calcium	52400	D	31.0	276	mg/kg dry	10	6/26/23 9:20
Chromium	16.2		0.0311	0.276	mg/kg dry	1	6/25/23 10:01
Cobalt	6.50		0.0282	0.220	mg/kg dry	1	6/25/23 10:01
Copper	76.0		0.0771	0.276	mg/kg dry	1	6/25/23 10:01
Iron	12000		0.781	5.51	mg/kg dry	1	6/25/23 10:01
Lead	202		0.115	1.38	mg/kg dry	1	6/25/23 10:01
Magnesium	2570		9.73	55.1	mg/kg dry	1	6/25/23 10:01
Manganese	169		0.0343	0.276	mg/kg dry	1	6/25/23 10:01
Nickel	13.5		0.0242	0.138	mg/kg dry	1	6/25/23 10:01
Potassium	700		32.8	110	mg/kg dry	1	6/25/23 10:01
Silver	0.483		0.0469	0.165	mg/kg dry	1	6/25/23 10:01
Sodium	687		5.25	55.1	mg/kg dry	1	6/25/23 10:01
Vanadium	19.0		0.0634	0.551	mg/kg dry	1	6/25/23 10:01
Zinc	372	D	0.842	8.27	mg/kg dry	10	6/26/23 9:20

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE [2C]	0.00115	J	0.000788	0.00144	mg/kg dry	1	6/19/23 20:30
Chlordane	0.0240		0.000640	0.00144	mg/kg dry	1	6/19/23 20:30

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.338		0.0353	0.222	mg/kg dry	1	6/22/23 20:36
Acenaphthene	0.526		0.00841	0.147	mg/kg dry	1	6/22/23 20:36
Acenaphthylene	0.519		0.00513	0.147	mg/kg dry	1	6/22/23 20:36
Acetophenone	0.107	J	0.0146	0.147	mg/kg dry	1	6/22/23 20:36
Anthracene	1.07		0.0214	0.147	mg/kg dry	1	6/22/23 20:36
Benzaldehyde	0.0775	J	0.0453	0.147	mg/kg dry	1	6/22/23 20:36
Benzo(a)anthracene	2.54		0.0148	0.147	mg/kg dry	1	6/22/23 20:36
Benzo(a)pyrene	2.95		0.0257	0.147	mg/kg dry	1	6/22/23 20:36
Benzo(b)fluoranthene	3.36		0.0207	0.147	mg/kg dry	1	6/22/23 20:36
Benzo(g,h,i)perylene	2.65		0.0120	0.147	mg/kg dry	1	6/22/23 20:36

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzo(k)fluoranthene	1.03		0.0169	0.147	mg/kg dry	1	6/22/23 20:36
Biphenyl	0.118	J	0.0130	0.147	mg/kg dry	1	6/22/23 20:36
Carbazole	0.389		0.0284	0.369	mg/kg dry	1	6/22/23 20:36
Chrysene	2.70		0.0101	0.147	mg/kg dry	1	6/22/23 20:36
Dibenzo(a,h)anthracene	0.600		0.0146	0.147	mg/kg dry	1	6/22/23 20:36
Dibenzofuran	0.349		0.00878	0.147	mg/kg dry	1	6/22/23 20:36
Fluoranthene	5.53		0.0138	0.147	mg/kg dry	1	6/22/23 20:36
Fluorene	0.488		0.0123	0.147	mg/kg dry	1	6/22/23 20:36
Indeno(1,2,3-cd)pyrene	1.80		0.0158	0.147	mg/kg dry	1	6/22/23 20:36
Naphthalene	0.414		0.0109	0.147	mg/kg dry	1	6/22/23 20:36
Phenanthrene	4.44		0.0194	0.147	mg/kg dry	1	6/22/23 20:36
Pyrene	4.73		0.0108	0.147	mg/kg dry	1	6/22/23 20:36
TIC_2-Pentanone, 4-hydroxy-4-methyl-	79.1	J			mg/kg dry	1	6/22/23 20:36
TIC_3,4-Dimethylthiophenol	1.71	J			mg/kg dry	1	6/22/23 20:36
TIC_4H-Cyclopenta[def]phenanthrene	1.44	J			mg/kg dry	1	6/22/23 20:36
TIC_Benzene, 1-ethenyl-2-methyl-	0.795	J			mg/kg dry	1	6/22/23 20:36
TIC_Benzene, 1-ethenyl-3-methyl-	2.21	J			mg/kg dry	1	6/22/23 20:36
TIC_Benzene, 1-methyl-2-(1-methylethyl)-	0.910	J			mg/kg dry	1	6/22/23 20:36
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	1.42	J			mg/kg dry	1	6/22/23 20:36
TIC_Hexadecanoic acid, butyl ester	6.94	J			mg/kg dry	1	6/22/23 20:36
TIC_Indene	0.845	J			mg/kg dry	1	6/22/23 20:36
TIC_Octadecanoic acid, butyl ester	2.03	J, B			mg/kg dry	1	6/22/23 20:36
TIC_Phenanthrene, 1-methyl-	0.796	J			mg/kg dry	1	6/22/23 20:36
TIC_Styrene	2.48	J			mg/kg dry	1	6/22/23 20:36

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	0.00455		0.000331	0.00231	mg/kg dry	1	6/16/23 16:56
TIC_2-Chloroethanol	0.00628	J			mg/kg dry	1	6/16/23 16:56

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.518		0.00760	0.0638	mg/kg dry	1	6/16/23 17:35

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20230612**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20230612**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.481		0.00623	0.0249	mg/kg dry	1	6/22/23 11:13

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	7570		0.187	3.15	mg/kg dry	1	6/25/23 10:03
Arsenic	8.49		0.112	1.57	mg/kg dry	1	6/25/23 10:03
Barium	183		0.0476	0.629	mg/kg dry	1	6/25/23 10:03
Beryllium	0.348		0.00364	0.0315	mg/kg dry	1	6/25/23 10:03
Calcium	26400		3.54	31.5	mg/kg dry	1	6/25/23 10:03
Chromium	14.5		0.0355	0.315	mg/kg dry	1	6/25/23 10:03
Cobalt	5.00		0.0322	0.252	mg/kg dry	1	6/25/23 10:03
Copper	19.2		0.0880	0.315	mg/kg dry	1	6/25/23 10:03
Iron	13600		0.891	6.29	mg/kg dry	1	6/25/23 10:03
Lead	1060		0.131	1.57	mg/kg dry	1	6/25/23 10:03
Magnesium	2920		11.1	62.9	mg/kg dry	1	6/25/23 10:03
Manganese	253		0.0391	0.315	mg/kg dry	1	6/25/23 10:03
Nickel	19.4		0.0276	0.157	mg/kg dry	1	6/25/23 10:03
Potassium	1590		37.4	126	mg/kg dry	1	6/25/23 10:03
Sodium	2900		6.00	62.9	mg/kg dry	1	6/25/23 10:03
Vanadium	18.0		0.0724	0.629	mg/kg dry	1	6/25/23 10:03
Zinc	230		0.0961	0.944	mg/kg dry	1	6/25/23 10:03

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDE [2C]	0.00123	J	0.000886	0.00162	mg/kg dry	1	6/19/23 20:52

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.148	J	0.0398	0.249	mg/kg dry	1	6/22/23 20:05
Acenaphthene	0.718		0.00946	0.166	mg/kg dry	1	6/22/23 20:05
Acenaphthylene	0.407		0.00577	0.166	mg/kg dry	1	6/22/23 20:05
Anthracene	0.928		0.0241	0.166	mg/kg dry	1	6/22/23 20:05
Benzo(a)anthracene	1.51		0.0167	0.166	mg/kg dry	1	6/22/23 20:05
Benzo(a)pyrene	1.37		0.0289	0.166	mg/kg dry	1	6/22/23 20:05
Benzo(b)fluoranthene	1.12		0.0233	0.166	mg/kg dry	1	6/22/23 20:05
Benzo(g,h,i)perylene	1.15		0.0135	0.166	mg/kg dry	1	6/22/23 20:05
Benzo(k)fluoranthene	0.506		0.0191	0.166	mg/kg dry	1	6/22/23 20:05
Biphenyl	0.0398	J	0.0146	0.166	mg/kg dry	1	6/22/23 20:05
bis(2-ethylhexyl)phthalate	0.0485	J	0.0331	0.166	mg/kg dry	1	6/22/23 20:05
Chrysene	1.56		0.0114	0.166	mg/kg dry	1	6/22/23 20:05
Dibenzo(a,h)anthracene	0.217		0.0165	0.166	mg/kg dry	1	6/22/23 20:05

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20230612**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzofuran	0.0324	J	0.00988	0.166	mg/kg dry	1	6/22/23 20:05
Di-n-butylphthalate	0.0952	J	0.0678	0.166	mg/kg dry	1	6/22/23 20:05
Fluoranthene	2.76		0.0156	0.166	mg/kg dry	1	6/22/23 20:05
Fluorene	0.147	J	0.0138	0.166	mg/kg dry	1	6/22/23 20:05
Indeno(1,2,3-cd)pyrene	0.646		0.0178	0.166	mg/kg dry	1	6/22/23 20:05
Naphthalene	0.290		0.0123	0.166	mg/kg dry	1	6/22/23 20:05
Phenanthrene	0.506		0.0218	0.166	mg/kg dry	1	6/22/23 20:05
Pyrene	4.64		0.0122	0.166	mg/kg dry	1	6/22/23 20:05
TIC_11H-Benzo[a]fluorene	0.417	J			mg/kg dry	1	6/22/23 20:05
TIC_2-Pentanone, 4-hydroxy-4-methyl-	22.3	J			mg/kg dry	1	6/22/23 20:05
TIC_4H-Cyclopenta[def]phenanthrene	2.10	J			mg/kg dry	1	6/22/23 20:05
TIC_6-Phenylbenzocycloheptan-7-one	0.458	J			mg/kg dry	1	6/22/23 20:05
TIC_Anthracene, 9-methyl-	0.643	J			mg/kg dry	1	6/22/23 20:05
TIC_Dodecane, 2,6,10-trimethyl-	0.406	J			mg/kg dry	1	6/22/23 20:05
TIC_Ethanol, 2-butoxy-	0.588	J			mg/kg dry	1	6/22/23 20:05
TIC_Heptadecane	0.438	J			mg/kg dry	1	6/22/23 20:05
TIC_Hexadecanoic acid, butyl ester	4.85	J			mg/kg dry	1	6/22/23 20:05
TIC_Octadecane	0.471	J			mg/kg dry	1	6/22/23 20:05
TIC_Octadecanoic acid, butyl ester	2.39	J, B			mg/kg dry	1	6/22/23 20:05
TIC_Phenanthrene, 2,5-dimethyl-	0.743	J			mg/kg dry	1	6/22/23 20:05
TIC_Pyrene, 1-methyl-	0.361	J			mg/kg dry	1	6/22/23 20:05
TIC_Pyrene, 4-methyl-	0.704	J			mg/kg dry	1	6/22/23 20:05
TIC_unknown	0.420	J			mg/kg dry	1	6/22/23 20:05

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00172	J	0.000324	0.00235	mg/kg dry	1	6/16/23 17:26
2-Butanone	0.0322		0.000383	0.0118	mg/kg dry	1	6/16/23 17:26
Acetone	0.119		0.000712	0.0588	mg/kg dry	1	6/16/23 17:26
Benzene	0.00649		0.000214	0.00235	mg/kg dry	1	6/16/23 17:26
Carbon disulfide	0.0107		0.000337	0.00235	mg/kg dry	1	6/16/23 17:26
EthylBenzene	0.00155	J	0.000319	0.00235	mg/kg dry	1	6/16/23 17:26
Isopropylbenzene	0.0592		0.000369	0.00235	mg/kg dry	1	6/16/23 17:26
m+p-Xylenes	0.00514		0.000594	0.00470	mg/kg dry	1	6/16/23 17:26
Methylcyclohexane	0.0242		0.000379	0.00235	mg/kg dry	1	6/16/23 17:26
o-Xylene	0.00514		0.000302	0.00235	mg/kg dry	1	6/16/23 17:26

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20230612**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	0.00289		0.000189	0.00235	mg/kg dry	1	6/16/23 17:26
Total Xylenes	0.0103		0.000302	0.00235	mg/kg dry	1	6/16/23 17:26
TIC_1-Pentene, 2,3-dimethyl-	0.231	J			mg/kg dry	1	6/16/23 17:26
TIC_2-Cyclohexen-1-one, 4-(1-methylethyl)-	0.428	J			mg/kg dry	1	6/16/23 17:26
TIC_Benzene, 2-ethenyl-1,3-dimethyl-	0.238	J			mg/kg dry	1	6/16/23 17:26
TIC_Cyclohexane, (2-methylpropyl)-	0.396	J			mg/kg dry	1	6/16/23 17:26
TIC_Cyclohexane, 1,1,2,3-tetramethyl-	0.310	J			mg/kg dry	1	6/16/23 17:26
TIC_Cyclohexane, 1,3,5-trimethyl-, (1.alpha.	0.242	J			mg/kg dry	1	6/16/23 17:26
TIC_Cyclohexane, 1,3,5-trimethyl-2-octadecyl	0.245	J			mg/kg dry	1	6/16/23 17:26
TIC_Cyclohexane, 1-methyl-2-propyl-	0.463	J			mg/kg dry	1	6/16/23 17:26
TIC_Cyclohexene, 1-ethyl-	0.533	J			mg/kg dry	1	6/16/23 17:26
TIC_Decane, 3-methyl-	0.323	J			mg/kg dry	1	6/16/23 17:26
TIC_Dodecane, 4,6-dimethyl-	0.287	J			mg/kg dry	1	6/16/23 17:26
TIC_Naphthalene, decahydro-, cis-	0.521	J			mg/kg dry	1	6/16/23 17:26
TIC_Nonane, 3,7-dimethyl-	0.285	J			mg/kg dry	1	6/16/23 17:26
TIC_Octane, 2,6-dimethyl-	0.486	J			mg/kg dry	1	6/16/23 17:26
TIC_trans-Decalin, 2-methyl-	0.260	J			mg/kg dry	1	6/16/23 17:26

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.35		0.00778	0.0653	mg/kg dry	1	6/16/23 17:35

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	0.341		0.00597	0.0239	mg/kg dry	1	6/22/23 11:14

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	5420		0.173	2.91	mg/kg dry	1	6/25/23 10:05
Arsenic	12.8		0.104	1.46	mg/kg dry	1	6/25/23 10:05
Barium	233		0.0440	0.583	mg/kg dry	1	6/25/23 10:05
Beryllium	0.360		0.00337	0.0291	mg/kg dry	1	6/25/23 10:05
Cadmium	0.437		0.0568	0.291	mg/kg dry	1	6/25/23 10:05

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	86900	D	32.8	291	mg/kg dry	10	6/26/23 9:22
Chromium	28.3		0.0329	0.291	mg/kg dry	1	6/25/23 10:05
Cobalt	5.13		0.0298	0.233	mg/kg dry	1	6/25/23 10:05
Copper	58.3		0.0815	0.291	mg/kg dry	1	6/25/23 10:05
Iron	16500		0.825	5.83	mg/kg dry	1	6/25/23 10:05
Lead	497		0.122	1.46	mg/kg dry	1	6/25/23 10:05
Magnesium	2050		10.3	58.3	mg/kg dry	1	6/25/23 10:05
Manganese	220		0.0362	0.291	mg/kg dry	1	6/25/23 10:05
Nickel	13.1		0.0256	0.146	mg/kg dry	1	6/25/23 10:05
Potassium	215		34.6	117	mg/kg dry	1	6/25/23 10:05
Silver	0.249		0.0495	0.175	mg/kg dry	1	6/25/23 10:05
Sodium	523		5.55	58.3	mg/kg dry	1	6/25/23 10:05
Vanadium	18.9		0.0670	0.583	mg/kg dry	1	6/25/23 10:05
Zinc	379	D	0.890	8.74	mg/kg dry	10	6/26/23 9:22

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	0.329		0.0381	0.239	mg/kg dry	1	6/22/23 21:38
3+4-Methylphenol	0.0576	J	0.0291	0.159	mg/kg dry	1	6/22/23 21:38
Acenaphthene	0.259		0.00907	0.159	mg/kg dry	1	6/22/23 21:38
Acenaphthylene	0.575		0.00553	0.159	mg/kg dry	1	6/22/23 21:38
Anthracene	0.671		0.0231	0.159	mg/kg dry	1	6/22/23 21:38
Benzaldehyde	0.0916	J	0.0489	0.159	mg/kg dry	1	6/22/23 21:38
Benzo(a)anthracene	2.01		0.0160	0.159	mg/kg dry	1	6/22/23 21:38
Benzo(a)pyrene	2.62		0.0277	0.159	mg/kg dry	1	6/22/23 21:38
Benzo(b)fluoranthene	2.96		0.0223	0.159	mg/kg dry	1	6/22/23 21:38
Benzo(g,h,i)perylene	2.21		0.0129	0.159	mg/kg dry	1	6/22/23 21:38
Benzo(k)fluoranthene	1.01		0.0183	0.159	mg/kg dry	1	6/22/23 21:38
Biphenyl	0.130	J	0.0140	0.159	mg/kg dry	1	6/22/23 21:38
Carbazole	0.176	J	0.0306	0.398	mg/kg dry	1	6/22/23 21:38
Chrysene	2.24		0.0109	0.159	mg/kg dry	1	6/22/23 21:38
Dibenzo(a,h)anthracene	0.481		0.0158	0.159	mg/kg dry	1	6/22/23 21:38
Dibenzofuran	0.154	J	0.00947	0.159	mg/kg dry	1	6/22/23 21:38
Fluoranthene	3.88		0.0149	0.159	mg/kg dry	1	6/22/23 21:38
Fluorene	0.258		0.0133	0.159	mg/kg dry	1	6/22/23 21:38
Indeno(1,2,3-cd)pyrene	1.64		0.0171	0.159	mg/kg dry	1	6/22/23 21:38
Naphthalene	0.400		0.0118	0.159	mg/kg dry	1	6/22/23 21:38
Phenanthrene	2.45		0.0209	0.159	mg/kg dry	1	6/22/23 21:38
Pyrene	3.59		0.0117	0.159	mg/kg dry	1	6/22/23 21:38
TIC_1,3,5,7-Cyclooctatetraene	1.24	J			mg/kg dry	1	6/22/23 21:38

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_1H-Inden-1-one, 2,3-dihydro-	0.441	J			mg/kg dry	1	6/22/23 21:38
TIC_2-Pentanone, 4-hydroxy-4-methyl-	35.8	J			mg/kg dry	1	6/22/23 21:38
TIC_Benzene, 1-(bromomethyl)-2-methyl-	0.606	J			mg/kg dry	1	6/22/23 21:38
TIC_Benzene, 1-ethenyl-3-methyl-	1.24	J			mg/kg dry	1	6/22/23 21:38
TIC_Benzene, 1-methyl-4-(1-methylethyl)-	0.632	J			mg/kg dry	1	6/22/23 21:38
TIC_Benzene, 1-propenyl-, (E)-	0.403	J			mg/kg dry	1	6/22/23 21:38
TIC_Benzene, 1-propynyl-	0.625	J			mg/kg dry	1	6/22/23 21:38
TIC_Ethanol, 2-butoxy-	0.464	J			mg/kg dry	1	6/22/23 21:38
TIC_Hexadecanoic acid, butyl ester	4.82	J			mg/kg dry	1	6/22/23 21:38
TIC_Naphthalene, 2-ethenyl-	0.327	J			mg/kg dry	1	6/22/23 21:38
TIC_Octadecanoic acid, butyl ester	1.79	J, B			mg/kg dry	1	6/22/23 21:38
TIC_Phenanthrene, 1-methyl-	0.649	J			mg/kg dry	1	6/22/23 21:38
TIC_Toluene	0.963	J			mg/kg dry	1	6/22/23 21:38
TIC_unknown	0.440	J			mg/kg dry	1	6/22/23 21:38

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.23		0.00891	0.0748	mg/kg dry	1	6/16/23 17:35

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20230613**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	4.86		0.00819	0.0327	mg/kg dry	1	6/22/23 14:40

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	8500		0.248	4.18	mg/kg dry	1	6/25/23 10:07
Arsenic	16.3		0.149	2.09	mg/kg dry	1	6/25/23 10:07
Barium	1260	D	0.631	8.35	mg/kg dry	10	6/26/23 9:24
Beryllium	0.587		0.00484	0.0418	mg/kg dry	1	6/25/23 10:07
Cadmium	0.547		0.0814	0.418	mg/kg dry	1	6/25/23 10:07
Calcium	32500		4.70	41.8	mg/kg dry	1	6/25/23 10:07
Chromium	20.6		0.0472	0.418	mg/kg dry	1	6/25/23 10:07
Cobalt	9.98		0.0427	0.334	mg/kg dry	1	6/25/23 10:07
Copper	1390	D	1.17	4.18	mg/kg dry	10	6/26/23 9:24

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20230613**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Iron	19500		1.18	8.35	mg/kg dry	1	6/25/23 10:07
Lead	1570		0.174	2.09	mg/kg dry	1	6/25/23 10:07
Magnesium	1980		14.8	83.5	mg/kg dry	1	6/25/23 10:07
Manganese	141		0.0519	0.418	mg/kg dry	1	6/25/23 10:07
Nickel	27.1		0.0367	0.209	mg/kg dry	1	6/25/23 10:07
Potassium	950		49.7	167	mg/kg dry	1	6/25/23 10:07
Silver	4.04		0.0710	0.251	mg/kg dry	1	6/25/23 10:07
Sodium	3980		7.96	83.5	mg/kg dry	1	6/25/23 10:07
Vanadium	24.1		0.0960	0.835	mg/kg dry	1	6/25/23 10:07
Zinc	618	D	1.28	12.5	mg/kg dry	10	6/26/23 9:24

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	1.68		0.0522	0.327	mg/kg dry	1	6/22/23 21:07
2-Methylphenol	0.0859	J	0.0431	0.218	mg/kg dry	1	6/22/23 21:07
3+4-Methylphenol	2.22		0.0399	0.218	mg/kg dry	1	6/22/23 21:07
Acenaphthene	11.6		0.0124	0.218	mg/kg dry	1	6/22/23 21:07
Acenaphthylene	11.5		0.00758	0.218	mg/kg dry	1	6/22/23 21:07
Acetophenone	0.959		0.0216	0.218	mg/kg dry	1	6/22/23 21:07
Anthracene	10.9		0.0316	0.218	mg/kg dry	1	6/22/23 21:07
Benzo(a)anthracene	23.3	D	0.219	2.18	mg/kg dry	10	6/27/23 1:02
Benzo(a)pyrene	34.3	D	0.380	2.18	mg/kg dry	10	6/27/23 1:02
Benzo(b)fluoranthene	33.1	D	0.306	2.18	mg/kg dry	10	6/27/23 1:02
Benzo(g,h,i)perylene	47.8	D	0.177	2.18	mg/kg dry	10	6/27/23 1:02
Benzo(k)fluoranthene	11.1		0.0250	0.218	mg/kg dry	1	6/22/23 21:07
Biphenyl	0.793		0.0192	0.218	mg/kg dry	1	6/22/23 21:07
Chrysene	30.4	D	0.149	2.18	mg/kg dry	10	6/27/23 1:02
Dibenzo(a,h)anthracene	4.97		0.0216	0.218	mg/kg dry	1	6/22/23 21:07
Dibenzofuran	0.328		0.0130	0.218	mg/kg dry	1	6/22/23 21:07
Fluoranthene	32.5	D	0.205	2.18	mg/kg dry	10	6/27/23 1:02
Fluorene	7.06		0.0182	0.218	mg/kg dry	1	6/22/23 21:07
Indeno(1,2,3-cd)pyrene	24.2	D	0.234	2.18	mg/kg dry	10	6/27/23 1:02
Naphthalene	3.74		0.0161	0.218	mg/kg dry	1	6/22/23 21:07
Phenanthrene	18.7	D	0.286	2.18	mg/kg dry	10	6/27/23 1:02
Phenol	0.206	J	0.0177	0.218	mg/kg dry	1	6/22/23 21:07
Pyrene	63.2	D	0.160	2.18	mg/kg dry	10	6/27/23 1:02
TIC_1,3,5-Hexatriene, 3-methyl-, (E)-	3.91	J			mg/kg dry	1	6/22/23 21:07
TIC_2-Pentanone, 4-hydroxy-4-methyl-	31.0	J			mg/kg dry	1	6/22/23 21:07

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20230613**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_4H-Cyclopenta[def]phenanthrene	24.7	J			mg/kg dry	1	6/22/23 21:07
TIC_Acenaphthenone	4.80	J			mg/kg dry	1	6/22/23 21:07
TIC_Anthracene, 1-methyl-	6.82	J			mg/kg dry	1	6/22/23 21:07
TIC_Benzene, (1-chloroethyl)methyl-	5.87	J			mg/kg dry	1	6/22/23 21:07
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	3.98	J			mg/kg dry	1	6/22/23 21:07
TIC_Benzene, 1,1-(1-methyl-1,2-ethanediyl)b	7.31	J			mg/kg dry	1	6/22/23 21:07
TIC_Benzene, 1-ethenyl-3-methyl-	8.73	J			mg/kg dry	1	6/22/23 21:07
TIC_Bicyclo[4.2.0]octa-1,3,5-triene	8.91	J			mg/kg dry	1	6/22/23 21:07
TIC_Naphthalene, 1-methyl-	10.1	J			mg/kg dry	1	6/22/23 21:07
TIC_Naphthalene, 2,3-dimethyl-	4.67	J			mg/kg dry	1	6/22/23 21:07
TIC_Naphthalene, 2-ethenyl-	6.25	J			mg/kg dry	1	6/22/23 21:07
TIC_Phenanthrene, 1-methyl-	5.00	J			mg/kg dry	1	6/22/23 21:07
TIC_Phenanthrene, 2,5-dimethyl-	11.5	J			mg/kg dry	1	6/22/23 21:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	0.00191	J	0.000443	0.00321	mg/kg dry	1	6/16/23 18:25
2-Butanone	0.0907		0.000523	0.0160	mg/kg dry	1	6/16/23 18:25
Acetone	0.218		0.000973	0.0802	mg/kg dry	1	6/16/23 18:25
Carbon disulfide	0.00155	J	0.000461	0.00321	mg/kg dry	1	6/16/23 18:25
TIC_1-Phenyl-1-butene	0.00940	J			mg/kg dry	1	6/16/23 18:25
TIC_Benzene, (1-methylethyl)-	0.00898	J			mg/kg dry	1	6/16/23 18:25
TIC_Cyclobutane, (1-methylethylidene)-	0.0104	J			mg/kg dry	1	6/16/23 18:25
TIC_Cyclohexene, 3,5-dimethyl-	0.00889	J			mg/kg dry	1	6/16/23 18:25
TIC_Cyclopentene, 3-methyl-	0.0126	J			mg/kg dry	1	6/16/23 18:25

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.82		0.0117	0.0982	mg/kg dry	1	6/16/23 17:35

ND - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612** Collected: **6/12/2023 10:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00490	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1221	ND	U	0.00964	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1232	ND	U	0.0123	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1242	ND	U	0.00718	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1248	ND	U	0.00751	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1254	ND	U	0.00590	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1260	ND	U	0.00458	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1262	ND	U	0.00984	0.0366	mg/kg	1	6/20/23 19:05
Aroclor-1268	ND	U	0.00442	0.0366	mg/kg	1	6/20/23 19:05
Total PCBs	ND	U	0.00341	0.0366	mg/kg	1	6/20/23 19:05

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0109	0.111	mg/kg	1	6/27/23 12:59 UJ, RC:3
2,4-D	ND	U	0.0184	0.111	mg/kg	1	6/27/23 12:59 UJ, RC:3

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.310**		**0.00554**	**0.0222**	**mg/kg**	**1**	**6/22/23 11:13**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7010**		**0.164**	**2.76**	**mg/kg**	**1**	**6/25/23 10:01**
Antimony	**2.31**		**0.150**	**1.38**	**mg/kg**	**1**	**6/25/23 10:01**
Arsenic	**8.11**		**0.0983**	**1.38**	**mg/kg**	**1**	**6/25/23 10:01**
Barium	**124**		**0.0417**	**0.551**	**mg/kg**	**1**	**6/25/23 10:01**
Beryllium	**0.369**		**0.00319**	**0.0276**	**mg/kg**	**1**	**6/25/23 10:01**
Cadmium	ND	U	0.0537	0.276	mg/kg	1	6/25/23 10:01
Calcium	**52400**	D	**31.0**	**276**	**mg/kg**	**10**	**6/26/23 9:20**
Chromium	**16.2**		**0.0311**	**0.276**	**mg/kg**	**1**	**6/25/23 10:01**
Cobalt	**6.50**		**0.0282**	**0.220**	**mg/kg**	**1**	**6/25/23 10:01**
Copper	**76.0**		**0.0771**	**0.276**	**mg/kg**	**1**	**6/25/23 10:01**
Iron	**12000**		**0.781**	**5.51**	**mg/kg**	**1**	**6/25/23 10:01**
Lead	**202**		**0.115**	**1.38**	**mg/kg**	**1**	**6/25/23 10:01**
Magnesium	**2570**		**9.73**	**55.1**	**mg/kg**	**1**	**6/25/23 10:01**
Manganese	**169**		**0.0343**	**0.276**	**mg/kg**	**1**	**6/25/23 10:01**
Nickel	**13.5**		**0.0242**	**0.138**	**mg/kg**	**1**	**6/25/23 10:01**
Potassium	**700**		**32.8**	**110**	**mg/kg**	**1**	**6/25/23 10:01**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612** Collected: **6/12/2023 10:30:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.265	1.38	mg/kg	1	6/25/23 10:01
Silver	**0.483**		**0.0469**	**0.165**	**mg/kg**	**1**	**6/25/23 10:01**
Sodium	**687**		**5.25**	**55.1**	**mg/kg**	**1**	**6/25/23 10:01**
Thallium	ND	U	0.0927	1.38	mg/kg	1	6/25/23 10:01
Vanadium	**19.0**		**0.0634**	**0.551**	**mg/kg**	**1**	**6/25/23 10:01**
Zinc	**372**	D	**0.842**	**8.27**	**mg/kg**	**10**	**6/26/23 9:20**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000659	0.00144	mg/kg	1	6/19/23 20:30	
4,4'-DDE [2C]	**0.00115**	J	**0.000788**	**0.00144**	**mg/kg**	**1**	**6/19/23 20:30**	
4,4'-DDT	ND	U	0.00102	0.00144	mg/kg	1	6/19/23 20:30	
Aldrin	ND	U	0.000682	0.00144	mg/kg	1	6/19/23 20:30	
alpha-BHC	ND	U	0.000429	0.00144	mg/kg	1	6/19/23 20:30	
beta-BHC	ND	U	0.000688	0.00144	mg/kg	1	6/19/23 20:30	
Chlordane	**0.0240**		**0.000640**	**0.00144**	**mg/kg**	**1**	**6/19/23 20:30**	
delta-BHC	ND	U	0.000669	0.00144	mg/kg	1	6/19/23 20:30	
Dieldrin	ND	U	0.000753	0.00144	mg/kg	1	6/19/23 20:30	
Endosulfan I	ND	U	0.000680	0.00144	mg/kg	1	6/19/23 20:30	
Endosulfan II	ND	U	0.000655	0.00144	mg/kg	1	6/19/23 20:30	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000542	0.00144	mg/kg	1	6/19/23 20:30	
Endosulfans, Total (alpha and beta)	ND	U	0.000655	0.00144	mg/kg	1	6/19/23 20:30	
Endrin	ND	U	0.000497	0.00144	mg/kg	1	6/19/23 20:30	
Endrin aldehyde	ND	U	0.000574	0.00144	mg/kg	1	6/19/23 20:30	
Endrin ketone	ND	U	0.000507	0.00144	mg/kg	1	6/19/23 20:30	
gamma-BHC (Lindane)	ND	U	0.000456	0.00144	mg/kg	1	6/19/23 20:30	
Heptachlor	ND	U	0.000385	0.00144	mg/kg	1	6/19/23 20:30	
Heptachlor Epoxide	ND	U	0.000727	0.00144	mg/kg	1	6/19/23 20:30	
Methoxychlor	ND	U	0.000422	0.00144	mg/kg	1	6/19/23 20:30	
Toxaphene	ND	U	0.0694	0.0731	mg/kg	1	6/19/23 20:30	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00416	0.0369	mg/kg	1	6/22/23 20:36
2,3,4,6-Tetrachlorophenol	ND	U	0.0227	0.147	mg/kg	1	6/22/23 20:36
2,4,5-Trichlorophenol	ND	U	0.0200	0.147	mg/kg	1	6/22/23 20:36
2,4,6-Trichlorophenol	ND	U	0.00923	0.147	mg/kg	1	6/22/23 20:36

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-202 30612** Collected: **6/12/2023 10:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0148	0.147	mg/kg	1	6/22/23 20:36	
2,4-Dimethylphenol	ND	U	0.0145	0.147	mg/kg	1	6/22/23 20:36	
2,4-Dinitrophenol	ND	U	0.0213	0.739	mg/kg	1	6/22/23 20:36	
2,4-Dinitrotoluene	ND	U	0.0157	0.147	mg/kg	1	6/22/23 20:36	UJ, RC:SL
2,6-Dinitrotoluene	ND	U	0.0352	0.147	mg/kg	1	6/22/23 20:36	
2-Chloronaphthalene	ND	U	0.0169	0.147	mg/kg	1	6/22/23 20:36	
2-Chlorophenol	ND	U	0.0195	0.147	mg/kg	1	6/22/23 20:36	
2-Methylnaphthalene	**0.338**		**0.0353**	**0.222**	**mg/kg**	**1**	**6/22/23 20:36**	
2-Methylphenol	ND	U	0.0291	0.147	mg/kg	1	6/22/23 20:36	
2-Nitroaniline	ND	U	0.0119	0.147	mg/kg	1	6/22/23 20:36	UJ, RC:SL
2-Nitrophenol	ND	U	0.0164	0.147	mg/kg	1	6/22/23 20:36	
3,3'-Dichlorobenzidine	ND	U	0.0155	0.147	mg/kg	1	6/22/23 20:36	
3+4-Methylphenol	ND	U	0.0270	0.147	mg/kg	1	6/22/23 20:36	
3-Nitroaniline	ND	U	0.0274	0.147	mg/kg	1	6/22/23 20:36	
4,6-Dinitro-2-methylphenol	ND	U	0.0278	0.369	mg/kg	1	6/22/23 20:36	
4-Bromophenyl-phenyl ether	ND	U	0.0210	0.147	mg/kg	1	6/22/23 20:36	
4-Chloro-3-methylphenol	ND	U	0.0233	0.147	mg/kg	1	6/22/23 20:36	
4-Chloroaniline	ND	U	0.00516	0.147	mg/kg	1	6/22/23 20:36	
4-Chlorophenyl phenyl ether	ND	U	0.00796	0.147	mg/kg	1	6/22/23 20:36	
4-Nitroaniline	ND	U	0.0738	0.147	mg/kg	1	6/22/23 20:36	
4-Nitrophenol	ND	U	0.00944	0.147	mg/kg	1	6/22/23 20:36	UJ, RC:SL
Acenaphthene	**0.526**		**0.00841**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Acenaphthylene	**0.519**		**0.00513**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Acetophenone	**0.107**	J	**0.0146**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Anthracene	**1.07**		**0.0214**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Atrazine	ND	U	0.0138	0.147	mg/kg	1	6/22/23 20:36	
Benzaldehyde	**0.0775**	J	**0.0453**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	J, RC:SL
Benzo(a)anthracene	**2.54**		**0.0148**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Benzo(a)pyrene	**2.95**		**0.0257**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Benzo(b)fluoranthene	**3.36**		**0.0207**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Benzo(g,h,i)perylene	**2.65**		**0.0120**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Benzo(k)fluoranthene	**1.03**		**0.0169**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
Biphenyl	**0.118**	J	**0.0130**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**	
bis(2-chloroethoxy)methane	ND	U	0.0204	0.147	mg/kg	1	6/22/23 20:36	
bis(2-chloroethyl)ether	ND	U	0.0162	0.147	mg/kg	1	6/22/23 20:36	
bis(2-chloroisopropyl)ether	ND	U	0.0531	0.147	mg/kg	1	6/22/23 20:36	
bis(2-ethylhexyl)phthalate	ND	U	0.0295	0.147	mg/kg	1	6/22/23 20:36	
Butylbenzylphthalate	ND	U	0.0134	0.147	mg/kg	1	6/22/23 20:36	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612** Collected: **6/12/2023 10:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0191	0.147	mg/kg	1	6/22/23 20:36
Carbazole	**0.389**		**0.0284**	**0.369**	**mg/kg**	**1**	**6/22/23 20:36**
Chrysene	**2.70**		**0.0101**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Dibenzo(a,h)anthracene	**0.600**		**0.0146**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Dibenzofuran	**0.349**		**0.00878**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Diethylphthalate	ND	U	0.0286	0.147	mg/kg	1	6/22/23 20:36
Dimethylphthalate	ND	U	0.00915	0.147	mg/kg	1	6/22/23 20:36
Di-n-butylphthalate	ND	U	0.0603	0.147	mg/kg	1	6/22/23 20:36
Di-n-octylphthalate	ND	U	0.0302	0.147	mg/kg	1	6/22/23 20:36
Fluoranthene	**5.53**		**0.0138**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Fluorene	**0.488**		**0.0123**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Hexachlorobenzene	ND	U	0.0193	0.147	mg/kg	1	6/22/23 20:36
Hexachlorobutadiene	ND	U	0.0708	0.147	mg/kg	1	6/22/23 20:36
Hexachlorocyclopentadiene	ND	U	0.0615	0.369	mg/kg	1	6/22/23 20:36
Hexachloroethane	ND	U	0.0162	0.147	mg/kg	1	6/22/23 20:36
Indeno(1,2,3-cd)pyrene	**1.80**		**0.0158**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Isophorone	ND	U	0.00966	0.147	mg/kg	1	6/22/23 20:36
Naphthalene	**0.414**		**0.0109**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Nitrobenzene	ND	U	0.0250	0.147	mg/kg	1	6/22/23 20:36
n-Nitroso-di-n-propylamine	ND	U	0.00790	0.147	mg/kg	1	6/22/23 20:36
n-Nitrosodiphenylamine	ND	U	0.0315	0.147	mg/kg	1	6/22/23 20:36
Pentachlorophenol	ND	U	0.0203	0.369	mg/kg	1	6/22/23 20:36
Phenanthrene	**4.44**		**0.0194**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**
Phenol	ND	U	0.0120	0.147	mg/kg	1	6/22/23 20:36
Pyrene	**4.73**		**0.0108**	**0.147**	**mg/kg**	**1**	**6/22/23 20:36**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Pentanone, 4-hydroxy-4-methyl-	79.1	5.28	J	mg/kg	1	6/22/23 20:36
3,4-Dimethylthiophenol	1.71	7.79	J	mg/kg	1	6/22/23 20:36
4H-Cyclopenta[def]phenanthrene	1.44	12.17	J	mg/kg	1	6/22/23 20:36
Benzene, 1-ethenyl-2-methyl-	0.795	6.81	J	mg/kg	1	6/22/23 20:36
Benzene, 1-ethenyl-3-methyl-	2.21	6.77	J	mg/kg	1	6/22/23 20:36
Benzene, 1-methyl-2-(1-methylethyl)-	0.910	8.43	J	mg/kg	1	6/22/23 20:36
Benzene, 1-methyl-4-(1-methylethyl)-	1.42	8.49	J	mg/kg	1	6/22/23 20:36
Hexadecanoic acid, butyl ester	6.94	12.86	J	mg/kg	1	6/22/23 20:36

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612** Collected: **6/12/2023 10:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Indene	0.845	7.21	J	mg/kg	1	6/22/23 20:36
Octadecanoic acid, butyl ester	2.03	13.67	J, B	mg/kg	1	6/22/23 20:36
Phenanthrene, 1-methyl-	0.796	12.06	J	mg/kg	1	6/22/23 20:36
Styrene	2.48	5.84	J	mg/kg	1	6/22/23 20:36
TIC Total	**101**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000337	0.00231	mg/kg	1	6/16/23 16:56	UJ, RC:3L
1,1,2,2-Tetrachloroethane	ND	U	0.000318	0.00231	mg/kg	1	6/16/23 16:56	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.000988	0.00231	mg/kg	1	6/16/23 16:56	
1,1,2-Trichloroethane	ND	U	0.000389	0.00231	mg/kg	1	6/16/23 16:56	
1,1-Dichloroethane	ND	U	0.000337	0.00231	mg/kg	1	6/16/23 16:56	
1,1-Dichloroethene	ND	U	0.000427	0.00231	mg/kg	1	6/16/23 16:56	
1,2,3-Trichlorobenzene	ND	U	0.000498	0.00231	mg/kg	1	6/16/23 16:56	
1,2,4-Trichlorobenzene	ND	U	0.000615	0.00231	mg/kg	1	6/16/23 16:56	
1,2,4-Trimethylbenzene	ND	U	0.000318	0.00231	mg/kg	1	6/16/23 16:56	
1,2-Dibromo-3-chloropropane	ND	U	0.000563	0.00577	mg/kg	1	6/16/23 16:56	**UJ, RC:SL,3L**
1,2-Dibromoethane	ND	U	0.000291	0.00231	mg/kg	1	6/16/23 16:56	UJ, RC:3L
1,2-Dichlorobenzene	ND	U	0.000407	0.00231	mg/kg	1	6/16/23 16:56	
1,2-Dichloroethane	ND	U	0.000325	0.00231	mg/kg	1	6/16/23 16:56	
1,2-Dichloropropane	ND	U	0.000378	0.00231	mg/kg	1	6/16/23 16:56	
1,3-Dichlorobenzene	ND	U	0.000170	0.00231	mg/kg	1	6/16/23 16:56	
1,4-Dichlorobenzene	ND	U	0.000332	0.00231	mg/kg	1	6/16/23 16:56	
2-Butanone	ND	U	0.000376	0.0115	mg/kg	1	6/16/23 16:56	
2-Hexanone	ND	U	0.000216	0.00231	mg/kg	1	6/16/23 16:56	
4-Methyl-2-pentanone	ND	U	0.000288	0.00231	mg/kg	1	6/16/23 16:56	
Acetone	ND	U	0.000699	0.0577	mg/kg	1	6/16/23 16:56	
Benzene	ND	U	0.000210	0.00231	mg/kg	1	6/16/23 16:56	
Bromochloromethane	ND	U	0.000426	0.00231	mg/kg	1	6/16/23 16:56	
Bromodichloromethane	ND	U	0.000290	0.00231	mg/kg	1	6/16/23 16:56	
Bromoform	ND	U	0.000405	0.00231	mg/kg	1	6/16/23 16:56	
Bromomethane	ND	U	0.000666	0.00231	mg/kg	1	6/16/23 16:56	**UJ, RC:SL,3L**
Carbon disulfide	**0.00455**		**0.000331**	**0.00231**	**mg/kg**	**1**	**6/16/23 16:56**	J, RC:3L
Carbon Tetrachloride	ND	U	0.000347	0.00231	mg/kg	1	6/16/23 16:56	UJ, RC:3L
Chlorobenzene	ND	U	0.000335	0.00231	mg/kg	1	6/16/23 16:56	
Chlorodibromomethane	ND	U	0.000284	0.00231	mg/kg	1	6/16/23 16:56	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612** Collected: **6/12/2023 10:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chloroethane	ND	U	0.000393	0.00231	mg/kg	1	6/16/23 16:56	UJ, RC:3L
Chloroform	ND	U	0.000388	0.00231	mg/kg	1	6/16/23 16:56	
Chloromethane	ND	U	0.000888	0.00231	mg/kg	1	6/16/23 16:56	
cis-1,2-Dichloroethene	ND	U	0.000112	0.00231	mg/kg	1	6/16/23 16:56	
cis-1,3-Dichloropropene	ND	U	0.000292	0.00231	mg/kg	1	6/16/23 16:56	
Cyclohexane	ND	U	0.000511	0.00231	mg/kg	1	6/16/23 16:56	
Dichlorodifluoromethane	ND	U	0.000779	0.00231	mg/kg	1	6/16/23 16:56	**UJ, RC:SL,3L**
EthylBenzene	ND	U	0.000313	0.00231	mg/kg	1	6/16/23 16:56	UJ, RC:3L
Isopropylbenzene	ND	U	0.000362	0.00231	mg/kg	1	6/16/23 16:56	
m+p-Xylenes	ND	U	0.000583	0.00462	mg/kg	1	6/16/23 16:56	
Methyl Acetate	ND	U	0.000306	0.00231	mg/kg	1	6/16/23 16:56	
Methyl tert-Butyl Ether	ND	U	0.000390	0.00231	mg/kg	1	6/16/23 16:56	
Methylcyclohexane	ND	U	0.000372	0.00231	mg/kg	1	6/16/23 16:56	
Methylene Chloride	ND	U	0.000693	0.00577	mg/kg	1	6/16/23 16:56	
o-Xylene	ND	U	0.000297	0.00231	mg/kg	1	6/16/23 16:56	
Styrene	ND	U	0.000330	0.00231	mg/kg	1	6/16/23 16:56	
tert-Butyl alcohol	ND	U	0.00485	0.0231	mg/kg	1	6/16/23 16:56	
Tetrachloroethene	ND	U	0.000228	0.00231	mg/kg	1	6/16/23 16:56	
Toluene	ND	U	0.000186	0.00231	mg/kg	1	6/16/23 16:56	
Total Xylenes	ND	U	0.000297	0.00231	mg/kg	1	6/16/23 16:56	
trans-1,2-Dichloroethene	ND	U	0.000313	0.00231	mg/kg	1	6/16/23 16:56	
trans-1,3-Dichloropropene	ND	U	0.000441	0.00231	mg/kg	1	6/16/23 16:56	
Trichloroethene	ND	U	0.000339	0.00231	mg/kg	1	6/16/23 16:56	
Trichlorofluoromethane	ND	U	0.000265	0.00231	mg/kg	1	6/16/23 16:56	
Vinyl chloride	ND	U	0.000438	0.00231	mg/kg	1	6/16/23 16:56	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Chloroethanol	0.00628	3.95	J	mg/kg	1	6/16/23 16:56
TIC Total	**0.006**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**90.3**				**%**	**1**	**6/14/23 10:53**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-01 (Soil) Sample Name: **OH-SB-62-1.0-2.0-20230612** Collected: **6/12/2023 10:30:00AM**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.518**	**J, RC:4H**	**0.00760**	**0.0638**	**mg/kg**	**1**	**6/16/23 17:35**

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20230612** Collected: **6/12/2023 11:45:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00552	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1221	ND	U	0.0108	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1232	ND	U	0.0138	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1242	ND	U	0.00808	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1248	ND	U	0.00845	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1254	ND	U	0.00664	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1260	ND	U	0.00515	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1262	ND	U	0.0111	0.0411	mg/kg	1	6/20/23 19:27
Aroclor-1268	ND	U	0.00497	0.0411	mg/kg	1	6/20/23 19:27
Total PCBs	ND	U	0.00384	0.0411	mg/kg	1	6/20/23 19:27

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0122	0.125	mg/kg	1	6/27/23 13:08 **UJ, RC:3**
2,4-D	ND	U	0.0207	0.125	mg/kg	1	6/27/23 13:08 **UJ, RC:3**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.481**		**0.00623**	**0.0249**	**mg/kg**	**1**	**6/22/23 11:13**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**7570**		**0.187**	**3.15**	**mg/kg**	**1**	**6/25/23 10:03**
Antimony	ND	U	0.171	1.57	mg/kg	1	6/25/23 10:03
Arsenic	**8.49**		**0.112**	**1.57**	**mg/kg**	**1**	**6/25/23 10:03**
Barium	**183**		**0.0476**	**0.629**	**mg/kg**	**1**	**6/25/23 10:03**
Beryllium	**0.348**		**0.00364**	**0.0315**	**mg/kg**	**1**	**6/25/23 10:03**
Cadmium	ND	U	0.0614	0.315	mg/kg	1	6/25/23 10:03
Calcium	**26400**		**3.54**	**31.5**	**mg/kg**	**1**	**6/25/23 10:03**
Chromium	**14.5**		**0.0355**	**0.315**	**mg/kg**	**1**	**6/25/23 10:03**
Cobalt	**5.00**		**0.0322**	**0.252**	**mg/kg**	**1**	**6/25/23 10:03**

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20 230612** Collected: **6/12/2023 11:45:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Copper	**19.2**		**0.0880**	**0.315**	**mg/kg**	**1**	**6/25/23 10:03**
Iron	**13600**		**0.891**	**6.29**	**mg/kg**	**1**	**6/25/23 10:03**
Lead	**1060**		**0.131**	**1.57**	**mg/kg**	**1**	**6/25/23 10:03**
Magnesium	**2920**		**11.1**	**62.9**	**mg/kg**	**1**	**6/25/23 10:03**
Manganese	**253**		**0.0391**	**0.315**	**mg/kg**	**1**	**6/25/23 10:03**
Nickel	**19.4**		**0.0276**	**0.157**	**mg/kg**	**1**	**6/25/23 10:03**
Potassium	**1590**		**37.4**	**126**	**mg/kg**	**1**	**6/25/23 10:03**
Selenium	ND	U	0.302	1.57	mg/kg	1	6/25/23 10:03
Silver	ND	U	0.0535	0.189	mg/kg	1	6/25/23 10:03
Sodium	**2900**		**6.00**	**62.9**	**mg/kg**	**1**	**6/25/23 10:03**
Thallium	ND	U	0.106	1.57	mg/kg	1	6/25/23 10:03
Vanadium	**18.0**		**0.0724**	**0.629**	**mg/kg**	**1**	**6/25/23 10:03**
Zinc	**230**		**0.0961**	**0.944**	**mg/kg**	**1**	**6/25/23 10:03**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000742	0.00162	mg/kg	1	6/19/23 20:52	
4,4'-DDE [2C]	**0.00123**	J	**0.000886**	**0.00162**	**mg/kg**	**1**	**6/19/23 20:52**	
4,4'-DDT	ND	U	0.00114	0.00162	mg/kg	1	6/19/23 20:52	
Aldrin	ND	U	0.000768	0.00162	mg/kg	1	6/19/23 20:52	
alpha-BHC	ND	U	0.000482	0.00162	mg/kg	1	6/19/23 20:52	
beta-BHC	ND	U	0.000774	0.00162	mg/kg	1	6/19/23 20:52	
Chlordane	ND	U	0.000720	0.00162	mg/kg	1	6/19/23 20:52	
delta-BHC	ND	U	0.000753	0.00162	mg/kg	1	6/19/23 20:52	
Dieldrin	ND	U	0.000847	0.00162	mg/kg	1	6/19/23 20:52	
Endosulfan I	ND	U	0.000765	0.00162	mg/kg	1	6/19/23 20:52	
Endosulfan II	ND	U	0.000737	0.00162	mg/kg	1	6/19/23 20:52	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000609	0.00162	mg/kg	1	6/19/23 20:52	
Endosulfans, Total (alpha and beta)	ND	U	0.000737	0.00162	mg/kg	1	6/19/23 20:52	
Endrin	ND	U	0.000560	0.00162	mg/kg	1	6/19/23 20:52	
Endrin aldehyde	ND	U	0.000646	0.00162	mg/kg	1	6/19/23 20:52	
Endrin ketone	ND	U	0.000571	0.00162	mg/kg	1	6/19/23 20:52	
gamma-BHC (Lindane)	ND	U	0.000513	0.00162	mg/kg	1	6/19/23 20:52	
Heptachlor	ND	U	0.000434	0.00162	mg/kg	1	6/19/23 20:52	
Heptachlor Epoxide	ND	U	0.000818	0.00162	mg/kg	1	6/19/23 20:52	
Methoxychlor	ND	U	0.000475	0.00162	mg/kg	1	6/19/23 20:52	
Toxaphene	ND	U	0.0780	0.0823	mg/kg	1	6/19/23 20:52	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20 230612** Collected: **6/12/2023 11:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00469	0.0415	mg/kg	1	6/22/23 20:05	
2,3,4,6-Tetrachlorophenol	ND	U	0.0255	0.166	mg/kg	1	6/22/23 20:05	
2,4,5-Trichlorophenol	ND	U	0.0226	0.166	mg/kg	1	6/22/23 20:05	
2,4,6-Trichlorophenol	ND	U	0.0104	0.166	mg/kg	1	6/22/23 20:05	
2,4-Dichlorophenol	ND	U	0.0167	0.166	mg/kg	1	6/22/23 20:05	
2,4-Dimethylphenol	ND	U	0.0163	0.166	mg/kg	1	6/22/23 20:05	
2,4-Dinitrophenol	ND	U	0.0239	0.831	mg/kg	1	6/22/23 20:05	
2,4-Dinitrotoluene	ND	U	0.0177	0.166	mg/kg	1	6/22/23 20:05	UJ, RC:SL
2,6-Dinitrotoluene	ND	U	0.0396	0.166	mg/kg	1	6/22/23 20:05	
2-Chloronaphthalene	ND	U	0.0191	0.166	mg/kg	1	6/22/23 20:05	
2-Chlorophenol	ND	U	0.0219	0.166	mg/kg	1	6/22/23 20:05	
2-Methylnaphthalene	**0.148**	J	**0.0398**	**0.249**	**mg/kg**	**1**	**6/22/23 20:05**	
2-Methylphenol	ND	U	0.0328	0.166	mg/kg	1	6/22/23 20:05	
2-Nitroaniline	ND	U	0.0133	0.166	mg/kg	1	6/22/23 20:05	UJ, RC:SL
2-Nitrophenol	ND	U	0.0184	0.166	mg/kg	1	6/22/23 20:05	
3,3'-Dichlorobenzidine	ND	U	0.0174	0.166	mg/kg	1	6/22/23 20:05	
3+4-Methylphenol	ND	U	0.0304	0.166	mg/kg	1	6/22/23 20:05	
3-Nitroaniline	ND	U	0.0308	0.166	mg/kg	1	6/22/23 20:05	
4,6-Dinitro-2-methylphenol	ND	U	0.0313	0.415	mg/kg	1	6/22/23 20:05	
4-Bromophenyl-phenyl ether	ND	U	0.0237	0.166	mg/kg	1	6/22/23 20:05	
4-Chloro-3-methylphenol	ND	U	0.0262	0.166	mg/kg	1	6/22/23 20:05	
4-Chloroaniline	ND	U	0.00581	0.166	mg/kg	1	6/22/23 20:05	
4-Chlorophenyl phenyl ether	ND	U	0.00896	0.166	mg/kg	1	6/22/23 20:05	
4-Nitroaniline	ND	U	0.0830	0.166	mg/kg	1	6/22/23 20:05	
4-Nitrophenol	ND	U	0.0106	0.166	mg/kg	1	6/22/23 20:05	UJ, RC:SL
Acenaphthene	**0.718**		**0.00946**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Acenaphthylene	**0.407**		**0.00577**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Acetophenone	ND	U	0.0165	0.166	mg/kg	1	6/22/23 20:05	
Anthracene	**0.928**		**0.0241**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Atrazine	ND	U	0.0156	0.166	mg/kg	1	6/22/23 20:05	
Benzaldehyde	ND	U	0.0510	0.166	mg/kg	1	6/22/23 20:05	UJ, RC:SL
Benzo(a)anthracene	**1.51**		**0.0167**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Benzo(a)pyrene	**1.37**		**0.0289**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Benzo(b)fluoranthene	**1.12**		**0.0233**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Benzo(g,h,i)perylene	**1.15**		**0.0135**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Benzo(k)fluoranthene	**0.506**		**0.0191**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
Biphenyl	**0.0398**	J	**0.0146**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**	
bis(2-chloroethoxy)methane	ND	U	0.0229	0.166	mg/kg	1	6/22/23 20:05	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20 230612** Collected: **6/12/2023 11:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
bis(2-chloroethyl)ether	ND	U	0.0182	0.166	mg/kg	1	6/22/23 20:05
bis(2-chloroisopropyl)ether	ND	U	0.0597	0.166	mg/kg	1	6/22/23 20:05
bis(2-ethylhexyl)phthalate	**0.0485**	J	**0.0331**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Butylbenzylphthalate	ND	U	0.0151	0.166	mg/kg	1	6/22/23 20:05
Caprolactam	ND	U	0.0214	0.166	mg/kg	1	6/22/23 20:05
Carbazole	ND	U	0.0319	0.415	mg/kg	1	6/22/23 20:05
Chrysene	**1.56**		**0.0114**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Dibenzo(a,h)anthracene	**0.217**		**0.0165**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Dibenzofuran	**0.0324**	J	**0.00988**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Diethylphthalate	ND	U	0.0322	0.166	mg/kg	1	6/22/23 20:05
Dimethylphthalate	ND	U	0.0103	0.166	mg/kg	1	6/22/23 20:05
Di-n-butylphthalate	**0.0952**	J	**0.0678**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Di-n-octylphthalate	ND	U	0.0340	0.166	mg/kg	1	6/22/23 20:05
Fluoranthene	**2.76**		**0.0156**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Fluorene	**0.147**	J	**0.0138**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Hexachlorobenzene	ND	U	0.0217	0.166	mg/kg	1	6/22/23 20:05
Hexachlorobutadiene	ND	U	0.0796	0.166	mg/kg	1	6/22/23 20:05
Hexachlorocyclopentadiene	ND	U	0.0692	0.415	mg/kg	1	6/22/23 20:05
Hexachloroethane	ND	U	0.0182	0.166	mg/kg	1	6/22/23 20:05
Indeno(1,2,3-cd)pyrene	**0.646**		**0.0178**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Isophorone	ND	U	0.0109	0.166	mg/kg	1	6/22/23 20:05
Naphthalene	**0.290**		**0.0123**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Nitrobenzene	ND	U	0.0282	0.166	mg/kg	1	6/22/23 20:05
n-Nitroso-di-n-propylamine	ND	U	0.00889	0.166	mg/kg	1	6/22/23 20:05
n-Nitrosodiphenylamine	ND	U	0.0354	0.166	mg/kg	1	6/22/23 20:05
Pentachlorophenol	ND	U	0.0228	0.415	mg/kg	1	6/22/23 20:05
Phenanthrene	**0.506**		**0.0218**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**
Phenol	ND	U	0.0135	0.166	mg/kg	1	6/22/23 20:05
Pyrene	**4.64**		**0.0122**	**0.166**	**mg/kg**	**1**	**6/22/23 20:05**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
11H-Benzo[a]fluorene	0.417	13.72	J	mg/kg	1	6/22/23 20:05
2-Pentanone, 4-hydroxy-4-methyl-	22.3	5.24	J	mg/kg	1	6/22/23 20:05
4H-Cyclopenta[def]phenanthrene	2.10	12.16	J	mg/kg	1	6/22/23 20:05
6-Phenylbenzocyclohepten-7-one	0.458	12.32	J	mg/kg	1	6/22/23 20:05
Anthracene, 9-methyl-	0.643	12.11	J	mg/kg	1	6/22/23 20:05
Dodecane, 2,6,10-trimethyl-	0.406	9.19	J	mg/kg	1	6/22/23 20:05

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20 230612** Collected: **6/12/2023 11:45:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Ethanol, 2-butoxy-	0.588	5.90	J	mg/kg	1	6/22/23 20:05
Heptadecane	0.438	13.32	J	mg/kg	1	6/22/23 20:05
Hexadecanoic acid, butyl ester	4.85	12.86	J	mg/kg	1	6/22/23 20:05
Octadecane	0.471	14.14	J	mg/kg	1	6/22/23 20:05
Octadecanoic acid, butyl ester	2.39	13.67	J, B	mg/kg	1	6/22/23 20:05
Phenanthrene, 2,5-dimethyl-	0.743	12.60	J	mg/kg	1	6/22/23 20:05
Pyrene, 1-methyl-	0.361	13.50	J	mg/kg	1	6/22/23 20:05
Pyrene, 4-methyl-	0.704	13.56	J	mg/kg	1	6/22/23 20:05
unknown	0.420	6.01	J	mg/kg	1	6/22/23 20:05
TIC Total	**37.3**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000343	0.00235	mg/kg	1	6/16/23 17:26	
1,1,2,2-Tetrachloroethane	ND	U	0.000324	0.00235	mg/kg	1	6/16/23 17:26	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00101	0.00235	mg/kg	1	6/16/23 17:26	
1,1,2-Trichloroethane	ND	U	0.000396	0.00235	mg/kg	1	6/16/23 17:26	
1,1-Dichloroethane	ND	U	0.000343	0.00235	mg/kg	1	6/16/23 17:26	
1,1-Dichloroethene	ND	U	0.000435	0.00235	mg/kg	1	6/16/23 17:26	
1,2,3-Trichlorobenzene	ND	U	0.000508	0.00235	mg/kg	1	6/16/23 17:26	
1,2,4-Trichlorobenzene	ND	U	0.000627	0.00235	mg/kg	1	6/16/23 17:26	
1,2,4-Trimethylbenzene	**0.00172**	J	**0.000324**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
1,2-Dibromo-3-chloropropane	ND	U	0.000574	0.00588	mg/kg	1	6/16/23 17:26	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000296	0.00235	mg/kg	1	6/16/23 17:26	
1,2-Dichlorobenzene	ND	U	0.000415	0.00235	mg/kg	1	6/16/23 17:26	
1,2-Dichloroethane	ND	U	0.000332	0.00235	mg/kg	1	6/16/23 17:26	
1,2-Dichloropropane	ND	U	0.000386	0.00235	mg/kg	1	6/16/23 17:26	
1,3-Dichlorobenzene	ND	U	0.000173	0.00235	mg/kg	1	6/16/23 17:26	
1,4-Dichlorobenzene	ND	U	0.000339	0.00235	mg/kg	1	6/16/23 17:26	
2-Butanone	**0.0322**		**0.000383**	**0.0118**	**mg/kg**	**1**	**6/16/23 17:26**	
2-Hexanone	ND	U	0.000220	0.00235	mg/kg	1	6/16/23 17:26	
4-Methyl-2-pentanone	ND	U	0.000294	0.00235	mg/kg	1	6/16/23 17:26	
Acetone	**0.119**		**0.000712**	**0.0588**	**mg/kg**	**1**	**6/16/23 17:26**	
Benzene	**0.00649**		**0.000214**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
Bromochloromethane	ND	U	0.000434	0.00235	mg/kg	1	6/16/23 17:26	
Bromodichloromethane	ND	U	0.000295	0.00235	mg/kg	1	6/16/23 17:26	
Bromoform	ND	U	0.000413	0.00235	mg/kg	1	6/16/23 17:26	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-02 (Soil) Sample Name: **OH-SB-62-9.0-10.0-20 230612** Collected: **6/12/2023 11:45:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Bromomethane	ND	U	0.000678	0.00235	mg/kg	1	6/16/23 17:26	UJ, RC:SL
Carbon disulfide	**0.0107**		**0.000337**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
Carbon Tetrachloride	ND	U	0.000354	0.00235	mg/kg	1	6/16/23 17:26	
Chlorobenzene	ND	U	0.000341	0.00235	mg/kg	1	6/16/23 17:26	
Chlorodibromomethane	ND	U	0.000289	0.00235	mg/kg	1	6/16/23 17:26	
Chloroethane	ND	U	0.000401	0.00235	mg/kg	1	6/16/23 17:26	
Chloroform	ND	U	0.000395	0.00235	mg/kg	1	6/16/23 17:26	
Chloromethane	ND	U	0.000905	0.00235	mg/kg	1	6/16/23 17:26	
cis-1,2-Dichloroethene	ND	U	0.000114	0.00235	mg/kg	1	6/16/23 17:26	
cis-1,3-Dichloropropene	ND	U	0.000297	0.00235	mg/kg	1	6/16/23 17:26	
Cyclohexane	ND	U	0.000521	0.00235	mg/kg	1	6/16/23 17:26	
Dichlorodifluoromethane	ND	U	0.000794	0.00235	mg/kg	1	6/16/23 17:26	UJ, RC:SL
EthylBenzene	**0.00155**	J	**0.000319**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
Isopropylbenzene	**0.0592**		**0.000369**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
m+p-Xylenes	**0.00514**		**0.000594**	**0.00470**	**mg/kg**	**1**	**6/16/23 17:26**	
Methyl Acetate	ND	U	0.000312	0.00235	mg/kg	1	6/16/23 17:26	
Methyl tert-Butyl Ether	ND	U	0.000397	0.00235	mg/kg	1	6/16/23 17:26	
Methylcyclohexane	**0.0242**		**0.000379**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
Methylene Chloride	ND	U	0.000707	0.00588	mg/kg	1	6/16/23 17:26	
o-Xylene	**0.00514**		**0.000302**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
Styrene	ND	U	0.000336	0.00235	mg/kg	1	6/16/23 17:26	
tert-Butyl alcohol	ND	U	0.00494	0.0235	mg/kg	1	6/16/23 17:26	
Tetrachloroethene	ND	U	0.000233	0.00235	mg/kg	1	6/16/23 17:26	
Toluene	**0.00289**		**0.000189**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
Total Xylenes	**0.0103**		**0.000302**	**0.00235**	**mg/kg**	**1**	**6/16/23 17:26**	
trans-1,2-Dichloroethene	ND	U	0.000319	0.00235	mg/kg	1	6/16/23 17:26	
trans-1,3-Dichloropropene	ND	U	0.000449	0.00235	mg/kg	1	6/16/23 17:26	
Trichloroethene	ND	U	0.000346	0.00235	mg/kg	1	6/16/23 17:26	
Trichlorofluoromethane	ND	U	0.000270	0.00235	mg/kg	1	6/16/23 17:26	
Vinyl chloride	ND	U	0.000447	0.00235	mg/kg	1	6/16/23 17:26	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Pentene, 2,3-dimethyl-	0.231	16.86	J	mg/kg	1	6/16/23 17:26
2-Cyclohexen-1-one, 4-(1-methylethyl)-	0.428	16.58	J	mg/kg	1	6/16/23 17:26
Benzene, 2-ethenyl-1,3-dimethyl-	0.238	19.26	J	mg/kg	1	6/16/23 17:26
Cyclohexane, (2-methylpropyl)-	0.396	16.74	J	mg/kg	1	6/16/23 17:26

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-02 (Soil) Sample Name: OH-SB-62-9.0-10.0-20230612 Collected: 6/12/2023 11:45:00AM

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclohexane, 1,1,2,3-tetramethyl-	0.310	16.23	J	mg/kg	1	6/16/23 17:26
Cyclohexane, 1,3,5-trimethyl-, (1.alpha.	0.242	13.51	J	mg/kg	1	6/16/23 17:26
Cyclohexane, 1,3,5-trimethyl-2-octadecyl	0.245	15.76	J	mg/kg	1	6/16/23 17:26
Cyclohexane, 1-methyl-2-propyl-	0.463	14.92	J	mg/kg	1	6/16/23 17:26
Cyclohexene, 1-ethyl-	0.533	16.44	J	mg/kg	1	6/16/23 17:26
Decane, 3-methyl-	0.323	17.59	J	mg/kg	1	6/16/23 17:26
Dodecane, 4,6-dimethyl-	0.287	17.34	J	mg/kg	1	6/16/23 17:26
Naphthalene, decahydro-, cis-	0.521	18.51	J	mg/kg	1	6/16/23 17:26
Nonane, 3,7-dimethyl-	0.285	17.50	J	mg/kg	1	6/16/23 17:26
Octane, 2,6-dimethyl-	0.486	15.31	J	mg/kg	1	6/16/23 17:26
trans-Decalin, 2-methyl-	0.260	19.58	J	mg/kg	1	6/16/23 17:26
TIC Total	**5.25**					

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**80.2**				**%**	**1**	**6/14/23 10:53**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**2.35**		**0.00778**	**0.0653**	**mg/kg**	**1**	**6/16/23 17:35**

23F0618-03 (Ground Water) Sample Name: FB-20230612 Collected: 6/12/2023 1:00:00PM

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	6/22/23 21:50
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	6/22/23 21:50
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	6/22/23 21:50
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	6/22/23 21:50
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	6/22/23 21:50
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	6/22/23 21:50
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	6/22/23 21:50
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	6/22/23 21:50
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	6/22/23 21:50
Total PCBs	ND	U	0.0497	0.500	ug/L	1	6/22/23 21:50

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-03 (Ground Water) Sample Name: **FB-20230612** Collected: **6/12/2023 1:00:00PM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-T	ND	U	0.0300	1.00	ug/L	1	6/29/23 13:06	UJ, RC:3
2,4,5-TP (Silvex)	ND	U	0.0200	1.00	ug/L	1	6/29/23 13:06	UJ, RC:3
2,4-D	ND	U	0.0300	1.00	ug/L	1	6/29/23 13:06	UJ, RC:3

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	6/15/23 14:47

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	ND	U	0.0522	0.100	mg/L	1	6/26/23 12:03	
Antimony	ND	U	0.00693	0.0500	mg/L	1	6/26/23 12:03	UJ, RC:6L
Arsenic	ND	U	0.00799	0.0500	mg/L	1	6/26/23 12:03	
Barium	ND	U	0.000558	0.0200	mg/L	1	6/26/23 12:03	
Beryllium	ND	U	0.000206	0.00100	mg/L	1	6/26/23 12:03	
Cadmium	ND	U	0.00130	0.0100	mg/L	1	6/26/23 12:03	
Calcium	ND	U	0.256	1.00	mg/L	1	6/26/23 12:03	
Chromium	ND	U	0.000480	0.0100	mg/L	1	6/26/23 12:03	
Cobalt	ND	U	0.00106	0.00800	mg/L	1	6/26/23 12:03	
Copper	ND	U	0.00177	0.0100	mg/L	1	6/26/23 12:03	
Iron	ND	U	0.0580	0.200	mg/L	1	6/26/23 12:03	
Lead	ND	U	0.00510	0.0500	mg/L	1	6/26/23 12:03	
Magnesium	ND	U	0.681	2.00	mg/L	1	6/26/23 12:03	
Manganese	ND	U	0.000242	0.0100	mg/L	1	6/26/23 12:03	
Nickel	ND	U	0.00200	0.00500	mg/L	1	6/26/23 12:03	
Potassium	ND	U	2.41	4.00	mg/L	1	6/26/23 12:03	
Selenium	ND	U	0.0152	0.0500	mg/L	1	6/26/23 12:03	
Silver	ND	U	0.00465	0.0200	mg/L	1	6/26/23 12:03	
Sodium	ND	U	0.205	2.00	mg/L	1	6/26/23 12:03	
Thallium	ND	U	0.00828	0.0500	mg/L	1	6/26/23 12:03	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	6/26/23 12:03	
Zinc	ND	U	0.00144	0.0300	mg/L	1	6/26/23 12:03	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	6/19/23 23:06
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	6/19/23 23:06
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	6/19/23 23:06
Aldrin	ND	U	0.000527	0.0200	ug/L	1	6/19/23 23:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-03 (Ground Water) Sample Name: **FB-20230612** Collected: **6/12/2023 1:00:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	6/19/23 23:06	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	6/19/23 23:06	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	6/19/23 23:06	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	6/19/23 23:06	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	6/19/23 23:06	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	6/19/23 23:06	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	6/19/23 23:06	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	6/19/23 23:06	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	6/19/23 23:06	UJ, RC:6L
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	6/19/23 23:06	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	6/19/23 23:06	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	6/19/23 23:06	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	6/19/23 23:06	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	6/19/23 23:06	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	6/19/23 23:06	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	6/19/23 23:06	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	6/20/23 15:08	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	6/20/23 15:08	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	6/20/23 15:08	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	6/20/23 15:08	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	6/20/23 15:08	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	6/20/23 15:08	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	6/20/23 15:08	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	6/20/23 15:08	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	6/20/23 15:08	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	6/20/23 15:08	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	6/20/23 15:08	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	6/20/23 15:08	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	6/20/23 15:08	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	6/20/23 15:08	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	6/20/23 15:08	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	6/20/23 15:08	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	6/20/23 15:08	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-03 (Ground Water) Sample Name: **FB-20230612** Collected: **6/12/2023 1:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	6/20/23 15:08	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	6/20/23 15:08	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	6/20/23 15:08	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
Acenaphthene	ND	U	0.100	2.00	ug/L	1	6/20/23 15:08	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	6/20/23 15:08	
Acetophenone	ND	U	0.170	2.00	ug/L	1	6/20/23 15:08	
Anthracene	ND	U	0.121	2.00	ug/L	1	6/20/23 15:08	
Atrazine	ND	U	0.0861	2.00	ug/L	1	6/20/23 15:08	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL,Q
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	6/20/23 15:08	
Biphenyl	ND	U	0.106	2.00	ug/L	1	6/20/23 15:08	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	6/20/23 15:08	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	6/20/23 15:08	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
Caprolactam	ND	U	0.193	2.00	ug/L	1	6/20/23 15:08	
Carbazole	ND	U	0.188	2.00	ug/L	1	6/20/23 15:08	
Chrysene	ND	U	0.129	2.00	ug/L	1	6/20/23 15:08	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	6/20/23 15:08	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	6/20/23 15:08	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	6/20/23 15:08	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	6/20/23 15:08	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	6/20/23 15:08	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	6/20/23 15:08	
Fluorene	ND	U	0.109	2.00	ug/L	1	6/20/23 15:08	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	6/20/23 15:08	
Isophorone	ND	U	0.111	2.00	ug/L	1	6/20/23 15:08	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	6/20/23 15:08	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	6/20/23 15:08	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	6/20/23 15:08	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	6/20/23 15:08	UJ, RC:SL
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	6/20/23 15:08	
Phenol	ND	U	0.0973	2.00	ug/L	1	6/20/23 15:08	
Pyrene	ND	U	0.115	2.00	ug/L	1	6/20/23 15:08	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-03 (Ground Water) Sample Name: **FB-20230612** Collected: **6/12/2023 1:00:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/15/23 21:13	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/15/23 21:13	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/15/23 21:13	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/15/23 21:13	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/15/23 21:13	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/15/23 21:13	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/15/23 21:13	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/15/23 21:13	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/15/23 21:13	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/15/23 21:13	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/15/23 21:13	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/15/23 21:13	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/15/23 21:13	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/15/23 21:13	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/15/23 21:13	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/15/23 21:13	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/15/23 21:13	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/15/23 21:13	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/15/23 21:13	
Acetone	ND	U	10.0	10.0	ug/L	1	6/15/23 21:13	
Benzene	ND	U	0.129	1.00	ug/L	1	6/15/23 21:13	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/15/23 21:13	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/15/23 21:13	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/15/23 21:13	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/15/23 21:13	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/15/23 21:13	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/15/23 21:13	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/15/23 21:13	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/15/23 21:13	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/15/23 21:13	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/15/23 21:13	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/15/23 21:13	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/15/23 21:13	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/15/23 21:13	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-03 (Ground Water) Sample Name: **FB-20230612** Collected: **6/12/2023 1:00:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/15/23 21:13
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/15/23 21:13
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/15/23 21:13
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/15/23 21:13
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/15/23 21:13
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/15/23 21:13
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/15/23 21:13
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/15/23 21:13
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/15/23 21:13
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/15/23 21:13
Styrene	ND	U	0.176	1.00	ug/L	1	6/15/23 21:13
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/15/23 21:13
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/15/23 21:13
Toluene	ND	U	0.205	1.00	ug/L	1	6/15/23 21:13
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/15/23 21:13
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/15/23 21:13
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/15/23 21:13
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/15/23 21:13
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/15/23 21:13
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/15/23 21:13

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	6/23/23 14:49

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-04 (Ground Water) Sample Name: **TB-20230613** Collected: **6/13/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	6/15/23 18:41	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	6/15/23 18:41	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	6/15/23 18:41	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	6/15/23 18:41	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	6/15/23 18:41	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	6/15/23 18:41	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	6/15/23 18:41	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	6/15/23 18:41	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	6/15/23 18:41	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	6/15/23 18:41	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	6/15/23 18:41	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	6/15/23 18:41	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	6/15/23 18:41	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	6/15/23 18:41	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	6/15/23 18:41	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	6/15/23 18:41	
2-Butanone	ND	U	10.0	10.0	ug/L	1	6/15/23 18:41	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	6/15/23 18:41	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	6/15/23 18:41	
Acetone	ND	U	10.0	10.0	ug/L	1	6/15/23 18:41	
Benzene	ND	U	0.129	1.00	ug/L	1	6/15/23 18:41	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	6/15/23 18:41	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	6/15/23 18:41	
Bromoform	ND	U	0.421	1.00	ug/L	1	6/15/23 18:41	
Bromomethane	ND	U	0.702	10.0	ug/L	1	6/15/23 18:41	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	6/15/23 18:41	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	6/15/23 18:41	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	6/15/23 18:41	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	6/15/23 18:41	
Chloroethane	ND	U	0.299	2.00	ug/L	1	6/15/23 18:41	
Chloroform	ND	U	0.365	1.00	ug/L	1	6/15/23 18:41	
Chloromethane	ND	U	0.758	1.00	ug/L	1	6/15/23 18:41	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	6/15/23 18:41	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	6/15/23 18:41	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	6/15/23 18:41	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	6/15/23 18:41	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	6/15/23 18:41	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	6/15/23 18:41	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-04 (Ground Water) Sample Name: **TB-20230613** Collected: **6/13/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	6/15/23 18:41
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	6/15/23 18:41
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	6/15/23 18:41
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	6/15/23 18:41
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	6/15/23 18:41
o-Xylene	ND	U	0.244	1.00	ug/L	1	6/15/23 18:41
Styrene	ND	U	0.176	1.00	ug/L	1	6/15/23 18:41
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	6/15/23 18:41
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	6/15/23 18:41
Toluene	ND	U	0.205	1.00	ug/L	1	6/15/23 18:41
Total Xylenes	ND	U	0.244	1.00	ug/L	1	6/15/23 18:41
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	6/15/23 18:41
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	6/15/23 18:41
Trichloroethene	ND	U	0.146	1.00	ug/L	1	6/15/23 18:41
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	6/15/23 18:41
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	6/15/23 18:41

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.00529	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1221	ND	U	0.0104	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1232	ND	U	0.0132	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1242	ND	U	0.00775	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1248	ND	U	0.00810	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1254	ND	U	0.00636	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1260	ND	U	0.00494	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1262	ND	U	0.0106	0.0394	mg/kg	1	6/26/23 13:41
Aroclor-1268	ND	U	0.00477	0.0394	mg/kg	1	6/26/23 13:41
Total PCBs	ND	U	0.00368	0.0394	mg/kg	1	6/26/23 13:41

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

APL
AQUA PRO-TECH LABORATORIES
Certified Environmental Testing

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4,5-TP (Silvex)	ND	U	0.0117	0.119	mg/kg	1	6/27/23 13:18	**UJ, RC:3**
2,4-D	ND	U	0.0198	0.119	mg/kg	1	6/27/23 13:18	**UJ, RC:3**

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**0.341**		**0.00597**	**0.0239**	**mg/kg**	**1**	**6/22/23 11:14**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**5420**		**0.173**	**2.91**	**mg/kg**	**1**	**6/25/23 10:05**
Antimony	ND	U	0.159	1.46	mg/kg	1	6/25/23 10:05
Arsenic	**12.8**		**0.104**	**1.46**	**mg/kg**	**1**	**6/25/23 10:05**
Barium	**233**		**0.0440**	**0.583**	**mg/kg**	**1**	**6/25/23 10:05**
Beryllium	**0.360**		**0.00337**	**0.0291**	**mg/kg**	**1**	**6/25/23 10:05**
Cadmium	**0.437**		**0.0568**	**0.291**	**mg/kg**	**1**	**6/25/23 10:05**
Calcium	**86900**	D	**32.8**	**291**	**mg/kg**	**10**	**6/26/23 9:22**
Chromium	**28.3**		**0.0329**	**0.291**	**mg/kg**	**1**	**6/25/23 10:05**
Cobalt	**5.13**		**0.0298**	**0.233**	**mg/kg**	**1**	**6/25/23 10:05**
Copper	**58.3**		**0.0815**	**0.291**	**mg/kg**	**1**	**6/25/23 10:05**
Iron	**16500**		**0.825**	**5.83**	**mg/kg**	**1**	**6/25/23 10:05**
Lead	**497**		**0.122**	**1.46**	**mg/kg**	**1**	**6/25/23 10:05**
Magnesium	**2050**		**10.3**	**58.3**	**mg/kg**	**1**	**6/25/23 10:05**
Manganese	**220**		**0.0362**	**0.291**	**mg/kg**	**1**	**6/25/23 10:05**
Nickel	**13.1**		**0.0256**	**0.146**	**mg/kg**	**1**	**6/25/23 10:05**
Potassium	**215**		**34.6**	**117**	**mg/kg**	**1**	**6/25/23 10:05**
Selenium	ND	U	0.280	1.46	mg/kg	1	6/25/23 10:05
Silver	**0.249**		**0.0495**	**0.175**	**mg/kg**	**1**	**6/25/23 10:05**
Sodium	**523**		**5.55**	**58.3**	**mg/kg**	**1**	**6/25/23 10:05**
Thallium	ND	U	0.0980	1.46	mg/kg	1	6/25/23 10:05
Vanadium	**18.9**		**0.0670**	**0.583**	**mg/kg**	**1**	**6/25/23 10:05**
Zinc	**379**	D	**0.890**	**8.74**	**mg/kg**	**10**	**6/26/23 9:22**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000711	0.00155	mg/kg	1	6/19/23 21:15
4,4'-DDE	ND	U	0.000849	0.00155	mg/kg	1	6/19/23 21:15
4,4'-DDT	ND	U	0.00110	0.00155	mg/kg	1	6/19/23 21:15
Aldrin	ND	U	0.000736	0.00155	mg/kg	1	6/19/23 21:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
alpha-BHC	ND	U	0.000462	0.00155	mg/kg	1	6/19/23 21:15	
beta-BHC	ND	U	0.000742	0.00155	mg/kg	1	6/19/23 21:15	
Chlordane	ND	U	0.000690	0.00155	mg/kg	1	6/19/23 21:15	
delta-BHC	ND	U	0.000721	0.00155	mg/kg	1	6/19/23 21:15	
Dieldrin	ND	U	0.000812	0.00155	mg/kg	1	6/19/23 21:15	
Endosulfan I	ND	U	0.000733	0.00155	mg/kg	1	6/19/23 21:15	
Endosulfan II	ND	U	0.000706	0.00155	mg/kg	1	6/19/23 21:15	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000584	0.00155	mg/kg	1	6/19/23 21:15	
Endosulfans, Total (alpha and beta)	ND	U	0.000706	0.00155	mg/kg	1	6/19/23 21:15	
Endrin	ND	U	0.000536	0.00155	mg/kg	1	6/19/23 21:15	
Endrin aldehyde	ND	U	0.000619	0.00155	mg/kg	1	6/19/23 21:15	
Endrin ketone	ND	U	0.000547	0.00155	mg/kg	1	6/19/23 21:15	
gamma-BHC (Lindane)	ND	U	0.000492	0.00155	mg/kg	1	6/19/23 21:15	
Heptachlor	ND	U	0.000416	0.00155	mg/kg	1	6/19/23 21:15	
Heptachlor Epoxide	ND	U	0.000784	0.00155	mg/kg	1	6/19/23 21:15	
Methoxychlor	ND	U	0.000455	0.00155	mg/kg	1	6/19/23 21:15	
Toxaphene	ND	U	0.0748	0.0788	mg/kg	1	6/19/23 21:15	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,4-Dioxane	ND	U	0.00449	0.0398	mg/kg	1	6/22/23 21:38	
2,3,4,6-Tetrachlorophenol	ND	U	0.0245	0.159	mg/kg	1	6/22/23 21:38	
2,4,5-Trichlorophenol	ND	U	0.0216	0.159	mg/kg	1	6/22/23 21:38	
2,4,6-Trichlorophenol	ND	U	0.00995	0.159	mg/kg	1	6/22/23 21:38	
2,4-Dichlorophenol	ND	U	0.0160	0.159	mg/kg	1	6/22/23 21:38	
2,4-Dimethylphenol	ND	U	0.0156	0.159	mg/kg	1	6/22/23 21:38	
2,4-Dinitrophenol	ND	U	0.0229	0.797	mg/kg	1	6/22/23 21:38	
2,4-Dinitrotoluene	ND	U	0.0170	0.159	mg/kg	1	6/22/23 21:38	UJ, RC:SL
2,6-Dinitrotoluene	ND	U	0.0380	0.159	mg/kg	1	6/22/23 21:38	
2-Chloronaphthalene	ND	U	0.0183	0.159	mg/kg	1	6/22/23 21:38	
2-Chlorophenol	ND	U	0.0210	0.159	mg/kg	1	6/22/23 21:38	
2-Methylnaphthalene	**0.329**		**0.0381**	**0.239**	**mg/kg**	**1**	**6/22/23 21:38**	
2-Methylphenol	ND	U	0.0314	0.159	mg/kg	1	6/22/23 21:38	
2-Nitroaniline	ND	U	0.0128	0.159	mg/kg	1	6/22/23 21:38	UJ, RC:SL
2-Nitrophenol	ND	U	0.0177	0.159	mg/kg	1	6/22/23 21:38	
3,3'-Dichlorobenzidine	ND	U	0.0167	0.159	mg/kg	1	6/22/23 21:38	
3+4-Methylphenol	**0.0576**	J	**0.0291**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0618
Project: Owls Head Phase 2 **Date to Lab:** 6/13/2023 5:15:00PM

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
3-Nitroaniline	ND	U	0.0295	0.159	mg/kg	1	6/22/23 21:38	
4,6-Dinitro-2-methylphenol	ND	U	0.0300	0.398	mg/kg	1	6/22/23 21:38	
4-Bromophenyl-phenyl ether	ND	U	0.0227	0.159	mg/kg	1	6/22/23 21:38	
4-Chloro-3-methylphenol	ND	U	0.0251	0.159	mg/kg	1	6/22/23 21:38	
4-Chloroaniline	ND	U	0.00557	0.159	mg/kg	1	6/22/23 21:38	
4-Chlorophenyl phenyl ether	ND	U	0.00859	0.159	mg/kg	1	6/22/23 21:38	
4-Nitroaniline	ND	U	0.0795	0.159	mg/kg	1	6/22/23 21:38	
4-Nitrophenol	ND	U	0.0102	0.159	mg/kg	1	6/22/23 21:38	UJ, RC:SL
Acenaphthene	**0.259**		**0.00907**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Acenaphthylene	**0.575**		**0.00553**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Acetophenone	ND	U	0.0158	0.159	mg/kg	1	6/22/23 21:38	
Anthracene	**0.671**		**0.0231**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Atrazine	ND	U	0.0149	0.159	mg/kg	1	6/22/23 21:38	
Benzaldehyde	**0.0916**	J	**0.0489**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	J, RC:SL
Benzo(a)anthracene	**2.01**		**0.0160**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Benzo(a)pyrene	**2.62**		**0.0277**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Benzo(b)fluoranthene	**2.96**		**0.0223**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Benzo(g,h,i)perylene	**2.21**		**0.0129**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Benzo(k)fluoranthene	**1.01**		**0.0183**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Biphenyl	**0.130**	J	**0.0140**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
bis(2-chloroethoxy)methane	ND	U	0.0220	0.159	mg/kg	1	6/22/23 21:38	
bis(2-chloroethyl)ether	ND	U	0.0174	0.159	mg/kg	1	6/22/23 21:38	
bis(2-chloroisopropyl)ether	ND	U	0.0572	0.159	mg/kg	1	6/22/23 21:38	
bis(2-ethylhexyl)phthalate	ND	U	0.0318	0.159	mg/kg	1	6/22/23 21:38	
Butylbenzylphthalate	ND	U	0.0145	0.159	mg/kg	1	6/22/23 21:38	
Caprolactam	ND	U	0.0205	0.159	mg/kg	1	6/22/23 21:38	
Carbazole	**0.176**	J	**0.0306**	**0.398**	**mg/kg**	**1**	**6/22/23 21:38**	
Chrysene	**2.24**		**0.0109**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Dibenzo(a,h)anthracene	**0.481**		**0.0158**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Dibenzofuran	**0.154**	J	**0.00947**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Diethylphthalate	ND	U	0.0308	0.159	mg/kg	1	6/22/23 21:38	
Dimethylphthalate	ND	U	0.00987	0.159	mg/kg	1	6/22/23 21:38	
Di-n-butylphthalate	ND	U	0.0650	0.159	mg/kg	1	6/22/23 21:38	
Di-n-octylphthalate	ND	U	0.0326	0.159	mg/kg	1	6/22/23 21:38	
Fluoranthene	**3.88**		**0.0149**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Fluorene	**0.258**		**0.0133**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**	
Hexachlorobenzene	ND	U	0.0208	0.159	mg/kg	1	6/22/23 21:38	
Hexachlorobutadiene	ND	U	0.0763	0.159	mg/kg	1	6/22/23 21:38	

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0618
Project: Owls Head Phase 2 **Date to Lab:** 6/13/2023 5:15:00PM

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Hexachlorocyclopentadiene	ND	U	0.0663	0.398	mg/kg	1	6/22/23 21:38
Hexachloroethane	ND	U	0.0174	0.159	mg/kg	1	6/22/23 21:38
Indeno(1,2,3-cd)pyrene	**1.64**		**0.0171**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**
Isophorone	ND	U	0.0104	0.159	mg/kg	1	6/22/23 21:38
Naphthalene	**0.400**		**0.0118**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**
Nitrobenzene	ND	U	0.0270	0.159	mg/kg	1	6/22/23 21:38
n-Nitroso-di-n-propylamine	ND	U	0.00852	0.159	mg/kg	1	6/22/23 21:38
n-Nitrosodiphenylamine	ND	U	0.0339	0.159	mg/kg	1	6/22/23 21:38
Pentachlorophenol	ND	U	0.0219	0.398	mg/kg	1	6/22/23 21:38
Phenanthrene	**2.45**		**0.0209**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**
Phenol	ND	U	0.0129	0.159	mg/kg	1	6/22/23 21:38
Pyrene	**3.59**		**0.0117**	**0.159**	**mg/kg**	**1**	**6/22/23 21:38**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,5,7-Cyclooctatetraene	1.24	5.84	J	mg/kg	1	6/22/23 21:38
1H-Inden-1-one, 2,3-dihydro-	0.441	8.83	J	mg/kg	1	6/22/23 21:38
2-Pentanone, 4-hydroxy-4-methyl-	35.8	5.25	J	mg/kg	1	6/22/23 21:38
Benzene, 1-(bromomethyl)-2-methyl-	0.606	7.79	J	mg/kg	1	6/22/23 21:38
Benzene, 1-ethenyl-3-methyl-	1.24	6.77	J	mg/kg	1	6/22/23 21:38
Benzene, 1-methyl-4-(1-methylethyl)-	0.632	8.49	J	mg/kg	1	6/22/23 21:38
Benzene, 1-propenyl-, (E)-	0.403	6.81	J	mg/kg	1	6/22/23 21:38
Benzene, 1-propynyl-	0.625	7.22	J	mg/kg	1	6/22/23 21:38
Ethanol, 2-butoxy-	0.464	5.90	J	mg/kg	1	6/22/23 21:38
Hexadecanoic acid, butyl ester	4.82	12.86	J	mg/kg	1	6/22/23 21:38
Naphthalene, 2-ethenyl-	0.327	9.73	J	mg/kg	1	6/22/23 21:38
Octadecanoic acid, butyl ester	1.79	13.67	J, B	mg/kg	1	6/22/23 21:38
Phenanthrene, 1-methyl-	0.649	12.06	J	mg/kg	1	6/22/23 21:38
Toluene	0.963	4.41	J	mg/kg	1	6/22/23 21:38
unknown	0.440	6.01	J	mg/kg	1	6/22/23 21:38
TIC Total	**50.4**					

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000356	0.00244	mg/kg	1	6/16/23 17:55	
1,1,2,2-Tetrachloroethane	ND	U	0.000336	0.00244	mg/kg	1	6/16/23 17:55	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00104	0.00244	mg/kg	1	6/16/23 17:55	
1,1,2-Trichloroethane	ND	U	0.000411	0.00244	mg/kg	1	6/16/23 17:55	
1,1-Dichloroethane	ND	U	0.000356	0.00244	mg/kg	1	6/16/23 17:55	
1,1-Dichloroethene	ND	U	0.000451	0.00244	mg/kg	1	6/16/23 17:55	
1,2,3-Trichlorobenzene	ND	U	0.000527	0.00244	mg/kg	1	6/16/23 17:55	
1,2,4-Trichlorobenzene	ND	U	0.000650	0.00244	mg/kg	1	6/16/23 17:55	
1,2,4-Trimethylbenzene	ND	U	0.000336	0.00244	mg/kg	1	6/16/23 17:55	
1,2-Dibromo-3-chloropropane	ND	U	0.000595	0.00609	mg/kg	1	6/16/23 17:55	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000307	0.00244	mg/kg	1	6/16/23 17:55	
1,2-Dichlorobenzene	ND	U	0.000430	0.00244	mg/kg	1	6/16/23 17:55	
1,2-Dichloroethane	ND	U	0.000344	0.00244	mg/kg	1	6/16/23 17:55	
1,2-Dichloropropane	ND	U	0.000400	0.00244	mg/kg	1	6/16/23 17:55	
1,3-Dichlorobenzene	ND	U	0.000179	0.00244	mg/kg	1	6/16/23 17:55	
1,4-Dichlorobenzene	ND	U	0.000351	0.00244	mg/kg	1	6/16/23 17:55	
2-Butanone	ND	U	0.000397	0.0122	mg/kg	1	6/16/23 17:55	
2-Hexanone	ND	U	0.000228	0.00244	mg/kg	1	6/16/23 17:55	
4-Methyl-2-pentanone	ND	U	0.000305	0.00244	mg/kg	1	6/16/23 17:55	
Acetone	ND	U	0.000739	0.0609	mg/kg	1	6/16/23 17:55	
Benzene	ND	U	0.000222	0.00244	mg/kg	1	6/16/23 17:55	
Bromochloromethane	ND	U	0.000450	0.00244	mg/kg	1	6/16/23 17:55	
Bromodichloromethane	ND	U	0.000306	0.00244	mg/kg	1	6/16/23 17:55	
Bromoform	ND	U	0.000428	0.00244	mg/kg	1	6/16/23 17:55	
Bromomethane	ND	U	0.000703	0.00244	mg/kg	1	6/16/23 17:55	UJ, RC:SL
Carbon disulfide	ND	U	0.000350	0.00244	mg/kg	1	6/16/23 17:55	
Carbon Tetrachloride	ND	U	0.000367	0.00244	mg/kg	1	6/16/23 17:55	
Chlorobenzene	ND	U	0.000353	0.00244	mg/kg	1	6/16/23 17:55	
Chlorodibromomethane	ND	U	0.000300	0.00244	mg/kg	1	6/16/23 17:55	
Chloroethane	ND	U	0.000416	0.00244	mg/kg	1	6/16/23 17:55	
Chloroform	ND	U	0.000410	0.00244	mg/kg	1	6/16/23 17:55	
Chloromethane	ND	U	0.000938	0.00244	mg/kg	1	6/16/23 17:55	
cis-1,2-Dichloroethene	ND	U	0.000118	0.00244	mg/kg	1	6/16/23 17:55	
cis-1,3-Dichloropropene	ND	U	0.000308	0.00244	mg/kg	1	6/16/23 17:55	
Cyclohexane	ND	U	0.000540	0.00244	mg/kg	1	6/16/23 17:55	
Dichlorodifluoromethane	ND	U	0.000823	0.00244	mg/kg	1	6/16/23 17:55	UJ, RC:SL
EthylBenzene	ND	U	0.000330	0.00244	mg/kg	1	6/16/23 17:55	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-05 (Soil) Sample Name: **OH-SB-61-1.0-2.0-20230613** Collected: **6/13/2023 9:30:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isopropylbenzene	ND	U	0.000383	0.00244	mg/kg	1	6/16/23 17:55
m+p-Xylenes	ND	U	0.000615	0.00488	mg/kg	1	6/16/23 17:55
Methyl Acetate	ND	U	0.000323	0.00244	mg/kg	1	6/16/23 17:55
Methyl tert-Butyl Ether	ND	U	0.000412	0.00244	mg/kg	1	6/16/23 17:55
Methylcyclohexane	ND	U	0.000392	0.00244	mg/kg	1	6/16/23 17:55
Methylene Chloride	ND	U	0.000732	0.00609	mg/kg	1	6/16/23 17:55
o-Xylene	ND	U	0.000313	0.00244	mg/kg	1	6/16/23 17:55
Styrene	ND	U	0.000349	0.00244	mg/kg	1	6/16/23 17:55
tert-Butyl alcohol	ND	U	0.00512	0.0244	mg/kg	1	6/16/23 17:55
Tetrachloroethene	ND	U	0.000241	0.00244	mg/kg	1	6/16/23 17:55
Toluene	ND	U	0.000196	0.00244	mg/kg	1	6/16/23 17:55
Total Xylenes	ND	U	0.000313	0.00244	mg/kg	1	6/16/23 17:55
trans-1,2-Dichloroethene	ND	U	0.000330	0.00244	mg/kg	1	6/16/23 17:55
trans-1,3-Dichloropropene	ND	U	0.000466	0.00244	mg/kg	1	6/16/23 17:55
Trichloroethene	ND	U	0.000358	0.00244	mg/kg	1	6/16/23 17:55
Trichlorofluoromethane	ND	U	0.000280	0.00244	mg/kg	1	6/16/23 17:55
Vinyl chloride	ND	U	0.000463	0.00244	mg/kg	1	6/16/23 17:55

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	**83.7**				**%**	**1**	**6/14/23 10:53**

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**2.23**		**0.00891**	**0.0748**	**mg/kg**	**1**	**6/16/23 17:35**

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

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All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aroclor-1016	ND	U	0.00725	0.0540	mg/kg	1	6/20/23 19:49	UJ, RC:6L
Aroclor-1221	ND	U	0.0142	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1232	ND	U	0.0181	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1242	ND	U	0.0106	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1248	ND	U	0.0111	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1254	ND	U	0.00872	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1260	ND	U	0.00676	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1262	ND	U	0.0145	0.0540	mg/kg	1	6/20/23 19:49	
Aroclor-1268	ND	U	0.00653	0.0540	mg/kg	1	6/20/23 19:49	
Total PCBs	ND	U	0.00504	0.0540	mg/kg	1	6/20/23 19:49	

SW 846 8151A - Herbicides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4,5-TP (Silvex)	ND	U	0.0160	0.164	mg/kg	1	6/27/23 13:27
2,4-D	ND	U	0.0272	0.164	mg/kg	1	6/27/23 13:27

SW 846 7473 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	**4.86**		**0.00819**	**0.0327**	**mg/kg**	**1**	**6/22/23 14:40**

SW 846 6010D - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**8500**		**0.248**	**4.18**	**mg/kg**	**1**	**6/25/23 10:07**
Antimony	ND	U	0.228	2.09	mg/kg	1	6/25/23 10:07
Arsenic	**16.3**		**0.149**	**2.09**	**mg/kg**	**1**	**6/25/23 10:07**
Barium	**1260**	D	**0.631**	**8.35**	**mg/kg**	**10**	**6/26/23 9:24**
Beryllium	**0.587**		**0.00484**	**0.0418**	**mg/kg**	**1**	**6/25/23 10:07**
Cadmium	**0.547**		**0.0814**	**0.418**	**mg/kg**	**1**	**6/25/23 10:07**
Calcium	**32500**		**4.70**	**41.8**	**mg/kg**	**1**	**6/25/23 10:07**
Chromium	**20.6**		**0.0472**	**0.418**	**mg/kg**	**1**	**6/25/23 10:07**
Cobalt	**9.98**		**0.0427**	**0.334**	**mg/kg**	**1**	**6/25/23 10:07**
Copper	**1390**	D	**1.17**	**4.18**	**mg/kg**	**10**	**6/26/23 9:24**
Iron	**19500**		**1.18**	**8.35**	**mg/kg**	**1**	**6/25/23 10:07**
Lead	**1570**		**0.174**	**2.09**	**mg/kg**	**1**	**6/25/23 10:07**
Magnesium	**1980**		**14.8**	**83.5**	**mg/kg**	**1**	**6/25/23 10:07**
Manganese	**141**		**0.0519**	**0.418**	**mg/kg**	**1**	**6/25/23 10:07**
Nickel	**27.1**		**0.0367**	**0.209**	**mg/kg**	**1**	**6/25/23 10:07**
Potassium	**950**		**49.7**	**167**	**mg/kg**	**1**	**6/25/23 10:07**

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

SW 846 6010D - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Selenium	ND	U	0.401	2.09	mg/kg	1	6/25/23 10:07
Silver	**4.04**		**0.0710**	**0.251**	**mg/kg**	**1**	**6/25/23 10:07**
Sodium	**3980**		**7.96**	**83.5**	**mg/kg**	**1**	**6/25/23 10:07**
Thallium	ND	U	0.141	2.09	mg/kg	1	6/25/23 10:07
Vanadium	**24.1**		**0.0960**	**0.835**	**mg/kg**	**1**	**6/25/23 10:07**
Zinc	**618**	D	**1.28**	**12.5**	**mg/kg**	**10**	**6/26/23 9:24**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000974	0.00213	mg/kg	1	6/19/23 21:37	
4,4'-DDE	ND	U	0.00116	0.00213	mg/kg	1	6/19/23 21:37	
4,4'-DDT	ND	U	0.00150	0.00213	mg/kg	1	6/19/23 21:37	
Aldrin	ND	U	0.00101	0.00213	mg/kg	1	6/19/23 21:37	
alpha-BHC	ND	U	0.000634	0.00213	mg/kg	1	6/19/23 21:37	
beta-BHC	ND	U	0.00102	0.00213	mg/kg	1	6/19/23 21:37	
Chlordane	ND	U	0.000946	0.00213	mg/kg	1	6/19/23 21:37	
delta-BHC	ND	U	0.000989	0.00213	mg/kg	1	6/19/23 21:37	
Dieldrin	ND	U	0.00111	0.00213	mg/kg	1	6/19/23 21:37	
Endosulfan I	ND	U	0.00101	0.00213	mg/kg	1	6/19/23 21:37	
Endosulfan II	ND	U	0.000967	0.00213	mg/kg	1	6/19/23 21:37	UJ, RC:6L
Endosulfan sulfate	ND	U	0.000800	0.00213	mg/kg	1	6/19/23 21:37	
Endosulfans, Total (alpha and beta)	ND	U	0.000967	0.00213	mg/kg	1	6/19/23 21:37	
Endrin	ND	U	0.000735	0.00213	mg/kg	1	6/19/23 21:37	
Endrin aldehyde	ND	U	0.000848	0.00213	mg/kg	1	6/19/23 21:37	
Endrin ketone	ND	U	0.000750	0.00213	mg/kg	1	6/19/23 21:37	
gamma-BHC (Lindane)	ND	U	0.000674	0.00213	mg/kg	1	6/19/23 21:37	
Heptachlor	ND	U	0.000570	0.00213	mg/kg	1	6/19/23 21:37	
Heptachlor Epoxide	ND	U	0.00107	0.00213	mg/kg	1	6/19/23 21:37	
Methoxychlor	ND	U	0.000624	0.00213	mg/kg	1	6/19/23 21:37	
Toxaphene	ND	U	0.103	0.108	mg/kg	1	6/19/23 21:37	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,4-Dioxane	ND	U	0.00616	0.0545	mg/kg	1	6/22/23 21:07
2,3,4,6-Tetrachlorophenol	ND	U	0.0336	0.218	mg/kg	1	6/22/23 21:07
2,4,5-Trichlorophenol	ND	U	0.0296	0.218	mg/kg	1	6/22/23 21:07
2,4,6-Trichlorophenol	ND	U	0.0136	0.218	mg/kg	1	6/22/23 21:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,4-Dichlorophenol	ND	U	0.0219	0.218	mg/kg	1	6/22/23 21:07	
2,4-Dimethylphenol	ND	U	0.0214	0.218	mg/kg	1	6/22/23 21:07	
2,4-Dinitrophenol	ND	U	0.0314	1.09	mg/kg	1	6/22/23 21:07	
2,4-Dinitrotoluene	ND	U	0.0232	0.218	mg/kg	1	6/22/23 21:07	UJ, RC:SL
2,6-Dinitrotoluene	ND	U	0.0521	0.218	mg/kg	1	6/22/23 21:07	
2-Chloronaphthalene	ND	U	0.0250	0.218	mg/kg	1	6/22/23 21:07	
2-Chlorophenol	ND	U	0.0288	0.218	mg/kg	1	6/22/23 21:07	
2-Methylnaphthalene	**1.68**		**0.0522**	**0.327**	**mg/kg**	**1**	**6/22/23 21:07**	
2-Methylphenol	**0.0859**	J	**0.0431**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
2-Nitroaniline	ND	U	0.0175	0.218	mg/kg	1	6/22/23 21:07	UJ, RC:SL
2-Nitrophenol	ND	U	0.0242	0.218	mg/kg	1	6/22/23 21:07	
3,3'-Dichlorobenzidine	ND	U	0.0229	0.218	mg/kg	1	6/22/23 21:07	
3+4-Methylphenol	**2.22**		**0.0399**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
3-Nitroaniline	ND	U	0.0404	0.218	mg/kg	1	6/22/23 21:07	
4,6-Dinitro-2-methylphenol	ND	U	0.0411	0.545	mg/kg	1	6/22/23 21:07	
4-Bromophenyl-phenyl ether	ND	U	0.0311	0.218	mg/kg	1	6/22/23 21:07	
4-Chloro-3-methylphenol	ND	U	0.0344	0.218	mg/kg	1	6/22/23 21:07	
4-Chloroaniline	ND	U	0.00763	0.218	mg/kg	1	6/22/23 21:07	
4-Chlorophenyl phenyl ether	ND	U	0.0118	0.218	mg/kg	1	6/22/23 21:07	
4-Nitroaniline	ND	U	0.109	0.218	mg/kg	1	6/22/23 21:07	
4-Nitrophenol	ND	U	0.0139	0.218	mg/kg	1	6/22/23 21:07	UJ, RC:SL
Acenaphthene	**11.6**		**0.0124**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
Acenaphthylene	**11.5**		**0.00758**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
Acetophenone	**0.959**		**0.0216**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
Anthracene	**10.9**		**0.0316**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
Atrazine	ND	U	0.0205	0.218	mg/kg	1	6/22/23 21:07	
Benzaldehyde	ND	U	0.0670	0.218	mg/kg	1	6/22/23 21:07	UJ, RC:SL
Benzo(a)anthracene	**23.3**	D	**0.219**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**	
Benzo(a)pyrene	**34.3**	D	**0.380**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**	
Benzo(b)fluoranthene	**33.1**	D	**0.306**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**	
Benzo(g,h,i)perylene	**47.8**	D	**0.177**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**	
Benzo(k)fluoranthene	**11.1**		**0.0250**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
Biphenyl	**0.793**		**0.0192**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**	
bis(2-chloroethoxy)methane	ND	U	0.0301	0.218	mg/kg	1	6/22/23 21:07	
bis(2-chloroethyl)ether	ND	U	0.0239	0.218	mg/kg	1	6/22/23 21:07	
bis(2-chloroisopropyl)ether	ND	U	0.0784	0.218	mg/kg	1	6/22/23 21:07	
bis(2-ethylhexyl)phthalate	ND	U	0.0435	0.218	mg/kg	1	6/22/23 21:07	
Butylbenzylphthalate	ND	U	0.0198	0.218	mg/kg	1	6/22/23 21:07	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Caprolactam	ND	U	0.0282	0.218	mg/kg	1	6/22/23 21:07
Carbazole	ND	U	0.0419	0.545	mg/kg	1	6/22/23 21:07
Chrysene	**30.4**	D	**0.149**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**
Dibenzo(a,h)anthracene	**4.97**		**0.0216**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**
Dibenzofuran	**0.328**		**0.0130**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**
Diethylphthalate	ND	U	0.0422	0.218	mg/kg	1	6/22/23 21:07
Dimethylphthalate	ND	U	0.0135	0.218	mg/kg	1	6/22/23 21:07
Di-n-butylphthalate	ND	U	0.0891	0.218	mg/kg	1	6/22/23 21:07
Di-n-octylphthalate	ND	U	0.0447	0.218	mg/kg	1	6/22/23 21:07
Fluoranthene	**32.5**	D	**0.205**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**
Fluorene	**7.06**		**0.0182**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**
Hexachlorobenzene	ND	U	0.0285	0.218	mg/kg	1	6/22/23 21:07
Hexachlorobutadiene	ND	U	0.105	0.218	mg/kg	1	6/22/23 21:07
Hexachlorocyclopentadiene	ND	U	0.0909	0.545	mg/kg	1	6/22/23 21:07
Hexachloroethane	ND	U	0.0239	0.218	mg/kg	1	6/22/23 21:07
Indeno(1,2,3-cd)pyrene	**24.2**	D	**0.234**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**
Isophorone	ND	U	0.0143	0.218	mg/kg	1	6/22/23 21:07
Naphthalene	**3.74**		**0.0161**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**
Nitrobenzene	ND	U	0.0370	0.218	mg/kg	1	6/22/23 21:07
n-Nitroso-di-n-propylamine	ND	U	0.0117	0.218	mg/kg	1	6/22/23 21:07
n-Nitrosodiphenylamine	ND	U	0.0465	0.218	mg/kg	1	6/22/23 21:07
Pentachlorophenol	ND	U	0.0300	0.545	mg/kg	1	6/22/23 21:07
Phenanthrene	**18.7**	D	**0.286**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**
Phenol	**0.206**	J	**0.0177**	**0.218**	**mg/kg**	**1**	**6/22/23 21:07**
Pyrene	**63.2**	D	**0.160**	**2.18**	**mg/kg**	**10**	**6/27/23 1:02**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,3,5-Hexatriene, 3-methyl-, (E)-	3.91	4.07	J	mg/kg	1	6/22/23 21:07
2-Pentanone, 4-hydroxy-4-methyl-	31.0	5.25	J	mg/kg	1	6/22/23 21:07
4H-Cyclopenta[def]phenanthrene	24.7	12.17	J	mg/kg	1	6/22/23 21:07
Acenaphthenone	4.80	10.95	J	mg/kg	1	6/22/23 21:07
Anthracene, 1-methyl-	6.82	12.04	J	mg/kg	1	6/22/23 21:07
Benzene, (1-chloroethyl)methyl-	5.87	8.49	J	mg/kg	1	6/22/23 21:07
Benzene, (1-methyl-2-cyclopropen-1-yl)-	3.98	7.98	J	mg/kg	1	6/22/23 21:07
Benzene, 1,1-(1-methyl-1,2-ethanediyl)b	7.31	7.79	J	mg/kg	1	6/22/23 21:07

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates **Work Order:** 23F0618
Project: Owls Head Phase 2 **Date to Lab:** 6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethenyl-3-methyl-	8.73	6.77	J	mg/kg	1	6/22/23 21:07
Bicyclo[4.2.0]octa-1,3,5-triene	8.91	5.84	J	mg/kg	1	6/22/23 21:07
Naphthalene, 1-methyl-	10.1	9.06	J	mg/kg	1	6/22/23 21:07
Naphthalene, 2,3-dimethyl-	4.67	9.66	J	mg/kg	1	6/22/23 21:07
Naphthalene, 2-ethenyl-	6.25	9.73	J	mg/kg	1	6/22/23 21:07
Phenanthrene, 1-methyl-	5.00	12.07	J	mg/kg	1	6/22/23 21:07
Phenanthrene, 2,5-dimethyl-	11.5	12.62	J	mg/kg	1	6/22/23 21:07
TIC Total	**144**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.000469	0.00321	mg/kg	1	6/16/23 18:25	
1,1,2,2-Tetrachloroethane	ND	U	0.000443	0.00321	mg/kg	1	6/16/23 18:25	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.00137	0.00321	mg/kg	1	6/16/23 18:25	
1,1,2-Trichloroethane	ND	U	0.000541	0.00321	mg/kg	1	6/16/23 18:25	
1,1-Dichloroethane	ND	U	0.000469	0.00321	mg/kg	1	6/16/23 18:25	
1,1-Dichloroethene	ND	U	0.000594	0.00321	mg/kg	1	6/16/23 18:25	
1,2,3-Trichlorobenzene	ND	U	0.000693	0.00321	mg/kg	1	6/16/23 18:25	
1,2,4-Trichlorobenzene	ND	U	0.000855	0.00321	mg/kg	1	6/16/23 18:25	
1,2,4-Trimethylbenzene	**0.00191**	J	**0.000443**	**0.00321**	**mg/kg**	**1**	**6/16/23 18:25**	
1,2-Dibromo-3-chloropropane	ND	U	0.000783	0.00802	mg/kg	1	6/16/23 18:25	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.000404	0.00321	mg/kg	1	6/16/23 18:25	
1,2-Dichlorobenzene	ND	U	0.000567	0.00321	mg/kg	1	6/16/23 18:25	
1,2-Dichloroethane	ND	U	0.000453	0.00321	mg/kg	1	6/16/23 18:25	
1,2-Dichloropropane	ND	U	0.000526	0.00321	mg/kg	1	6/16/23 18:25	
1,3-Dichlorobenzene	ND	U	0.000236	0.00321	mg/kg	1	6/16/23 18:25	
1,4-Dichlorobenzene	ND	U	0.000462	0.00321	mg/kg	1	6/16/23 18:25	
2-Butanone	**0.0907**		**0.000523**	**0.0160**	**mg/kg**	**1**	**6/16/23 18:25**	
2-Hexanone	ND	U	0.000300	0.00321	mg/kg	1	6/16/23 18:25	
4-Methyl-2-pentanone	ND	U	0.000401	0.00321	mg/kg	1	6/16/23 18:25	
Acetone	**0.218**		**0.000973**	**0.0802**	**mg/kg**	**1**	**6/16/23 18:25**	
Benzene	ND	U	0.000292	0.00321	mg/kg	1	6/16/23 18:25	
Bromochloromethane	ND	U	0.000592	0.00321	mg/kg	1	6/16/23 18:25	
Bromodichloromethane	ND	U	0.000403	0.00321	mg/kg	1	6/16/23 18:25	
Bromoform	ND	U	0.000563	0.00321	mg/kg	1	6/16/23 18:25	
Bromomethane	ND	U	0.000926	0.00321	mg/kg	1	6/16/23 18:25	UJ, RC:SL
Carbon disulfide	**0.00155**	J	**0.000461**	**0.00321**	**mg/kg**	**1**	**6/16/23 18:25**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23F0618
Date to Lab: 6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Carbon Tetrachloride	ND	U	0.000483	0.00321	mg/kg	1	6/16/23 18:25	
Chlorobenzene	ND	U	0.000465	0.00321	mg/kg	1	6/16/23 18:25	
Chlorodibromomethane	ND	U	0.000395	0.00321	mg/kg	1	6/16/23 18:25	
Chloroethane	ND	U	0.000547	0.00321	mg/kg	1	6/16/23 18:25	
Chloroform	ND	U	0.000539	0.00321	mg/kg	1	6/16/23 18:25	
Chloromethane	ND	U	0.00124	0.00321	mg/kg	1	6/16/23 18:25	
cis-1,2-Dichloroethene	ND	U	0.000155	0.00321	mg/kg	1	6/16/23 18:25	
cis-1,3-Dichloropropene	ND	U	0.000406	0.00321	mg/kg	1	6/16/23 18:25	
Cyclohexane	ND	U	0.000711	0.00321	mg/kg	1	6/16/23 18:25	
Dichlorodifluoromethane	ND	U	0.00108	0.00321	mg/kg	1	6/16/23 18:25	UJ, RC:SL
EthylBenzene	ND	U	0.000435	0.00321	mg/kg	1	6/16/23 18:25	
Isopropylbenzene	ND	U	0.000504	0.00321	mg/kg	1	6/16/23 18:25	
m+p-Xylenes	ND	U	0.000810	0.00642	mg/kg	1	6/16/23 18:25	
Methyl Acetate	ND	U	0.000425	0.00321	mg/kg	1	6/16/23 18:25	
Methyl tert-Butyl Ether	ND	U	0.000542	0.00321	mg/kg	1	6/16/23 18:25	
Methylcyclohexane	ND	U	0.000517	0.00321	mg/kg	1	6/16/23 18:25	
Methylene Chloride	ND	U	0.000965	0.00802	mg/kg	1	6/16/23 18:25	
o-Xylene	ND	U	0.000412	0.00321	mg/kg	1	6/16/23 18:25	
Styrene	ND	U	0.000459	0.00321	mg/kg	1	6/16/23 18:25	
tert-Butyl alcohol	ND	U	0.00674	0.0321	mg/kg	1	6/16/23 18:25	
Tetrachloroethene	ND	U	0.000318	0.00321	mg/kg	1	6/16/23 18:25	
Toluene	ND	U	0.000258	0.00321	mg/kg	1	6/16/23 18:25	
Total Xylenes	ND	U	0.000412	0.00321	mg/kg	1	6/16/23 18:25	
trans-1,2-Dichloroethene	ND	U	0.000435	0.00321	mg/kg	1	6/16/23 18:25	
trans-1,3-Dichloropropene	ND	U	0.000613	0.00321	mg/kg	1	6/16/23 18:25	
Trichloroethene	ND	U	0.000472	0.00321	mg/kg	1	6/16/23 18:25	
Trichlorofluoromethane	ND	U	0.000369	0.00321	mg/kg	1	6/16/23 18:25	
Vinyl chloride	ND	U	0.000610	0.00321	mg/kg	1	6/16/23 18:25	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1-Phenyl-1-butene	0.00940	19.24	J	mg/kg	1	6/16/23 18:25
Benzene, (1-methylethyl)-	0.00898	16.95	J	mg/kg	1	6/16/23 18:25
Cyclobutane, (1-methylethylidene)-	0.0104	10.48	J	mg/kg	1	6/16/23 18:25
Cyclohexene, 3,5-dimethyl-	0.00889	12.69	J	mg/kg	1	6/16/23 18:25
Cyclopentene, 3-methyl-	0.0126	6.85	J	mg/kg	1	6/16/23 18:25
TIC Total	**0.050**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client:	Yu & Associates	**Work Order:**	23F0618
Project:	Owls Head Phase 2	**Date to Lab:**	6/13/2023 5:15:00PM

23F0618-06 (Soil) Sample Name: **OH-SB-61-9.0-10.0-20 230613** Collected: **6/13/2023 11:00:00AM**

Gravimetric - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Percent Solids	61.1				%	1	6/14/23 10:53

SW 846 9014 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	2.82		0.0117	0.0982	mg/kg	1	6/16/23 17:35

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-01	**Date Collected**	: 06/12/23 10:30
Client ID	: OH-SB-62-1.0-2.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/14/23 11:34
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132320	**Analyst**	: MJS
Sample Amount	: 15.62 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	458	7.41	2.13	
91-20-3C1	C1-Naphthalenes	351	7.41	2.13	
91-20-3C2	C2-Naphthalenes	418	7.41	2.13	
91-20-3C3	C3-Naphthalenes	360	7.41	2.13	
91-20-3C4	C4-Naphthalenes	230	7.41	2.13	
208-96-8	Acenaphthylene	492	7.41	1.41	
83-32-9	Acenaphthene	412	7.41	1.31	
86-73-7	Fluorene	377	7.41	1.98	
86-73-7C1	C1-Fluorenes	211	7.41	1.98	
86-73-7C2	C2-Fluorenes	424	7.41	1.98	
86-73-7C3	C3-Fluorenes	631	7.41	1.98	
85-01-8	Phenanthrene	4260	7.41	2.46	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	1960	7.41	2.46	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1460	7.41	2.46	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	721	7.41	2.46	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	309	7.41	2.46	
120-12-7	Anthracene	1060	7.41	1.53	
206-44-0	Fluoranthene	4870	7.41	2.35	
129-00-0	Pyrene	5140	7.41	1.95	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2460	7.41	1.95	
56-55-3	Benz(a)anthracene	2760	7.41	1.51	
218-01-9	Chrysene	2640	7.41	1.50	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-01	**Date Collected**	: 06/12/23 10:30
Client ID	: OH-SB-62-1.0-2.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/14/23 11:34
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F1407132320	**Analyst**	: MJS
Sample Amount	: 15.62 g	**Instrument ID**	: PAH14
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 86
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	1740	7.41	1.50	
218-01-9C2	C2-Chrysenes BS	1100	7.41	1.50	
218-01-9C3	C3-Chrysenes	815	7.41	1.50	
218-01-9C4	C4-Chrysenes	485	7.41	1.50	
205-99-2	Benzo(b)fluoranthene	2290	7.41	1.93	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2170	7.41	1.47	
192-97-2	Benzo(e)pyrene	2110	7.41	1.53	
50-32-8	Benzo(a)pyrene	2780	7.41	2.12	
198-55-0	Perylene	707	7.41	1.43	
193-39-5	Indeno(1,2,3-cd)pyrene	1920	7.41	2.01	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	553	7.41	2.00	
191-24-2	Benzo(g,h,i)perylene	2340	7.41	1.97	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-02D	**Date Collected**	: 06/12/23 11:45
Client ID	: OH-SB-62-9.0-10.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/13/23 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F807112338	**Analyst**	: MJS
Sample Amount	: 5.04 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 63
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	12100	168	48.3	
91-20-3C1	C1-Naphthalenes	7120	168	48.3	
91-20-3C2	C2-Naphthalenes	15200	168	48.3	
91-20-3C3	C3-Naphthalenes	38500	168	48.3	
91-20-3C4	C4-Naphthalenes	31000	168	48.3	
208-96-8	Acenaphthylene	14700	168	32.0	
83-32-9	Acenaphthene	29000	168	29.6	
86-73-7	Fluorene	3660	168	44.8	
86-73-7C1	C1-Fluorenes	16100	168	44.8	
86-73-7C2	C2-Fluorenes	37000	168	44.8	
86-73-7C3	C3-Fluorenes	32000	168	44.8	
85-01-8	Phenanthrene	15000	168	55.6	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	54300	168	55.6	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	87400	168	55.6	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	45600	168	55.6	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	17900	168	55.6	
120-12-7	Anthracene	28000	168	34.6	
206-44-0	Fluoranthene	76900	168	53.4	
129-00-0	Pyrene	155000	168	44.2	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	114000	168	44.2	
56-55-3	Benz(a)anthracene	62600	168	34.2	
218-01-9	Chrysene	59000	168	34.0	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-02D	**Date Collected**	: 06/12/23 11:45
Client ID	: OH-SB-62-9.0-10.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/13/23 16:04
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F807112338	**Analyst**	: MJS
Sample Amount	: 5.04 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 63
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	72600	168	34.0	
218-01-9C2	C2-Chrysenes BS	41200	168	34.0	
218-01-9C3	C3-Chrysenes	20700	168	34.0	
218-01-9C4	C4-Chrysenes	7270	168	34.0	
205-99-2	Benzo(b)fluoranthene	29200	168	43.7	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	30600	168	33.3	
192-97-2	Benzo(e)pyrene	41100	168	34.6	
50-32-8	Benzo(a)pyrene	54000	168	47.9	
198-55-0	Perylene	9690	168	32.4	
193-39-5	Indeno(1,2,3-cd)pyrene	29000	168	45.6	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	10000	168	45.4	
191-24-2	Benzo(g,h,i)perylene	40400	168	44.6	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-03	**Date Collected**	: 06/13/23 09:30
Client ID	: OH-SB-61-1.0-2.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/13/23 10:10
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807112334	**Analyst**	: MJS
Sample Amount	: 15.7 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	983	15.2	4.38	
91-20-3C1	C1-Naphthalenes	744	15.2	4.38	
91-20-3C2	C2-Naphthalenes	766	15.2	4.38	
91-20-3C3	C3-Naphthalenes	536	15.2	4.38	
91-20-3C4	C4-Naphthalenes	332	15.2	4.38	
208-96-8	Acenaphthylene	1220	15.2	2.91	
83-32-9	Acenaphthene	481	15.2	2.68	
86-73-7	Fluorene	513	15.2	4.06	
86-73-7C1	C1-Fluorenes	384	15.2	4.06	
86-73-7C2	C2-Fluorenes	665	15.2	4.06	
86-73-7C3	C3-Fluorenes	771	15.2	4.06	
85-01-8	Phenanthrene	3540	15.2	5.05	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	2270	15.2	5.05	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	1730	15.2	5.05	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	864	15.2	5.05	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	390	15.2	5.05	
120-12-7	Anthracene	1200	15.2	3.14	
206-44-0	Fluoranthene	3350	15.2	4.84	
129-00-0	Pyrene	3980	15.2	4.01	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	2920	15.2	4.01	
56-55-3	Benz(a)anthracene	3180	15.2	3.11	
218-01-9	Chrysene	3290	15.2	3.08	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-03	**Date Collected**	: 06/13/23 09:30
Client ID	: OH-SB-61-1.0-2.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/13/23 10:10
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807112334	**Analyst**	: MJS
Sample Amount	: 15.7 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 84
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	2680	15.2	3.08	
218-01-9C2	C2-Chrysenes BS	1970	15.2	3.08	
218-01-9C3	C3-Chrysenes	1350	15.2	3.08	
218-01-9C4	C4-Chrysenes	674	15.2	3.08	
205-99-2	Benzo(b)fluoranthene	3180	15.2	3.96	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	2680	15.2	3.02	
192-97-2	Benzo(e)pyrene	3220	15.2	3.14	
50-32-8	Benzo(a)pyrene	4160	15.2	4.35	
198-55-0	Perylene	1080	15.2	2.94	
193-39-5	Indeno(1,2,3-cd)pyrene	3310	15.2	4.14	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	981	15.2	4.12	
191-24-2	Benzo(g,h,i)perylene	3860	15.2	4.05	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-04D	**Date Collected**	: 06/13/23 11:00
Client ID	: OH-SB-61-9.0-10.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/13/23 17:34
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F807112339	**Analyst**	: MJS
Sample Amount	: 2.41 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 61
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	11200	815	234.	
91-20-3C1	C1-Naphthalenes	191000	815	234.	
91-20-3C2	C2-Naphthalenes	308000	815	234.	
91-20-3C3	C3-Naphthalenes	229000	815	234.	
91-20-3C4	C4-Naphthalenes	116000	815	234.	
208-96-8	Acenaphthylene	75800	815	155.	
83-32-9	Acenaphthene	270000	815	144.	
86-73-7	Fluorene	191000	815	217.	
86-73-7C1	C1-Fluorenes	156000	815	217.	
86-73-7C2	C2-Fluorenes	199000	815	217.	
86-73-7C3	C3-Fluorenes	146000	815	217.	
85-01-8	Phenanthrene	600000	815	270.	
PHENANTHC1	C1-Phenanthrenes/Anthracenes	690000	815	270.	
PHENANTHC2	C2-Phenanthrenes/Anthr BS	528000	815	270.	
PHENANTHC3	C3-Phenanthrenes/Anthracenes	228000	815	270.	
PHENANTHC4	C4-Phenanthrenes/Anthracenes	83000	815	270.	
120-12-7	Anthracene	260000	815	168.	
206-44-0	Fluoranthene	349000	815	259.	
129-00-0	Pyrene	663000	815	214.	
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	501000	815	214.	
56-55-3	Benz(a)anthracene	279000	815	166.	
218-01-9	Chrysene	263000	815	165.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-04D	**Date Collected**	: 06/13/23 11:00
Client ID	: OH-SB-61-9.0-10.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 07/13/23 17:34
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 4
Lab File ID	: F807112339	**Analyst**	: MJS
Sample Amount	: 2.41 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: 61
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	317000	815	165.	
218-01-9C2	C2-Chrysenes BS	180000	815	165.	
218-01-9C3	C3-Chrysenes	93700	815	165.	
218-01-9C4	C4-Chrysenes	33100	815	165.	
205-99-2	Benzo(b)fluoranthene	108000	815	212.	
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	127000	815	162.	
192-97-2	Benzo(e)pyrene	163000	815	168.	
50-32-8	Benzo(a)pyrene	214000	815	233.	
198-55-0	Perylene	39400	815	157.	
193-39-5	Indeno(1,2,3-cd)pyrene	115000	815	221.	
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	36900	815	220.	
191-24-2	Benzo(g,h,i)perylene	166000	815	216.	

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: WG1796097-1	**Date Collected**	: NA
Client ID	: WG1796097-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/11/23 22:49
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807112310	**Analyst**	: MJS
Sample Amount	: 30 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
91-20-3	Naphthalene	ND	1.00	0.287	U
91-20-3C1	C1-Naphthalenes	ND	1.00	0.287	U
91-20-3C2	C2-Naphthalenes	ND	1.00	0.287	U
91-20-3C3	C3-Naphthalenes	ND	1.00	0.287	U
91-20-3C4	C4-Naphthalenes	ND	1.00	0.287	U
208-96-8	Acenaphthylene	ND	1.00	0.191	U
83-32-9	Acenaphthene	ND	1.00	0.176	U
86-73-7	Fluorene	ND	1.00	0.267	U
86-73-7C1	C1-Fluorenes	ND	1.00	0.267	U
86-73-7C2	C2-Fluorenes	ND	1.00	0.267	U
86-73-7C3	C3-Fluorenes	ND	1.00	0.267	U
85-01-8	Phenanthrene	ND	1.00	0.331	U
PHENANTHC1	C1-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC2	C2-Phenanthrenes/Anthr BS	ND	1.00	0.331	U
PHENANTHC3	C3-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
PHENANTHC4	C4-Phenanthrenes/Anthracenes	ND	1.00	0.331	U
120-12-7	Anthracene	ND	1.00	0.206	U
206-44-0	Fluoranthene	ND	1.00	0.318	U
129-00-0	Pyrene	ND	1.00	0.263	U
FLUORPYRC1	C1-Fluoranthenes/Pyrenes	ND	1.00	0.263	U
56-55-3	Benz(a)anthracene	ND	1.00	0.204	U
218-01-9	Chrysene	ND	1.00	0.202	U

Results Summary
Form 1
PAHs

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: WG1796097-1	**Date Collected**	: NA
Client ID	: WG1796097-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 07/11/23 22:49
Sample Matrix	: SOIL	**Date Extracted**	: 06/26/23
Analytical Method	: 1,8270E-SIM(M)	**Dilution Factor**	: 1
Lab File ID	: F807112310	**Analyst**	: MJS
Sample Amount	: 30 g	**Instrument ID**	: PAH8
Extraction Method	: ALPHA OP-013	**GC Column**	: ZB-5
Extract Volume	: 4000 uL	**%Solids**	: NA
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/Kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
218-01-9C1	C1-Chrysenes	ND	1.00	0.202	U
218-01-9C2	C2-Chrysenes BS	ND	1.00	0.202	U
218-01-9C3	C3-Chrysenes	ND	1.00	0.202	U
218-01-9C4	C4-Chrysenes	ND	1.00	0.202	U
205-99-2	Benzo(b)fluoranthene	ND	1.00	0.260	U
205-82-3/207-08-9	Benzo(j)+(k)fluoranthene	ND	1.00	0.198	U
192-97-2	Benzo(e)pyrene	ND	1.00	0.206	U
50-32-8	Benzo(a)pyrene	ND	1.00	0.285	U
198-55-0	Perylene	ND	1.00	0.193	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.00	0.271	U
215-58-7/53-70-3	Dibenz(a,h)+(a,c)anthracene	ND	1.00	0.270	U
191-24-2	Benzo(g,h,i)perylene	ND	1.00	0.266	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-01	**Date Collected**	: 06/12/23 10:30
Client ID	: OH-SB-62-1.0-2.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/27/23 15:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: JRO
Lab File ID	: WG1796325_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 86
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-02	**Date Collected**	: 06/12/23 11:45
Client ID	: OH-SB-62-9.0-10.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/27/23 15:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: JRO
Lab File ID	: WG1796325_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 63
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-03	**Date Collected**	: 06/13/23 09:30
Client ID	: OH-SB-61-1.0-2.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/27/23 15:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: JRO
Lab File ID	: WG1796325_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 84
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.2	1.2	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-04	**Date Collected**	: 06/13/23 11:00
Client ID	: OH-SB-61-9.0-10.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/27/23 15:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: JRO
Lab File ID	: WG1796325_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 61
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: WG1796325-1	**Date Collected**	: NA
Client ID	: WG1796325-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 06/27/23 15:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: JRO
Lab File ID	: WG1796325_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: NA
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.0	1.0	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: WG1796325-3	**Date Collected**	: 06/13/23 11:00
Client ID	: OH-SB-61-9.0-10.0-20230613DUP	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/27/23 15:45
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,4500CN-E(M)	**Analyst**	: JRO
Lab File ID	: WG1796325_rawdata.pdf	**Instrument ID**	:
Sample Amount	:	**%Solids**	: 61
Digestion Method	: NO PREP	**Date Digested**	:

		mg/kg			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
57-12-5	Cyanide, Free	ND	1.6	1.6	U

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-01	**Date Collected**	: 06/12/23 10:30
Client ID	: OH-SB-62-1.0-2.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/22/23 09:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1794715.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 86
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**86.4**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-02	**Date Collected**	: 06/12/23 11:45
Client ID	: OH-SB-62-9.0-10.0-20230612	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/22/23 09:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1794715.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 63
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**63.0**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-03	**Date Collected**	: 06/13/23 09:30
Client ID	: OH-SB-61-1.0-2.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/22/23 09:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1794715.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 84
Digestion Method	:	**Date Digested**	:

			%		
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**83.6**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: L2334122-04	**Date Collected**	: 06/13/23 11:00
Client ID	: OH-SB-61-9.0-10.0-20230613	**Date Received**	: 06/15/23
Sample Location	:	**Date Analyzed**	: 06/22/23 09:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1794715.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 61
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**61.1**	**0.100**	**0.100**	

Form 1
WETCHEM

Client	: Aqua Pro-Tech Laboratories	**Lab Number**	: L2334122
Project Name	: 23F0618	**Project Number**	: 23F0618
Lab ID	: WG1794715-1	**Date Collected**	: 06/05/23 08:40
Client ID	: WG1794715-1 DUP	**Date Received**	: 06/13/23
Sample Location	:	**Date Analyzed**	: 06/22/23 09:36
Sample Matrix	: SOIL	**Dilution Factor**	: 1
Analytical Method	: 121,2540G	**Analyst**	: GRS
Lab File ID	: WG1794715.pdf	**Instrument ID**	: BALANCE#18
Sample Amount	:	**%Solids**	: 96
Digestion Method	:	**Date Digested**	:

		%			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
NONE	**Solids, Total**	**96.0**	**0.100**	**0.100**	

DATA USABILITY SUMMARY REPORT

GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H0547
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 3, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
0H-MW-04S-20230808	23H0547-01	8/8/2023	Water
0H-MW-04I-20230808	23H0547-02	8/8/2023	Water
0H-MW-04D-20230808	23H0547-03	8/8/2023	Water
FB-20230808	23H0547-04	8/8/2023	Water
0H-MW-05S-20230808	23H0547-05	8/8/2023	Water
0H-MW-05D-20230808	23H0547-06	8/8/2023	Water
TB-20230808	23H0547-07	8/8/2023	Water

Data validation was performed on the analytical data for seven (7) samples collected August 8, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Pesticides	USEPA SW-846 8081B
PCBs	USEPA SW-846 8082A
Metals	USEPA 200.7/200.8
Mercury	USEPA 245.1
Cyanide	SM 4500-CN

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. SVOCs associated with sample 0H-MW-05S-20230808 were qualified as rejected due to holding time exceedance. Additionally, non-detect results for aluminum, thallium and cyanide were qualified as rejected due to low matrix spike recoveries. Minor analytical issues were found with the following data quality indicators resulting in qualified results: holding times, continuing calibration, laboratory control samples, surrogates, matrix spike samples, and serial dilution.

Chain of Custody:

- No issues were noted with the chain of custody.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	0H-MW-04S-20230808 0H-MW-04I-20230808 0H-MW-04D-20230808 FB-20230808 0H-MW-05S-20230808 0H-MW-05D-20230808	Acetone	> CL	J (Detects) No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included for this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	TB-20230808	Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Chloromethane Vinyl chloride	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	0H-MW-04S-20230808 0H-MW-04I-20230808 0H-MW-04D-20230808	Bromomethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
	FB-20230808 0H-MW-05S-20230808 0H-MW-05D-20230808	2-Butanone Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated VOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and method holding times were achieved except for the samples listed in the following table. Samples analyzed within 1.5X the holding time are qualified as estimated (J/UJ). For analyses that occurred beyond 1.5 times the method holding time, associated sample detections are qualified as estimated, J, and non-detections are qualified as rejected, R, reason code 1.

Method	Sample	Holding Time (HT)	Exceedance	Qualification	Reason Code
8270E	0H-MW-05S-20230808	24 Hours	HT > 1.5X HT Criteria	J (Detects) R (NDs)	1

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All samples were received properly preserved and holding times were achieved for all analyses.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for sample 0H-MW-05D-20230808 which exhibited recoveries above control limits for multiple surrogates. Detected results were qualified as estimated, J, reason code 3H.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and or LCSD analysis exhibited acceptable recoveries.

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD

percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	0H-MW-05S-20230808	3,3'-Dichlorobenzidine	10% > %R < CL	J (Detects) R (NDs)	4L
		Naphthalene	%R > CL	J (Detects) No action (NDs)	4H

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	0H-MW-04S-20230808 0H-MW-04I-20230808 0H-MW-04D-20230808 FB-20230808 0H-MW-05D-20230808	Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Benzaldehyde	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	0H-MW-05S-20230808	2,4-Dinitrophenol Hexachlorocyclopentadiene	CCV %D > 20% (decrease in response)	J (detects) UJ (non-detects)	SL
		Benzaldehyde	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	0H-MW-05D-20230808	TCMX	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	0H-MW-04S-20230808 0H-MW-04I-20230808 0H-MW-04D-20230808 0H-MW-05S-20230808 0H-MW-05D-20230808 FB-20230808	Endosulfan sulfate	10% < %R < CL	J (Detects) UJ (NDs)	6L
		beta-BHC Endrin Ketone Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- The MS/MSD analysis performed on sample 0H-MW-05S-20230808 exhibited recoveries above the control limits for most pesticides; however, all results were non-detect and therefore no qualification was required.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 6010D EPA 200.7&200.8	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
Cyanide by SM 4500CN-E(M)	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of greater than 12.
	Soil	14 days from collection to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination with the following exception: The method blank associated with all samples exhibited detections for barium. Associated sample detections were all greater than five times the method blank detection and therefore no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- The MS/MSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
200.7/200.8/ SM 4500-CN	0H-MW-05S-20230808	Manganese	30% < %R < CL	J (Detects) No Action (NDs)	4L
		Thallium Aluminum Potassium Cyanide	30% > %R < CL	J (Detects) R (NDs)	4L

- The MS/MSD analysis performed on a sample 0H-MW-05S-20230808 exhibited recoveries outside control limit for Barium, Calcium, Magnesium and Sodium. However, since the sample concentration was greater than four times the spike amount, no qualification was required.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis performed on sample 0H-MW-05S-20230808 exhibited acceptable RPDs.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis performed on sample 0H-MW-05S-20230808 exhibited acceptable %Ds except for Barium and Sodium. Results are qualified as estimated, J, reason code AA. Qualifications are applied to all samples in the same preparation batch.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- Field duplicates were not included in this SDG.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 3, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial dilution percent difference outside limits

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H0547

Yu & Associates

Project: Red Hook-Gowanus



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Oct 31, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H0547

Client: Yu & Associates

Project: Red Hook-Gowanus

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
0H-MW-04S-20230808	23H0547-01	Ground Water	08/08/2023 08:18	08/08/2023 16:00
0H-MW-04I-20230808	23H0547-02	Ground Water	08/08/2023 09:51	08/08/2023 16:00
0H-MW-04D-20230808	23H0547-03	Ground Water	08/08/2023 10:57	08/08/2023 16:00
FB-20230808	23H0547-04	Ground Water	08/08/2023 12:10	08/08/2023 16:00
0H-MW-05S-20230808	23H0547-05	Ground Water	08/08/2023 12:27	08/08/2023 16:00
0H-MW-05D-20230808	23H0547-06	Ground Water	08/08/2023 13:39	08/08/2023 16:00
TB-20230808	23H0547-07	Ground Water	08/08/2023 00:00	08/08/2023 16:00

PN: 23H0547

APL APL 23H0547

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CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT: Yu & Associates	SEND REPORT TO: "
ADDRESS: 611 River Drive 3rd floor, Elmwood Park NJ 07401	ADDRESS:
PHONE: 201-763-9621	PHONE:
E-MAIL: SWang@Yu-Associates.com	FAX:
PROJECT NAME: Gowanus OU-007	SEND INVOICE TO:
PROJECT MGR: Shuan Wang	ADDRESS:
PROJECT or PO #: 156854	SAMPLED BY: MHM / JC

TURN-AROUND TIME
- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

PWSID# ____

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP# ____

NY State CAP B

CONTAMINATION LEVEL
- [ ] HIGH [ ] MEDIUM [ ] LOW

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type GRAB	Sample Type COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
	OU-MW-04S-20230808	08/08/23	0918	V		GW	10	HCl, NaOH, Methanol, Ascorbic Acid	VOC, SVOC, Pest/PCB/Herb, TAL metals CN
	OU-MW-04I-20230808		0951				10	" "	" "
	OU-MW-04D-20230808		1057				10	" "	" "
	FB-20230808		1210			DI	10	" "	" "
	OU-MW-05S-20230808 (MS/MSD)		1227				30	" "	" "
	OU-MW-05D-20230808		1339				10	" "	" "
	TB-20230808		LAB						VOC

RELINQUISHED BY (Print) Max Mahoney	DATE 08/08/23	RECEIVED BY (Print) Haiqian Deleuze	8/8/23
Signature	Time 1420	Signature	16:09
RELINQUISHED BY (Print) Mike D'Angelo	DATE 8/9/23	RECEIVED BY (Print)	
Signature	Time 14:20	Signature	
RELINQUISHED BY (Print) Mike D'Angelo	DATE 8/10/23	RECEIVED BY (Print)	
Signature	Time 16:00	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4°C

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [200.8 / 200.7 / 245.1 / SM 4500-CN C-16 plus E-16]

Method 200.8:
The percent recoveries for Barium and Thallium were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Method 200.7:
The percent recoveries for several metals were outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Methods 245.1:
All samples met the QC criteria.

Method SM 4500-CN C-16 plus E-16:
The percent recovery for Cyanide was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

ANALYSIS: PCBs [8082A]

Sample 23H0547-06 has one surrogate (Tetrachloro-m-xylene) outside of the QC limits (high), due to matrix interference.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).

Sample 23H0547-06 has one surrogate (Tetrachloro-m-xylene [2C]) outside of the QC limits (slightly high), due to matrix interference.

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recovery for 3,3'-Dichlorobenzidine was outside of the QC limits for the matrix spike and matrix spike duplicate (low). The blank spike met all QC criteria.

Sample 23H0547-06 has surrogates outside of the QC limits (high), due to matrix interference.

* Note: Sample 23H0547-05 was extracted beyond the holding time of 7 days.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

Reviewed By: _____ (SK) 11/7/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.00203		0.000206	0.00100	mg/L	1	8/22/23 9:55
Calcium	136		0.256	1.00	mg/L	1	8/22/23 9:55
Iron	19.3		0.0580	0.200	mg/L	1	8/22/23 9:55
Magnesium	16.0		0.681	2.00	mg/L	1	8/22/23 9:55
Manganese	0.548		0.000242	0.0100	mg/L	1	8/22/23 9:55
Potassium	57.9		2.41	4.00	mg/L	1	8/22/23 9:55
Sodium	6660	D	20.5	200	mg/L	100	8/22/23 11:10
Vanadium	0.00853		0.00668	0.00800	mg/L	1	8/22/23 9:55

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	0.0281		0.000272	0.00200	mg/L	1	8/21/23 17:16
Barium	0.527	B	0.000267	0.00200	mg/L	1	8/21/23 17:16
Cobalt	0.00432		0.000196	0.00200	mg/L	1	8/21/23 17:16
Copper	0.0406		0.000217	0.00200	mg/L	1	8/21/23 17:16
Lead	0.00684		0.000338	0.00200	mg/L	1	8/21/23 17:16
Nickel	0.00731		0.000299	0.00200	mg/L	1	8/21/23 17:16

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetophenone	0.592	J	0.170	2.00	ug/L	1	8/21/23 16:34
TIC_2-Butenal, 3-methyl-	6.69	J			ug/L	1	8/21/23 16:34
TIC_Propanoic acid, 2-methyl-, 3-methylbutyl	5.45	J			ug/L	1	8/21/23 16:34
TIC_unknown	9.53	J			ug/L	1	8/21/23 16:34

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Ethane, 1-chloro-1,1-difluoro-	5.99	J			ug/L	1	8/17/23 17:15

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.149		0.00500	0.0100	mg/L	1	8/16/23 17:42

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	0.758		0.0522	0.100	mg/L	1	8/22/23 9:57

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	44.4		0.256	1.00	mg/L	1	8/22/23 9:57
Iron	4.13		0.0580	0.200	mg/L	1	8/22/23 9:57
Magnesium	64.5		0.681	2.00	mg/L	1	8/22/23 9:57
Manganese	0.210		0.000242	0.0100	mg/L	1	8/22/23 9:57
Potassium	47.9		2.41	4.00	mg/L	1	8/22/23 9:57
Sodium	875	D	2.05	20.0	mg/L	10	8/22/23 10:59

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.149	B	0.000267	0.00200	mg/L	1	8/21/23 17:19
Copper	0.0120		0.000217	0.00200	mg/L	1	8/21/23 17:19
Lead	0.00335		0.000338	0.00200	mg/L	1	8/21/23 17:19
Nickel	0.00456		0.000299	0.00200	mg/L	1	8/21/23 17:19

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acetophenone	0.408	J	0.170	2.00	ug/L	1	8/21/23 17:06
bis(2-ethylhexyl)phthalate	0.428	J	0.183	2.00	ug/L	1	8/21/23 17:06
Naphthalene	2.17		0.0607	2.00	ug/L	1	8/21/23 17:06
TIC_Cyclopentane, 1,2,3,4,5-pentamethyl-	5.39	J			ug/L	1	8/21/23 17:06
TIC_Diethyltoluamide	4.57	J			ug/L	1	8/21/23 17:06

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	15.6		0.129	1.00	ug/L	1	8/17/23 18:15
Chloroform	0.589	J	0.365	1.00	ug/L	1	8/17/23 18:15
EthylBenzene	2.13		0.244	1.00	ug/L	1	8/17/23 18:15
m+p-Xylenes	1.31	J	0.461	2.00	ug/L	1	8/17/23 18:15
o-Xylene	1.76		0.244	1.00	ug/L	1	8/17/23 18:15
Toluene	0.985	J	0.205	1.00	ug/L	1	8/17/23 18:15
Total Xylenes	3.07		0.244	1.00	ug/L	1	8/17/23 18:15

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.104		0.00500	0.0100	mg/L	1	8/16/23 17:42

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-03 (Ground Water) Sample Name: 0H-MW-04D-20230808

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	0.878		0.0522	0.100	mg/L	1	8/22/23 9:59
Calcium	87.6		0.256	1.00	mg/L	1	8/22/23 9:59
Iron	1.63		0.0580	0.200	mg/L	1	8/22/23 9:59
Magnesium	47.4		0.681	2.00	mg/L	1	8/22/23 9:59
Manganese	0.374		0.000242	0.0100	mg/L	1	8/22/23 9:59
Potassium	10.6		2.41	4.00	mg/L	1	8/22/23 9:59
Sodium	66.6		0.205	2.00	mg/L	1	8/22/23 9:59

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	0.00575		0.000272	0.00200	mg/L	1	8/21/23 17:21
Barium	0.0995	B	0.000267	0.00200	mg/L	1	8/21/23 17:21
Copper	0.00656		0.000217	0.00200	mg/L	1	8/21/23 17:21
Lead	0.00294		0.000338	0.00200	mg/L	1	8/21/23 17:21
Nickel	0.00319		0.000299	0.00200	mg/L	1	8/21/23 17:21

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Naphthalene	0.458	J	0.0607	2.00	ug/L	1	8/21/23 17:38
TIC_Cyclopentane, 1,2,3,4,5-pentamethyl-	5.94	J			ug/L	1	8/21/23 17:38
TIC_unknown	5.19	J			ug/L	1	8/21/23 17:38

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Benzene	0.544	J	0.129	1.00	ug/L	1	8/17/23 18:45
Chloroform	4.62		0.365	1.00	ug/L	1	8/17/23 18:45

23H0547-04 (Ground Water) Sample Name: FB-20230808

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Cyclopentane, 1,2,3,4,5-pentamethyl-	6.30	J			ug/L	1	8/21/23 18:10
TIC_unknown	5.09	J			ug/L	1	8/21/23 18:10

23H0547-05 (Ground Water) Sample Name: 0H-MW-05S-20230808

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.00122		0.000206	0.00100	mg/L	1	8/22/23 10:06
Calcium	136		0.256	1.00	mg/L	1	8/22/23 10:06
Magnesium	110		0.681	2.00	mg/L	1	8/22/23 10:06
Manganese	0.326		0.000242	0.0100	mg/L	1	8/22/23 10:06
Potassium	69.0		2.41	4.00	mg/L	1	8/22/23 10:06
Sodium	2680	D	2.05	20.0	mg/L	10	8/22/23 11:01

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.457	B	0.000267	0.00200	mg/L	1	8/21/23 16:52
Copper	0.00811		0.000217	0.00200	mg/L	1	8/21/23 16:52
Lead	0.00429		0.000338	0.00200	mg/L	1	8/21/23 16:52
Nickel	0.00873		0.000299	0.00200	mg/L	1	8/21/23 16:52

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Acenaphthene	11.3	H	0.104	2.08	ug/L	1	8/28/23 14:33
Acenaphthylene	0.687	J, H	0.146	2.08	ug/L	1	8/28/23 14:33
Anthracene	1.88	J, H	0.126	2.08	ug/L	1	8/28/23 14:33
Diethylphthalate	0.422	J, H	0.128	2.08	ug/L	1	8/28/23 14:33
Fluoranthene	2.32	H	0.134	2.08	ug/L	1	8/28/23 14:33
Fluorene	2.64	H	0.114	2.08	ug/L	1	8/28/23 14:33
Phenanthrene	8.87	H	0.0755	2.08	ug/L	1	8/28/23 14:33
Pyrene	3.24	H	0.120	2.08	ug/L	1	8/28/23 14:33
TIC_3-Phenylbut-1-ene	4.65	J, H			ug/L	1	8/28/23 14:33
TIC_Benzocycloheptatriene	5.28	J, H			ug/L	1	8/28/23 14:33
TIC_Indane	10.5	J, H			ug/L	1	8/28/23 14:33
TIC_Naphthalene, 1,6-dimethyl-	5.15	J, H			ug/L	1	8/28/23 14:33
TIC_unknown (01)	9.85	J, H			ug/L	1	8/28/23 14:33
TIC_unknown (02)	5.50	J, H			ug/L	1	8/28/23 14:33

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	4.38		0.155	1.00	ug/L	1	8/17/23 13:12
Benzene	0.554	J	0.129	1.00	ug/L	1	8/17/23 13:12
Carbon disulfide	1.20		0.477	1.00	ug/L	1	8/17/23 13:12
EthylBenzene	6.98		0.244	1.00	ug/L	1	8/17/23 13:12
Isopropylbenzene	5.93		0.275	1.00	ug/L	1	8/17/23 13:12
m+p-Xylenes	0.962	J	0.461	2.00	ug/L	1	8/17/23 13:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Toluene	0.360	J	0.205	1.00	ug/L	1	8/17/23 13:12
Total Xylenes	0.962	J	0.244	1.00	ug/L	1	8/17/23 13:12
TIC_Benzene, 1-ethyl-2-methyl-	3.43	J			ug/L	1	8/17/23 13:12
TIC_Benzene, propyl-	4.56	J			ug/L	1	8/17/23 13:12
TIC_Indan, 1-methyl-	9.72	J			ug/L	1	8/17/23 13:12
TIC_Indane	21.8	J			ug/L	1	8/17/23 13:12

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	0.183		0.00500	0.0100	mg/L	1	8/16/23 17:42

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	0.252		0.0522	0.100	mg/L	1	8/22/23 10:17
Beryllium	0.00189		0.000206	0.00100	mg/L	1	8/22/23 10:17
Calcium	185		0.256	1.00	mg/L	1	8/22/23 10:17
Iron	0.833		0.0580	0.200	mg/L	1	8/22/23 10:17
Magnesium	94.7		0.681	2.00	mg/L	1	8/22/23 10:17
Manganese	0.813		0.000242	0.0100	mg/L	1	8/22/23 10:17
Potassium	16.9		2.41	4.00	mg/L	1	8/22/23 10:17
Sodium	838	D	2.05	20.0	mg/L	10	8/22/23 11:04

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	0.00906		0.000272	0.00200	mg/L	1	8/21/23 17:31
Barium	0.162	B	0.000267	0.00200	mg/L	1	8/21/23 17:31
Copper	0.00457		0.000217	0.00200	mg/L	1	8/21/23 17:31
Nickel	0.00376		0.000299	0.00200	mg/L	1	8/21/23 17:31

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	499		1.03	30.0	ug/L	1	8/21/23 18:42
Acenaphthene	69.3		1.00	20.0	ug/L	1	8/21/23 18:42
Acenaphthylene	194		1.40	20.0	ug/L	1	8/21/23 18:42
Anthracene	22.2		1.21	20.0	ug/L	1	8/21/23 18:42
Biphenyl	48.0		1.06	20.0	ug/L	1	8/21/23 18:42
Carbazole	9.24	J	1.88	20.0	ug/L	1	8/21/23 18:42

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Dibenzofuran	18.8	J	1.20	20.0	ug/L	1	8/21/23 18:42
Fluoranthene	8.50	J	1.29	20.0	ug/L	1	8/21/23 18:42
Fluorene	84.7		1.09	20.0	ug/L	1	8/21/23 18:42
Naphthalene	854		0.607	20.0	ug/L	1	8/21/23 18:42
Phenanthrene	103		0.725	20.0	ug/L	1	8/21/23 18:42
Pyrene	12.2	J	1.15	20.0	ug/L	1	8/21/23 18:42
TIC_1H-Indene, 1-methyl-	113	J			ug/L	1	8/21/23 18:42
TIC_2-Methylindene	101	J			ug/L	1	8/21/23 18:42
TIC_Benzene, 1-ethyl-3-methyl-	81.1	J			ug/L	1	8/21/23 18:42
TIC_Indane	51.1	J			ug/L	1	8/21/23 18:42
TIC_Indene	166	J			ug/L	1	8/21/23 18:42
TIC_Naphthalene, 1-ethyl-	45.8	J			ug/L	1	8/21/23 18:42
TIC_Naphthalene, 1-methyl-	414	J			ug/L	1	8/21/23 18:42
TIC_Naphthalene, 2,3-dimethyl-	88.1	J			ug/L	1	8/21/23 18:42
TIC_Naphthalene, 2,6-dimethyl-	73.5	J			ug/L	1	8/21/23 18:42
TIC_Naphthalene, 2,7-dimethyl-	42.0	J			ug/L	1	8/21/23 18:42
TIC_unknown	46.1	J			ug/L	1	8/21/23 18:42

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	31.5		0.155	1.00	ug/L	1	8/17/23 19:16
Benzene	9.52		0.129	1.00	ug/L	1	8/17/23 19:16
EthylBenzene	22.5		0.244	1.00	ug/L	1	8/17/23 19:16
Isopropylbenzene	1.71		0.275	1.00	ug/L	1	8/17/23 19:16
m+p-Xylenes	27.9		0.461	2.00	ug/L	1	8/17/23 19:16
o-Xylene	15.2		0.244	1.00	ug/L	1	8/17/23 19:16
Styrene	5.56		0.176	1.00	ug/L	1	8/17/23 19:16
Toluene	49.9		0.205	1.00	ug/L	1	8/17/23 19:16
Total Xylenes	43.1		0.244	1.00	ug/L	1	8/17/23 19:16
TIC_Benzene, (2-methyl-1-propenyl)-	4.24	J			ug/L	1	8/17/23 19:16
TIC_Benzene, 1,3,5-trimethyl-	5.65	J			ug/L	1	8/17/23 19:16
TIC_Benzene, 1-ethyl-2-methyl-	16.3	J			ug/L	1	8/17/23 19:16
TIC_Benzene, 1-propynyl-	51.0	J			ug/L	1	8/17/23 19:16
TIC_Benzene, ethenylmethyl-	8.17	J			ug/L	1	8/17/23 19:16

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzeneethanol, .beta.-ethenyl-	3.95	J			ug/L	1	8/17/23 19:16
TIC_Indane	16.9	J			ug/L	1	8/17/23 19:16

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808** Collected: **8/8/2023 8:18:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 11:37
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 11:37
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 11:37
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 11:37
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 11:37
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 11:37
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 11:37
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 11:37
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 11:37
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 11:37

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/10/23 13:34

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	~~ND~~	~~U~~	0.0522	0.100	mg/L	1	8/22/23 9:55	R, RC:4L
Beryllium	**0.00203**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/22/23 9:55**	
Calcium	**136**		**0.256**	**1.00**	**mg/L**	**1**	**8/22/23 9:55**	
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/22/23 9:55	
Iron	**19.3**		**0.0580**	**0.200**	**mg/L**	**1**	**8/22/23 9:55**	
Magnesium	**16.0**		**0.681**	**2.00**	**mg/L**	**1**	**8/22/23 9:55**	
Manganese	**0.548**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/22/23 9:55**	J, RC:4L
Potassium	**57.9**		**2.41**	**4.00**	**mg/L**	**1**	**8/22/23 9:55**	J, RC:4L
Sodium	**6660**	D	**20.5**	**200**	**mg/L**	**100**	**8/22/23 11:10**	J, RC:D
Vanadium	**0.00853**		**0.00668**	**0.00800**	**mg/L**	**1**	**8/22/23 9:55**	

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Antimony	ND	U	0.000293	0.00600	mg/L	1	8/21/23 17:16	
Arsenic	**0.0281**		**0.000272**	**0.00200**	**mg/L**	**1**	**8/21/23 17:16**	
Barium	**0.527**	B	**0.000267**	**0.00200**	**mg/L**	**1**	**8/21/23 17:16**	J, RC:D
Cadmium	ND	U	0.000301	0.00200	mg/L	1	8/21/23 17:16	
Cobalt	**0.00432**		**0.000196**	**0.00200**	**mg/L**	**1**	**8/21/23 17:16**	
Copper	**0.0406**		**0.000217**	**0.00200**	**mg/L**	**1**	**8/21/23 17:16**	
Lead	**0.00684**		**0.000338**	**0.00200**	**mg/L**	**1**	**8/21/23 17:16**	
Nickel	**0.00731**		**0.000299**	**0.00200**	**mg/L**	**1**	**8/21/23 17:16**	
Selenium	ND	U	0.000601	0.00600	mg/L	1	8/21/23 17:16	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808** Collected: **8/8/2023 8:18:00AM**

EPA 200.8 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Silver	ND	U	0.000266	0.00200	mg/L	1	8/21/23 17:16	
Thallium	~~ND~~	~~U~~	0.000339	0.00200	mg/L	1	8/21/23 17:16	R, RC:4L
Zinc	ND	U	0.000549	0.0300	mg/L	1	8/21/23 17:16	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 19:05	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 19:05	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 19:05	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 19:05	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 19:05	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 19:05	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 19:05	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 19:05	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 19:05	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 19:05	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 19:05	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 19:05	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 19:05	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 19:05	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 19:05	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 19:05	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 19:05	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 19:05	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 19:05	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 19:05	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 16:34
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 16:34
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 16:34
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 16:34
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 16:34
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 16:34
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 16:34
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 16:34
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 16:34
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 16:34

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808** Collected: **8/8/2023 8:18:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	8/21/23 16:34	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 16:34	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 16:34	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 16:34	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 16:34	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 16:34	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 16:34	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 16:34	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 16:34	
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 16:34	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 16:34	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 16:34	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 16:34	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 16:34	
Acenaphthene	ND	U	0.100	2.00	ug/L	1	8/21/23 16:34	
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	8/21/23 16:34	
Acetophenone	**0.592**	J	**0.170**	**2.00**	**ug/L**	**1**	**8/21/23 16:34**	
Anthracene	ND	U	0.121	2.00	ug/L	1	8/21/23 16:34	
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 16:34	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 16:34	
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 16:34	
Biphenyl	ND	U	0.106	2.00	ug/L	1	8/21/23 16:34	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 16:34	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 16:34	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 16:34	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 16:34	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 16:34	
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 16:34	
Carbazole	ND	U	0.188	2.00	ug/L	1	8/21/23 16:34	
Chrysene	ND	U	0.129	2.00	ug/L	1	8/21/23 16:34	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	8/21/23 16:34	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 16:34	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 16:34	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 16:34	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 16:34	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	8/21/23 16:34	
Fluorene	ND	U	0.109	2.00	ug/L	1	8/21/23 16:34	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 16:34	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 16:34	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808** Collected: **8/8/2023 8:18:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 16:34
Naphthalene	ND	U	0.0607	2.00	ug/L	1	8/21/23 16:34
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 16:34
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 16:34
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 16:34
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	8/21/23 16:34
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 16:34
Pyrene	ND	U	0.115	2.00	ug/L	1	8/21/23 16:34

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Butenal, 3-methyl-	6.69	5.47	J	ug/L	1	8/21/23 16:34
Propanoic acid, 2-methyl-, 3-methylbutyl	5.45	5.72	J	ug/L	1	8/21/23 16:34
unknown	9.53	8.75	J	ug/L	1	8/21/23 16:34
TIC Total	**21.7**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/17/23 17:15
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/17/23 17:15
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/17/23 17:15
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/17/23 17:15
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/17/23 17:15
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/17/23 17:15
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/17/23 17:15
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/17/23 17:15
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/17/23 17:15
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/17/23 17:15
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/17/23 17:15
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/17/23 17:15
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/17/23 17:15
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/17/23 17:15
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/17/23 17:15
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/17/23 17:15
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/17/23 17:15
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/17/23 17:15
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/17/23 17:15

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808** Collected: **8/8/2023 8:18:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Acetone	ND	U	10.0	10.0	ug/L	1	8/17/23 17:15	
Benzene	ND	U	0.129	1.00	ug/L	1	8/17/23 17:15	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/17/23 17:15	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/17/23 17:15	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/17/23 17:15	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/17/23 17:15	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/17/23 17:15	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/17/23 17:15	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/17/23 17:15	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/17/23 17:15	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/17/23 17:15	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/17/23 17:15	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/17/23 17:15	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/17/23 17:15	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/17/23 17:15	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/17/23 17:15	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/17/23 17:15	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	8/17/23 17:15	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/17/23 17:15	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/17/23 17:15	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/17/23 17:15	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/17/23 17:15	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/17/23 17:15	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/17/23 17:15	
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/17/23 17:15	
Styrene	ND	U	0.176	1.00	ug/L	1	8/17/23 17:15	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/17/23 17:15	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/17/23 17:15	
Toluene	ND	U	0.205	1.00	ug/L	1	8/17/23 17:15	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	8/17/23 17:15	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/17/23 17:15	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/17/23 17:15	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/17/23 17:15	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/17/23 17:15	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/17/23 17:15	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Ethane, 1-chloro-1,1-difluoro-	5.99	3.29	J	ug/L	1	8/17/23 17:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-01 (Ground Water) Sample Name: **0H-MW-04S-20230808** Collected: **8/8/2023 8:18:00AM**

TIC Total **5.99**

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Cyanide	**0.149**		**0.00500**	**0.0100**	**mg/L**	**1**	**8/16/23 17:42**	J, RC:4L

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808** Collected: **8/8/2023 9:51:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 11:59
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 11:59
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 11:59
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 11:59
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 11:59
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 11:59
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 11:59
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 11:59
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 11:59
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 11:59

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/10/23 13:42

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**0.758**		**0.0522**	**0.100**	**mg/L**	**1**	**8/22/23 9:57**	J, RC:4L
Beryllium	ND	U	0.000206	0.00100	mg/L	1	8/22/23 9:57	
Calcium	**44.4**		**0.256**	**1.00**	**mg/L**	**1**	**8/22/23 9:57**	
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/22/23 9:57	
Iron	**4.13**		**0.0580**	**0.200**	**mg/L**	**1**	**8/22/23 9:57**	
Magnesium	**64.5**		**0.681**	**2.00**	**mg/L**	**1**	**8/22/23 9:57**	
Manganese	**0.210**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/22/23 9:57**	J, RC:4L
Potassium	**47.9**		**2.41**	**4.00**	**mg/L**	**1**	**8/22/23 9:57**	J, RC:4L
Sodium	**875**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/22/23 10:59**	J, RC:AA
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/22/23 9:57	

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808** Collected: **8/8/2023 9:51:00AM**

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Antimony	ND	U	0.000293	0.00600	mg/L	1	8/21/23 17:19	
Arsenic	ND	U	0.000272	0.00200	mg/L	1	8/21/23 17:19	
Barium	**0.149**	B	**0.000267**	**0.00200**	**mg/L**	**1**	**8/21/23 17:19**	J, RC:AA
Cadmium	ND	U	0.000301	0.00200	mg/L	1	8/21/23 17:19	
Cobalt	ND	U	0.000196	0.00200	mg/L	1	8/21/23 17:19	
Copper	**0.0120**		**0.000217**	**0.00200**	**mg/L**	**1**	**8/21/23 17:19**	
Lead	**0.00335**		**0.000338**	**0.00200**	**mg/L**	**1**	**8/21/23 17:19**	
Nickel	**0.00456**		**0.000299**	**0.00200**	**mg/L**	**1**	**8/21/23 17:19**	
Selenium	ND	U	0.000601	0.00600	mg/L	1	8/21/23 17:19	
Silver	ND	U	0.000266	0.00200	mg/L	1	8/21/23 17:19	
Thallium	~~ND~~	~~U~~	0.000339	0.00200	mg/L	1	8/21/23 17:19	R, RC:4L
Zinc	ND	U	0.000549	0.0300	mg/L	1	8/21/23 17:19	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 19:24	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 19:24	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 19:24	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 19:24	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 19:24	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 19:24	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 19:24	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 19:24	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 19:24	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 19:24	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 19:24	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 19:24	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 19:24	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 19:24	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 19:24	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 19:24	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 19:24	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 19:24	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 19:24	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 19:24	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808** Collected: **8/8/2023 9:51:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 17:06
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 17:06
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 17:06
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 17:06
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 17:06
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 17:06
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 17:06
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 17:06
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 17:06
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 17:06
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	8/21/23 17:06
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 17:06
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 17:06
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 17:06
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 17:06
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 17:06
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 17:06
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 17:06
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 17:06
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 17:06
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 17:06
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 17:06
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 17:06
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 17:06
Acenaphthene	ND	U	0.100	2.00	ug/L	1	8/21/23 17:06
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	8/21/23 17:06
Acetophenone	**0.408**	J	**0.170**	**2.00**	**ug/L**	**1**	**8/21/23 17:06**
Anthracene	ND	U	0.121	2.00	ug/L	1	8/21/23 17:06
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 17:06
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 17:06
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 17:06
Biphenyl	ND	U	0.106	2.00	ug/L	1	8/21/23 17:06
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 17:06
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 17:06
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 17:06
bis(2-ethylhexyl)phthalate	**0.428**	J	**0.183**	**2.00**	**ug/L**	**1**	**8/21/23 17:06**
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 17:06
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 17:06
Carbazole	ND	U	0.188	2.00	ug/L	1	8/21/23 17:06

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808** Collected: **8/8/2023 9:51:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chrysene	ND	U	0.129	2.00	ug/L	1	8/21/23 17:06	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	8/21/23 17:06	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 17:06	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 17:06	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 17:06	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 17:06	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	8/21/23 17:06	
Fluorene	ND	U	0.109	2.00	ug/L	1	8/21/23 17:06	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 17:06	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 17:06	
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 17:06	
Naphthalene	**2.17**		**0.0607**	**2.00**	**ug/L**	**1**	**8/21/23 17:06**	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 17:06	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 17:06	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 17:06	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	8/21/23 17:06	
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 17:06	
Pyrene	ND	U	0.115	2.00	ug/L	1	8/21/23 17:06	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane, 1,2,3,4,5-pentamethyl-	5.39	5.47	J	ug/L	1	8/21/23 17:06
Diethyltoluamide	4.57	9.68	J	ug/L	1	8/21/23 17:06
TIC Total	**9.96**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/17/23 18:15
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/17/23 18:15
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/17/23 18:15
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/17/23 18:15
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/17/23 18:15
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/17/23 18:15
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/17/23 18:15
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/17/23 18:15
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/17/23 18:15
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/17/23 18:15

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808** Collected: **8/8/2023 9:51:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/17/23 18:15	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/17/23 18:15	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/17/23 18:15	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/17/23 18:15	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/17/23 18:15	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/17/23 18:15	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/17/23 18:15	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/17/23 18:15	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/17/23 18:15	
Acetone	ND	U	10.0	10.0	ug/L	1	8/17/23 18:15	
Benzene	**15.6**		**0.129**	**1.00**	**ug/L**	**1**	**8/17/23 18:15**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/17/23 18:15	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/17/23 18:15	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/17/23 18:15	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/17/23 18:15	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/17/23 18:15	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/17/23 18:15	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/17/23 18:15	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/17/23 18:15	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/17/23 18:15	
Chloroform	**0.589**	J	**0.365**	**1.00**	**ug/L**	**1**	**8/17/23 18:15**	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/17/23 18:15	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/17/23 18:15	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/17/23 18:15	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/17/23 18:15	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/17/23 18:15	
EthylBenzene	**2.13**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 18:15**	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/17/23 18:15	
m+p-Xylenes	**1.31**	J	**0.461**	**2.00**	**ug/L**	**1**	**8/17/23 18:15**	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/17/23 18:15	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/17/23 18:15	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/17/23 18:15	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/17/23 18:15	
o-Xylene	**1.76**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 18:15**	
Styrene	ND	U	0.176	1.00	ug/L	1	8/17/23 18:15	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/17/23 18:15	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/17/23 18:15	
Toluene	**0.985**	J	**0.205**	**1.00**	**ug/L**	**1**	**8/17/23 18:15**	
Total Xylenes	**3.07**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 18:15**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-02 (Ground Water) Sample Name: **0H-MW-04I-20230808** Collected: **8/8/2023 9:51:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/17/23 18:15
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/17/23 18:15
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/17/23 18:15
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/17/23 18:15
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/17/23 18:15

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.104**		**0.00500**	**0.0100**	**mg/L**	**1**	**8/16/23 17:42** J, RC:4L

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808** Collected: **8/8/2023 10:57:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 12:21
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 12:21
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 12:21
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 12:21
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 12:21
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 12:21
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 12:21
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 12:21
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 12:21
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 12:21

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/10/23 13:44

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808** Collected: **8/8/2023 10:57:00AM**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**0.878**		**0.0522**	**0.100**	**mg/L**	**1**	**8/22/23 9:59**	J, RC:4L
Beryllium	ND	U	0.000206	0.00100	mg/L	1	8/22/23 9:59	
Calcium	**87.6**		**0.256**	**1.00**	**mg/L**	**1**	**8/22/23 9:59**	
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/22/23 9:59	
Iron	**1.63**		**0.0580**	**0.200**	**mg/L**	**1**	**8/22/23 9:59**	
Magnesium	**47.4**		**0.681**	**2.00**	**mg/L**	**1**	**8/22/23 9:59**	
Manganese	**0.374**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/22/23 9:59**	J, RC:4L
Potassium	**10.6**		**2.41**	**4.00**	**mg/L**	**1**	**8/22/23 9:59**	J, RC:4L
Sodium	**66.6**		**0.205**	**2.00**	**mg/L**	**1**	**8/22/23 9:59**	J, RC:AA
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/22/23 9:59	

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Antimony	ND	U	0.000293	0.00600	mg/L	1	8/21/23 17:21	
Arsenic	**0.00575**		**0.000272**	**0.00200**	**mg/L**	**1**	**8/21/23 17:21**	
Barium	**0.0995**	B	**0.000267**	**0.00200**	**mg/L**	**1**	**8/21/23 17:21**	J, RC:AA
Cadmium	ND	U	0.000301	0.00200	mg/L	1	8/21/23 17:21	
Cobalt	ND	U	0.000196	0.00200	mg/L	1	8/21/23 17:21	
Copper	**0.00656**		**0.000217**	**0.00200**	**mg/L**	**1**	**8/21/23 17:21**	
Lead	**0.00294**		**0.000338**	**0.00200**	**mg/L**	**1**	**8/21/23 17:21**	
Nickel	**0.00319**		**0.000299**	**0.00200**	**mg/L**	**1**	**8/21/23 17:21**	
Selenium	ND	U	0.000601	0.00600	mg/L	1	8/21/23 17:21	
Silver	ND	U	0.000266	0.00200	mg/L	1	8/21/23 17:21	
Thallium	~~ND~~	~~U~~	0.000339	0.00200	mg/L	1	8/21/23 17:21	R, RC:4L
Zinc	ND	U	0.000549	0.0300	mg/L	1	8/21/23 17:21	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 19:42
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 19:42
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 19:42
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 19:42
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 19:42
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 19:42
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 19:42
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 19:42
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 19:42
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 19:42
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 19:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808** Collected: **8/8/2023 10:57:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 19:42	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 19:42	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 19:42	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 19:42	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 19:42	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 19:42	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 19:42	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 19:42	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 19:42	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 17:38
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 17:38
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 17:38
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 17:38
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 17:38
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 17:38
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 17:38
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 17:38
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 17:38
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 17:38
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	8/21/23 17:38
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 17:38
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 17:38
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 17:38
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 17:38
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 17:38
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 17:38
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 17:38
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 17:38
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 17:38
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 17:38
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 17:38
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 17:38
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 17:38
Acenaphthene	ND	U	0.100	2.00	ug/L	1	8/21/23 17:38
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	8/21/23 17:38
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/21/23 17:38

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808** Collected: **8/8/2023 10:57:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Anthracene	ND	U	0.121	2.00	ug/L	1	8/21/23 17:38	
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 17:38	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 17:38	
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 17:38	
Biphenyl	ND	U	0.106	2.00	ug/L	1	8/21/23 17:38	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 17:38	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 17:38	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 17:38	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 17:38	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 17:38	
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 17:38	
Carbazole	ND	U	0.188	2.00	ug/L	1	8/21/23 17:38	
Chrysene	ND	U	0.129	2.00	ug/L	1	8/21/23 17:38	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	8/21/23 17:38	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 17:38	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 17:38	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 17:38	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 17:38	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	8/21/23 17:38	
Fluorene	ND	U	0.109	2.00	ug/L	1	8/21/23 17:38	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 17:38	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 17:38	
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 17:38	
Naphthalene	**0.458**	J	**0.0607**	**2.00**	**ug/L**	**1**	**8/21/23 17:38**	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 17:38	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 17:38	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 17:38	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	8/21/23 17:38	
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 17:38	
Pyrene	ND	U	0.115	2.00	ug/L	1	8/21/23 17:38	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane, 1,2,3,4,5-pentamethyl-	5.94	5.47	J	ug/L	1	8/21/23 17:38
unknown	5.19	5.72	J	ug/L	1	8/21/23 17:38
TIC Total	**11.1**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808** Collected: **8/8/2023 10:57:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/17/23 18:45	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/17/23 18:45	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/17/23 18:45	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/17/23 18:45	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/17/23 18:45	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/17/23 18:45	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/17/23 18:45	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/17/23 18:45	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/17/23 18:45	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/17/23 18:45	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/17/23 18:45	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/17/23 18:45	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/17/23 18:45	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/17/23 18:45	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/17/23 18:45	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/17/23 18:45	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/17/23 18:45	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/17/23 18:45	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/17/23 18:45	
Acetone	ND	U	10.0	10.0	ug/L	1	8/17/23 18:45	
Benzene	**0.544**	J	**0.129**	**1.00**	**ug/L**	**1**	**8/17/23 18:45**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/17/23 18:45	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/17/23 18:45	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/17/23 18:45	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/17/23 18:45	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/17/23 18:45	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/17/23 18:45	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/17/23 18:45	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/17/23 18:45	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/17/23 18:45	
Chloroform	**4.62**		**0.365**	**1.00**	**ug/L**	**1**	**8/17/23 18:45**	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/17/23 18:45	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/17/23 18:45	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/17/23 18:45	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/17/23 18:45	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/17/23 18:45	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	8/17/23 18:45	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/17/23 18:45	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-03 (Ground Water) Sample Name: **0H-MW-04D-20230808** Collected: **8/8/2023 10:57:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/17/23 18:45
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/17/23 18:45
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/17/23 18:45
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/17/23 18:45
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/17/23 18:45
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/17/23 18:45
Styrene	ND	U	0.176	1.00	ug/L	1	8/17/23 18:45
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/17/23 18:45
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/17/23 18:45
Toluene	ND	U	0.205	1.00	ug/L	1	8/17/23 18:45
Total Xylenes	ND	U	0.244	1.00	ug/L	1	8/17/23 18:45
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/17/23 18:45
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/17/23 18:45
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/17/23 18:45
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/17/23 18:45
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/17/23 18:45

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	~~ND~~	~~U~~	0.00500	0.0100	mg/L	1	8/16/23 17:42 R, RC:4L

23H0547-04 (Ground Water) Sample Name: **FB-20230808** Collected: **8/8/2023 12:10:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 12:43
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 12:43
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 12:43
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 12:43
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 12:43
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 12:43
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 12:43
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 12:43
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 12:43

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-04 (Ground Water) Sample Name: **FB-20230808** Collected: **8/8/2023 12:10:00PM**

SW 846 8082A - PCBs (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 12:43

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/10/23 13:47

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	8/22/23 10:02
Beryllium	ND	U	0.000206	0.00100	mg/L	1	8/22/23 10:02
Calcium	ND	U	0.256	1.00	mg/L	1	8/22/23 10:02
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/22/23 10:02
Iron	ND	U	0.0580	0.200	mg/L	1	8/22/23 10:02
Magnesium	ND	U	0.681	2.00	mg/L	1	8/22/23 10:02
Manganese	ND	U	0.000242	0.0100	mg/L	1	8/22/23 10:02
Potassium	ND	U	2.41	4.00	mg/L	1	8/22/23 10:02
Sodium	ND	U	0.205	2.00	mg/L	1	8/22/23 10:02
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/22/23 10:02

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.000293	0.00600	mg/L	1	8/21/23 17:29
Arsenic	ND	U	0.000272	0.00200	mg/L	1	8/21/23 17:29
Barium	ND	U	0.000267	0.00200	mg/L	1	8/21/23 17:29
Cadmium	ND	U	0.000301	0.00200	mg/L	1	8/21/23 17:29
Cobalt	ND	U	0.000196	0.00200	mg/L	1	8/21/23 17:29
Copper	ND	U	0.000217	0.00200	mg/L	1	8/21/23 17:29
Lead	ND	U	0.000338	0.00200	mg/L	1	8/21/23 17:29
Nickel	ND	U	0.000299	0.00200	mg/L	1	8/21/23 17:29
Selenium	ND	U	0.000601	0.00600	mg/L	1	8/21/23 17:29
Silver	ND	U	0.000266	0.00200	mg/L	1	8/21/23 17:29
Thallium	ND	U	0.000339	0.00200	mg/L	1	8/21/23 17:29
Zinc	ND	U	0.000549	0.0300	mg/L	1	8/21/23 17:29

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-04 (Ground Water) Sample Name: **FB-20230808** Collected: **8/8/2023 12:10:00PM**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 20:00	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 20:00	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 20:00	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 20:00	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 20:00	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 20:00	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 20:00	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 20:00	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 20:00	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 20:00	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 20:00	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 20:00	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 20:00	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 20:00	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 20:00	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 20:00	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 20:00	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 20:00	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 20:00	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 20:00	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 18:10
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 18:10
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 18:10
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 18:10
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 18:10
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 18:10
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 18:10
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 18:10
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 18:10
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 18:10
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	8/21/23 18:10
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 18:10
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 18:10
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 18:10
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 18:10
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 18:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-04 (Ground Water) Sample Name: **FB-20230808** Collected: **8/8/2023 12:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 18:10
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 18:10
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 18:10
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 18:10
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 18:10
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 18:10
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 18:10
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 18:10
Acenaphthene	ND	U	0.100	2.00	ug/L	1	8/21/23 18:10
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	8/21/23 18:10
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/21/23 18:10
Anthracene	ND	U	0.121	2.00	ug/L	1	8/21/23 18:10
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 18:10
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 18:10
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 18:10
Biphenyl	ND	U	0.106	2.00	ug/L	1	8/21/23 18:10
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 18:10
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 18:10
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 18:10
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 18:10
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 18:10
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 18:10
Carbazole	ND	U	0.188	2.00	ug/L	1	8/21/23 18:10
Chrysene	ND	U	0.129	2.00	ug/L	1	8/21/23 18:10
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	8/21/23 18:10
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 18:10
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 18:10
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 18:10
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 18:10
Fluoranthene	ND	U	0.129	2.00	ug/L	1	8/21/23 18:10
Fluorene	ND	U	0.109	2.00	ug/L	1	8/21/23 18:10
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 18:10
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 18:10
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 18:10
Naphthalene	ND	U	0.0607	2.00	ug/L	1	8/21/23 18:10
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 18:10
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 18:10
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 18:10
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	8/21/23 18:10

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-04 (Ground Water) Sample Name: **FB-20230808** Collected: **8/8/2023 12:10:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 18:10
Pyrene	ND	U	0.115	2.00	ug/L	1	8/21/23 18:10

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Cyclopentane, 1,2,3,4,5-pentamethyl-	6.30	5.47	J	ug/L	1	8/21/23 18:10
unknown	5.09	5.72	J	ug/L	1	8/21/23 18:10
TIC Total	**11.4**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/17/23 17:45
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/17/23 17:45
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/17/23 17:45
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/17/23 17:45
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/17/23 17:45
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/17/23 17:45
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/17/23 17:45
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/17/23 17:45
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/17/23 17:45
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/17/23 17:45
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/17/23 17:45
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/17/23 17:45
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/17/23 17:45
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/17/23 17:45
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/17/23 17:45
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/17/23 17:45
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/17/23 17:45
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/17/23 17:45
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/17/23 17:45
Acetone	ND	U	10.0	10.0	ug/L	1	8/17/23 17:45
Benzene	ND	U	0.129	1.00	ug/L	1	8/17/23 17:45
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/17/23 17:45
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/17/23 17:45
Bromoform	ND	U	0.421	1.00	ug/L	1	8/17/23 17:45
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/17/23 17:45
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/17/23 17:45

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-04 (Ground Water) Sample Name: **FB-20230808** Collected: **8/8/2023 12:10:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/17/23 17:45
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/17/23 17:45
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/17/23 17:45
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/17/23 17:45
Chloroform	ND	U	0.365	1.00	ug/L	1	8/17/23 17:45
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/17/23 17:45
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/17/23 17:45
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/17/23 17:45
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/17/23 17:45
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/17/23 17:45
EthylBenzene	ND	U	0.244	1.00	ug/L	1	8/17/23 17:45
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/17/23 17:45
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/17/23 17:45
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/17/23 17:45
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/17/23 17:45
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/17/23 17:45
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/17/23 17:45
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/17/23 17:45
Styrene	ND	U	0.176	1.00	ug/L	1	8/17/23 17:45
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/17/23 17:45
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/17/23 17:45
Toluene	ND	U	0.205	1.00	ug/L	1	8/17/23 17:45
Total Xylenes	ND	U	0.244	1.00	ug/L	1	8/17/23 17:45
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/17/23 17:45
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/17/23 17:45
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/17/23 17:45
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/17/23 17:45
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/17/23 17:45

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	ND	U	0.00500	0.0100	mg/L	1	8/16/23 17:42

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808** Collected: **8/8/2023 12:27:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/25/23 13:36
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/25/23 13:36
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/25/23 13:36
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/25/23 13:36
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/25/23 13:36
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/25/23 13:36
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/25/23 13:36
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/25/23 13:36
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/25/23 13:36
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/25/23 13:36

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 16:21

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	~~ND~~	~~U~~	0.0522	0.100	mg/L	1	8/22/23 10:06	R, RC:4L
Beryllium	**0.00122**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/22/23 10:06**	
Calcium	**136**		**0.256**	**1.00**	**mg/L**	**1**	**8/22/23 10:06**	
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/22/23 10:06	
Iron	ND	U	0.0580	0.200	mg/L	1	8/22/23 10:06	
Magnesium	**110**		**0.681**	**2.00**	**mg/L**	**1**	**8/22/23 10:06**	
Manganese	**0.326**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/22/23 10:06**	J, RC:4L
Potassium	**69.0**		**2.41**	**4.00**	**mg/L**	**1**	**8/22/23 10:06**	J, RC:4L
Sodium	**2680**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/22/23 11:01**	J, RC:AA
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/22/23 10:06	

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Antimony	ND	U	0.000293	0.00600	mg/L	1	8/21/23 16:52	
Arsenic	ND	U	0.000272	0.00200	mg/L	1	8/21/23 16:52	
Barium	**0.457**	B	**0.000267**	**0.00200**	**mg/L**	**1**	**8/21/23 16:52**	J, RC:AA
Cadmium	ND	U	0.000301	0.00200	mg/L	1	8/21/23 16:52	
Cobalt	ND	U	0.000196	0.00200	mg/L	1	8/21/23 16:52	
Copper	**0.00811**		**0.000217**	**0.00200**	**mg/L**	**1**	**8/21/23 16:52**	
Lead	**0.00429**		**0.000338**	**0.00200**	**mg/L**	**1**	**8/21/23 16:52**	
Nickel	**0.00873**		**0.000299**	**0.00200**	**mg/L**	**1**	**8/21/23 16:52**	
Selenium	ND	U	0.000601	0.00600	mg/L	1	8/21/23 16:52	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808** Collected: **8/8/2023 12:27:00PM**

EPA 200.8 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Silver	ND	U	0.000266	0.00200	mg/L	1	8/21/23 16:52	
Thallium	~~ND~~	~~U~~	0.000339	0.00200	mg/L	1	8/21/23 16:52	R, RC:4L
Zinc	ND	U	0.000549	0.0300	mg/L	1	8/21/23 16:52	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/28/23 23:45	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/28/23 23:45	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/28/23 23:45	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/28/23 23:45	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/28/23 23:45	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/28/23 23:45	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/28/23 23:45	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/28/23 23:45	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/28/23 23:45	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/28/23 23:45	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/28/23 23:45	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/28/23 23:45	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/28/23 23:45	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/28/23 23:45	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/28/23 23:45	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/28/23 23:45	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/28/23 23:45	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/28/23 23:45	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/28/23 23:45	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/28/23 23:45	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	~~ND~~	~~U, H~~	0.219	2.08	ug/L	1	8/28/23 14:33	R, RC:1
2,4,5-Trichlorophenol	~~ND~~	~~U, H~~	0.0456	2.08	ug/L	1	8/28/23 14:33	
2,4,6-Trichlorophenol	~~ND~~	~~U, H~~	0.143	2.08	ug/L	1	8/28/23 14:33	
2,4-Dichlorophenol	~~ND~~	~~U, H~~	0.158	2.08	ug/L	1	8/28/23 14:33	
2,4-Dimethylphenol	~~ND~~	~~U, H~~	0.186	2.08	ug/L	1	8/28/23 14:33	
2,4-Dinitrophenol	~~ND~~	~~U, H~~	0.340	5.21	ug/L	1	8/28/23 14:33	
2,4-Dinitrotoluene	~~ND~~	~~U, H~~	0.112	2.08	ug/L	1	8/28/23 14:33	
2,6-Dinitrotoluene	~~ND~~	~~U, H~~	0.149	2.08	ug/L	1	8/28/23 14:33	
2-Chloronaphthalene	~~ND~~	~~U, H~~	0.127	2.08	ug/L	1	8/28/23 14:33	
2-Chlorophenol	~~ND~~	~~U, H~~	0.116	2.08	ug/L	1	8/28/23 14:33	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808** Collected: **8/8/2023 12:27:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Methylnaphthalene	ND	U, H	0.107	3.12	ug/L	1	8/28/23 14:33	R, RC:1
2-Methylphenol	ND	U, H	0.161	2.08	ug/L	1	8/28/23 14:33	
2-Nitroaniline	ND	U, H	0.105	2.08	ug/L	1	8/28/23 14:33	
2-Nitrophenol	ND	U, H	0.169	2.08	ug/L	1	8/28/23 14:33	
3,3'-Dichlorobenzidine	ND	U, H	0.115	2.08	ug/L	1	8/28/23 14:33	R, RC:4L
3+4-Methylphenol	ND	U, H	0.127	2.08	ug/L	1	8/28/23 14:33	
3-Nitroaniline	ND	U, H	0.140	2.08	ug/L	1	8/28/23 14:33	
4,6-Dinitro-2-methylphenol	ND	U, H	0.0826	2.08	ug/L	1	8/28/23 14:33	
4-Bromophenyl-phenyl ether	ND	U, H	0.199	2.08	ug/L	1	8/28/23 14:33	
4-Chloro-3-methylphenol	ND	U, H	0.147	2.08	ug/L	1	8/28/23 14:33	
4-Chloroaniline	ND	U, H	0.169	2.08	ug/L	1	8/28/23 14:33	
4-Chlorophenyl phenyl ether	ND	U, H	0.142	2.08	ug/L	1	8/28/23 14:33	
4-Nitroaniline	ND	U, H	0.0904	2.08	ug/L	1	8/28/23 14:33	
4-Nitrophenol	ND	U, H	0.175	2.08	ug/L	1	8/28/23 14:33	
Acenaphthene	**11.3**	H	**0.104**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Acenaphthylene	**0.687**	J, H	**0.146**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Acetophenone	ND	U, H	0.177	2.08	ug/L	1	8/28/23 14:33	R, RC:1
Anthracene	**1.88**	J, H	**0.126**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Atrazine	ND	U, H	0.0897	2.08	ug/L	1	8/28/23 14:33	R, RC:1
Benzaldehyde	ND	U, H	0.140	2.08	ug/L	1	8/28/23 14:33	
Benzo(g,h,i)perylene	ND	U, H	0.0679	2.08	ug/L	1	8/28/23 14:33	
Biphenyl	ND	U, H	0.110	2.08	ug/L	1	8/28/23 14:33	
bis(2-chloroethoxy)methane	ND	U, H	0.117	2.08	ug/L	1	8/28/23 14:33	
bis(2-chloroethyl)ether	ND	U, H	0.126	2.08	ug/L	1	8/28/23 14:33	
bis(2-chloroisopropyl)ether	ND	U, H	0.138	2.08	ug/L	1	8/28/23 14:33	
bis(2-ethylhexyl)phthalate	ND	U, H	0.191	2.08	ug/L	1	8/28/23 14:33	
Butylbenzylphthalate	ND	U, H	0.198	2.08	ug/L	1	8/28/23 14:33	
Caprolactam	ND	U, H	0.201	2.08	ug/L	1	8/28/23 14:33	
Carbazole	ND	U, H	0.196	2.08	ug/L	1	8/28/23 14:33	
Chrysene	ND	U, H	0.134	2.08	ug/L	1	8/28/23 14:33	
Dibenzofuran	ND	U, H	0.125	2.08	ug/L	1	8/28/23 14:33	
Diethylphthalate	**0.422**	J, H	**0.128**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Dimethylphthalate	ND	U, H	0.404	2.08	ug/L	1	8/28/23 14:33	R, RC:1
Di-n-butylphthalate	ND	U, H	0.136	2.08	ug/L	1	8/28/23 14:33	
Di-n-octylphthalate	ND	U, H	0.145	2.08	ug/L	1	8/28/23 14:33	
Fluoranthene	**2.32**	H	**0.134**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Fluorene	**2.64**	H	**0.114**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Hexachlorocyclopentadiene	ND	U, H	0.214	2.08	ug/L	1	8/28/23 14:33	R, RC:1,SL
Hexachloroethane	ND	U, H	0.116	2.08	ug/L	1	8/28/23 14:33	R, RC:1

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates **Work Order:** 23H0547
Project: Red Hook-Gowanus **Date to Lab:** 8/8/2023 4:00:00PM

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808** Collected: **8/8/2023 12:27:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Isophorone	~~ND~~	~~U, H~~	0.116	2.08	ug/L	1	8/28/23 14:33	R, RC:1
Naphthalene	~~ND~~	~~U, H~~	0.0632	2.08	ug/L	1	8/28/23 14:33	
Nitrobenzene	~~ND~~	~~U, H~~	0.152	2.08	ug/L	1	8/28/23 14:33	
n-Nitroso-di-n-propylamine	~~ND~~	~~U, H~~	0.135	2.08	ug/L	1	8/28/23 14:33	
n-Nitrosodiphenylamine	~~ND~~	~~U, H~~	0.0652	2.08	ug/L	1	8/28/23 14:33	
Phenanthrene	**8.87**	H	**0.0755**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1
Phenol	~~ND~~	~~U, H~~	0.101	2.08	ug/L	1	8/28/23 14:33	R, RC:1
Pyrene	**3.24**	H	**0.120**	**2.08**	**ug/L**	**1**	**8/28/23 14:33**	J, RC:1

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
3-Phenylbut-1-ene	4.65	7.31	J, H	ug/L	1	8/28/23 14:33
Benzocycloheptatriene	5.28	8.39	J, H	ug/L	1	8/28/23 14:33
Indane	10.5	6.50	J, H	ug/L	1	8/28/23 14:33
Naphthalene, 1,6-dimethyl-	5.15	8.99	J, H	ug/L	1	8/28/23 14:33
unknown (01)	9.85	11.47	J, H	ug/L	1	8/28/23 14:33
unknown (02)	5.50	14.62	J, H	ug/L	1	8/28/23 14:33
TIC Total	**40.9**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/17/23 13:12
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/17/23 13:12
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/17/23 13:12
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/17/23 13:12
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/17/23 13:12
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/17/23 13:12
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/17/23 13:12
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/17/23 13:12
1,2,4-Trimethylbenzene	**4.38**		**0.155**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/17/23 13:12
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/17/23 13:12
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/17/23 13:12
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/17/23 13:12
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/17/23 13:12
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/17/23 13:12
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/17/23 13:12
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/17/23 13:12

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808** Collected: **8/8/2023 12:27:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/17/23 13:12	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/17/23 13:12	
Acetone	ND	U	10.0	10.0	ug/L	1	8/17/23 13:12	
Benzene	**0.554**	J	**0.129**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/17/23 13:12	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/17/23 13:12	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/17/23 13:12	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/17/23 13:12	UJ, RC:SL
Carbon disulfide	**1.20**		**0.477**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/17/23 13:12	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/17/23 13:12	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/17/23 13:12	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/17/23 13:12	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/17/23 13:12	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/17/23 13:12	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/17/23 13:12	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/17/23 13:12	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/17/23 13:12	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/17/23 13:12	
EthylBenzene	**6.98**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**	
Isopropylbenzene	**5.93**		**0.275**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**	
m+p-Xylenes	**0.962**	J	**0.461**	**2.00**	**ug/L**	**1**	**8/17/23 13:12**	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/17/23 13:12	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/17/23 13:12	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/17/23 13:12	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/17/23 13:12	
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/17/23 13:12	
Styrene	ND	U	0.176	1.00	ug/L	1	8/17/23 13:12	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/17/23 13:12	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/17/23 13:12	
Toluene	**0.360**	J	**0.205**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**	
Total Xylenes	**0.962**	J	**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 13:12**	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/17/23 13:12	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/17/23 13:12	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/17/23 13:12	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/17/23 13:12	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/17/23 13:12	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-05 (Ground Water) Sample Name: **0H-MW-05S-20230808** Collected: **8/8/2023 12:27:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethyl-2-methyl-	3.43	17.17	J	ug/L	1	8/17/23 13:12
Benzene, propyl-	4.56	16.47	J	ug/L	1	8/17/23 13:12
Indan, 1-methyl-	9.72	19.61	J	ug/L	1	8/17/23 13:12
Indane	21.8	18.79	J	ug/L	1	8/17/23 13:12
TIC Total	**39.5**					

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	**0.183**		**0.00500**	**0.0100**	**mg/L**	**1**	**8/16/23 17:42** J, RC:4L

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808** Collected: **8/8/2023 1:39:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 13:05
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 13:05
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 13:05
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 13:05
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 13:05
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 13:05
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 13:05
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 13:05
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 13:05
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 13:05

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/10/23 13:52

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**0.252**		**0.0522**	**0.100**	**mg/L**	**1**	**8/22/23 10:17** J, RC:4L
Beryllium	**0.00189**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/22/23 10:17**
Calcium	**185**		**0.256**	**1.00**	**mg/L**	**1**	**8/22/23 10:17**
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/22/23 10:17
Iron	**0.833**		**0.0580**	**0.200**	**mg/L**	**1**	**8/22/23 10:17**
Magnesium	**94.7**		**0.681**	**2.00**	**mg/L**	**1**	**8/22/23 10:17**
Manganese	**0.813**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/22/23 10:17** J, RC:4L

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808** Collected: **8/8/2023 1:39:00PM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Potassium	**16.9**		**2.41**	**4.00**	**mg/L**	**1**	**8/22/23 10:17**	J, RC:4L
Sodium	**838**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/22/23 11:04**	J, RC:AA
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/22/23 10:17	

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Antimony	ND	U	0.000293	0.00600	mg/L	1	8/21/23 17:31	
Arsenic	**0.00906**		**0.000272**	**0.00200**	**mg/L**	**1**	**8/21/23 17:31**	
Barium	**0.162**	B	**0.000267**	**0.00200**	**mg/L**	**1**	**8/21/23 17:31**	J, RC:AA
Cadmium	ND	U	0.000301	0.00200	mg/L	1	8/21/23 17:31	
Cobalt	ND	U	0.000196	0.00200	mg/L	1	8/21/23 17:31	
Copper	**0.00457**		**0.000217**	**0.00200**	**mg/L**	**1**	**8/21/23 17:31**	
Lead	ND	U	0.000338	0.00200	mg/L	1	8/21/23 17:31	
Nickel	**0.00376**		**0.000299**	**0.00200**	**mg/L**	**1**	**8/21/23 17:31**	
Selenium	ND	U	0.000601	0.00600	mg/L	1	8/21/23 17:31	
Silver	ND	U	0.000266	0.00200	mg/L	1	8/21/23 17:31	
Thallium	~~ND~~	~~U~~	0.000339	0.00200	mg/L	1	8/21/23 17:31	R, RC:4L
Zinc	ND	U	0.000549	0.0300	mg/L	1	8/21/23 17:31	

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 20:19	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 20:19	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 20:19	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 20:19	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 20:19	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 20:19	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 20:19	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 20:19	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 20:19	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 20:19	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 20:19	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 20:19	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 20:19	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 20:19	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 20:19	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 20:19	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 20:19	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 20:19	

ND, U - Indicates compound analyzed for but not detected
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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808** Collected: **8/8/2023 1:39:00PM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 20:19
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 20:19

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	2.10	20.0	ug/L	1	8/21/23 18:42	
2,4,5-Trichlorophenol	ND	U	0.438	20.0	ug/L	1	8/21/23 18:42	
2,4,6-Trichlorophenol	ND	U	1.37	20.0	ug/L	1	8/21/23 18:42	
2,4-Dichlorophenol	ND	U	1.52	20.0	ug/L	1	8/21/23 18:42	
2,4-Dimethylphenol	ND	U	1.79	20.0	ug/L	1	8/21/23 18:42	
2,4-Dinitrophenol	ND	U	3.26	50.0	ug/L	1	8/21/23 18:42	
2,4-Dinitrotoluene	ND	U	1.08	20.0	ug/L	1	8/21/23 18:42	
2,6-Dinitrotoluene	ND	U	1.43	20.0	ug/L	1	8/21/23 18:42	
2-Chloronaphthalene	ND	U	1.22	20.0	ug/L	1	8/21/23 18:42	
2-Chlorophenol	ND	U	1.11	20.0	ug/L	1	8/21/23 18:42	
2-Methylnaphthalene	**499**		**1.03**	**30.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
2-Methylphenol	ND	U	1.55	20.0	ug/L	1	8/21/23 18:42	
2-Nitroaniline	ND	U	1.01	20.0	ug/L	1	8/21/23 18:42	
2-Nitrophenol	ND	U	1.62	20.0	ug/L	1	8/21/23 18:42	
3,3'-Dichlorobenzidine	ND	U	1.10	20.0	ug/L	1	8/21/23 18:42	
3+4-Methylphenol	ND	U	1.22	20.0	ug/L	1	8/21/23 18:42	
3-Nitroaniline	ND	U	1.34	20.0	ug/L	1	8/21/23 18:42	
4,6-Dinitro-2-methylphenol	ND	U	0.793	20.0	ug/L	1	8/21/23 18:42	
4-Bromophenyl-phenyl ether	ND	U	1.91	20.0	ug/L	1	8/21/23 18:42	
4-Chloro-3-methylphenol	ND	U	1.41	20.0	ug/L	1	8/21/23 18:42	
4-Chloroaniline	ND	U	1.62	20.0	ug/L	1	8/21/23 18:42	
4-Chlorophenyl phenyl ether	ND	U	1.36	20.0	ug/L	1	8/21/23 18:42	
4-Nitroaniline	ND	U	0.868	20.0	ug/L	1	8/21/23 18:42	
4-Nitrophenol	ND	U	1.68	20.0	ug/L	1	8/21/23 18:42	
Acenaphthene	**69.3**		**1.00**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Acenaphthylene	**194**		**1.40**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Acetophenone	ND	U	1.70	20.0	ug/L	1	8/21/23 18:42	
Anthracene	**22.2**		**1.21**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Atrazine	ND	U	0.861	20.0	ug/L	1	8/21/23 18:42	
Benzaldehyde	ND	U	1.34	20.0	ug/L	1	8/21/23 18:42	
Benzo(g,h,i)perylene	ND	U	0.652	20.0	ug/L	1	8/21/23 18:42	
Biphenyl	**48.0**		**1.06**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
bis(2-chloroethoxy)methane	ND	U	1.12	20.0	ug/L	1	8/21/23 18:42	
bis(2-chloroethyl)ether	ND	U	1.21	20.0	ug/L	1	8/21/23 18:42	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808** Collected: **8/8/2023 1:39:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroisopropyl)ether	ND	U	1.32	20.0	ug/L	1	8/21/23 18:42	
bis(2-ethylhexyl)phthalate	ND	U	1.83	20.0	ug/L	1	8/21/23 18:42	
Butylbenzylphthalate	ND	U	1.90	20.0	ug/L	1	8/21/23 18:42	
Caprolactam	ND	U	1.93	20.0	ug/L	1	8/21/23 18:42	
Carbazole	**9.24**	J	**1.88**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Chrysene	ND	U	1.29	20.0	ug/L	1	8/21/23 18:42	
Dibenzofuran	**18.8**	J	**1.20**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Diethylphthalate	ND	U	1.23	20.0	ug/L	1	8/21/23 18:42	
Dimethylphthalate	ND	U	3.88	20.0	ug/L	1	8/21/23 18:42	
Di-n-butylphthalate	ND	U	1.31	20.0	ug/L	1	8/21/23 18:42	
Di-n-octylphthalate	ND	U	1.39	20.0	ug/L	1	8/21/23 18:42	
Fluoranthene	**8.50**	J	**1.29**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Fluorene	**84.7**		**1.09**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Hexachlorocyclopentadiene	ND	U	2.05	20.0	ug/L	1	8/21/23 18:42	UJ, RC:SL
Hexachloroethane	ND	U	1.11	20.0	ug/L	1	8/21/23 18:42	
Isophorone	ND	U	1.11	20.0	ug/L	1	8/21/23 18:42	
Naphthalene	**854**		**0.607**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Nitrobenzene	ND	U	1.46	20.0	ug/L	1	8/21/23 18:42	
n-Nitroso-di-n-propylamine	ND	U	1.30	20.0	ug/L	1	8/21/23 18:42	
n-Nitrosodiphenylamine	ND	U	0.626	20.0	ug/L	1	8/21/23 18:42	
Phenanthrene	**103**		**0.725**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H
Phenol	ND	U	0.973	20.0	ug/L	1	8/21/23 18:42	
Pyrene	**12.2**	J	**1.15**	**20.0**	**ug/L**	**1**	**8/21/23 18:42**	J, RC:3H

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	113	7.33	J	ug/L	1	8/21/23 18:42
2-Methylindene	101	7.36	J	ug/L	1	8/21/23 18:42
Benzene, 1-ethyl-3-methyl-	81.1	6.15	J	ug/L	1	8/21/23 18:42
Indane	51.1	6.50	J	ug/L	1	8/21/23 18:42
Indene	166	6.58	J	ug/L	1	8/21/23 18:42
Naphthalene, 1-ethyl-	45.8	8.85	J	ug/L	1	8/21/23 18:42
Naphthalene, 1-methyl-	414	8.40	J	ug/L	1	8/21/23 18:42
Naphthalene, 2,3-dimethyl-	88.1	9.00	J	ug/L	1	8/21/23 18:42
Naphthalene, 2,6-dimethyl-	73.5	8.92	J	ug/L	1	8/21/23 18:42
Naphthalene, 2,7-dimethyl-	42.0	9.03	J	ug/L	1	8/21/23 18:42
unknown	46.1	9.12	J	ug/L	1	8/21/23 18:42
TIC Total	**1,220**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808** Collected: **8/8/2023 1:39:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/17/23 19:16	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/17/23 19:16	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/17/23 19:16	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/17/23 19:16	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/17/23 19:16	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/17/23 19:16	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/17/23 19:16	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/17/23 19:16	
1,2,4-Trimethylbenzene	**31.5**		**0.155**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/17/23 19:16	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/17/23 19:16	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/17/23 19:16	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/17/23 19:16	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/17/23 19:16	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/17/23 19:16	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/17/23 19:16	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/17/23 19:16	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/17/23 19:16	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/17/23 19:16	
Acetone	ND	U	10.0	10.0	ug/L	1	8/17/23 19:16	
Benzene	**9.52**		**0.129**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/17/23 19:16	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/17/23 19:16	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/17/23 19:16	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/17/23 19:16	UJ, RC:SL
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/17/23 19:16	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/17/23 19:16	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/17/23 19:16	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/17/23 19:16	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/17/23 19:16	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/17/23 19:16	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/17/23 19:16	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/17/23 19:16	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/17/23 19:16	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/17/23 19:16	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/17/23 19:16	
EthylBenzene	**22.5**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**	
Isopropylbenzene	**1.71**		**0.275**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Client: Yu & Associates
Project: Red Hook-Gowanus
Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-06 (Ground Water) Sample Name: **0H-MW-05D-20230808** Collected: **8/8/2023 1:39:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	**27.9**		**0.461**	**2.00**	**ug/L**	**1**	**8/17/23 19:16**
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/17/23 19:16
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/17/23 19:16
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/17/23 19:16
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/17/23 19:16
o-Xylene	**15.2**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**
Styrene	**5.56**		**0.176**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/17/23 19:16
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/17/23 19:16
Toluene	**49.9**		**0.205**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**
Total Xylenes	**43.1**		**0.244**	**1.00**	**ug/L**	**1**	**8/17/23 19:16**
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/17/23 19:16
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/17/23 19:16
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/17/23 19:16
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/17/23 19:16
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/17/23 19:16

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (2-methyl-1-propenyl)-	4.24	19.44	J	ug/L	1	8/17/23 19:16
Benzene, 1,3,5-trimethyl-	5.65	16.72	J	ug/L	1	8/17/23 19:16
Benzene, 1-ethyl-2-methyl-	16.3	16.63	J	ug/L	1	8/17/23 19:16
Benzene, 1-propynyl-	51.0	19.12	J	ug/L	1	8/17/23 19:16
Benzene, ethenylmethyl-	8.17	17.53	J	ug/L	1	8/17/23 19:16
Benzeneethanol, .beta.-ethenyl-	3.95	17.64	J	ug/L	1	8/17/23 19:16
Indane	16.9	18.80	J	ug/L	1	8/17/23 19:16
TIC Total	**106**					

SM 4500-CN C-16 plus E-16 - General Chemistry

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Cyanide	~~ND~~	~~U~~	0.00500	0.0100	mg/L	1	8/16/23 17:42 R, RC:4L

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Red Hook-Gowanus

Work Order: 23H0547
Date to Lab: 8/8/2023 4:00:00PM

23H0547-07 (Ground Water) Sample Name: **TB-20230808** Collected: **8/8/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/18/23 14:43	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/18/23 14:43	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/18/23 14:43	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/18/23 14:43	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/18/23 14:43	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/18/23 14:43	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/18/23 14:43	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/18/23 14:43	
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/18/23 14:43	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/18/23 14:43	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/18/23 14:43	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/18/23 14:43	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/18/23 14:43	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/18/23 14:43	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/18/23 14:43	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/18/23 14:43	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/18/23 14:43	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/18/23 14:43	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/18/23 14:43	
Acetone	ND	U	10.0	10.0	ug/L	1	8/18/23 14:43	
Benzene	ND	U	0.129	1.00	ug/L	1	8/18/23 14:43	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/18/23 14:43	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/18/23 14:43	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/18/23 14:43	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/18/23 14:43	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/18/23 14:43	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/18/23 14:43	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/18/23 14:43	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/18/23 14:43	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/18/23 14:43	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/18/23 14:43	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/18/23 14:43	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/18/23 14:43	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/18/23 14:43	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/18/23 14:43	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/18/23 14:43	
EthylBenzene	ND	U	0.244	1.00	ug/L	1	8/18/23 14:43	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/18/23 14:43	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0547
Project:	Red Hook-Gowanus	**Date to Lab:**	8/8/2023 4:00:00PM

23H0547-07 (Ground Water) Sample Name: **TB-20230808** Collected: **8/8/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/18/23 14:43	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/18/23 14:43	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/18/23 14:43	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/18/23 14:43	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/18/23 14:43	
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/18/23 14:43	
Styrene	ND	U	0.176	1.00	ug/L	1	8/18/23 14:43	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/18/23 14:43	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/18/23 14:43	
Toluene	ND	U	0.205	1.00	ug/L	1	8/18/23 14:43	
Total Xylenes	ND	U	0.244	1.00	ug/L	1	8/18/23 14:43	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/18/23 14:43	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/18/23 14:43	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/18/23 14:43	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/18/23 14:43	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/18/23 14:43	UJ, RC:SL

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

DATA USABILITY SUMMARY REPORT
GOWANUS FORMER SITE

Client: Brown and Caldwell, Albany, New York
SDGs: 23H0666
Laboratory: Aqua Pro-tech Laboratories, Fairfield, New Jersey
Site: Gowanus, NY
Date: May 8, 2024

Client Sample ID	Laboratory Sample ID	Date Collected	Matrix
OH-MW-05I-20230809	23H0666-01	8/9/2023	Water
OH-MW-06D-20230809	23H0666-02	8/9/2023	Water
FB-20230809	23H0666-03	8/9/2023	Water
OH-MW-06S-20230809	23H0666-04	8/9/2023	Water
OH-MW-07D-20230809	23H0666-05	8/9/2023	Water
OH-MW-07S-20230809	23H0666-06	8/9/2023	Water
DUP-20230809	23H0666-07	8/9/2023	Water
TB-20230809	23H0666-08	8/9/2023	Water

Data validation was performed on the analytical data for eight (8) samples collected August 9, 2023, by Yu and Associates at the Gowanus Site in New York. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for Evaluating Solid Waste Physical/Chemical SW-846 Method" described below.

Specific method references are as follows:

Analysis	Method References
Semivolatile Organic Compounds (SVOCs)	USEPA SW-846 8270E
Volatile Organic Compounds (VOCs)	USEPA SW-846 8260D
Pesticides	USEPA SW-846 8081B
PCBs	USEPA SW-846 8082A
Metals	USEPA 200.7/200.8
Mercury	USEPA 245.1

Data were reviewed in accordance with the USEPA National Functional Guidelines (NFGs) listed below and appropriate method specific USEPA Region II Data Validation Standard Operating Procedures (SOPs). The USEPA NFGs were developed for the Contract Laboratory Program (CLP) methods and may not be applicable to the analytical methods and procedures utilized by the laboratory for this data set. Results were also qualified using analytical method criteria and the reviewer's professional judgement where specific guidance was not applicable.

- USEPA. National Functional Guidelines for Superfund Organics Methods Data Review. OLEM 9240.0-51, EPA 540-R-20-005, November 2020
- USEPA. National Functional Guidelines for Superfund Inorganics Methods Data Review. OLEM 9240.0-51, EPA 542-R-20-006, November 2020
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. OSWER 9240.1-05A-A-P EPA540/R-99/008. October 1999

- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. OSWER 9240.1-45 EPA540/R-04/004. October 2004
- USEPA Contract Laboratory Program Region II Data Validation SOPs (HW-2, HW-22, HW-24, HW-44, HW-45)

The following items/criteria were reviewed for this report:

- Data Completeness
- Chain of Custody
- Holding times and sample preservation
- Field Duplicate Accuracy
- Internal Standard Area and RT
- Surrogates
- Laboratory Control Sample (LCS) recoveries
- Matric Spike and Matrix Spike Duplicate Samples
- Method and field blank contamination
- Laboratory Duplicate Samples
- Serial Dilution
- Initial and continuing calibration summaries
- Compound Quantitation
- Reporting Limits
- Sample comments and Quality Control Summaries

Overall Usability Issues:

- Overall, the data is acceptable for the intended purposes. Minor analytical issues were found with the following data quality indicators resulting in qualified results: continuing calibration, laboratory control samples, field duplicate and surrogates.

Chain of Custody:

- Cyanide was listed on the chain of custody but samples were not analyzed for this parameter.

Volatile Organic Compounds (VOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
VOCs by SW-846 8260D	Water	14 days from collection to analysis (preserved) 7 days from collection to analysis (non-preserved)	Cool to <6 °C; preserved to a pH of less than 2
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established control limits (CL).

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8260D	OH-MW-05I-20230809 OH-MW-06D-20230809	4-Bromofluorobenzene	%R > CL	J (Detects) No action (NDs)	3H
	OH-MW-07D-20230809	Toluene-d8			

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established control limits (CL).

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8260D	OH-MW-06D-20230809 OH-MW-06S-20230809 OH-MW-07D-20230809 DUP-20230809	1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene Acetone Bromomethane Chloroethane Chloromethane	> CL	J (Detects) No action (NDs)	6H

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
		Vinyl chloride 1,2-Dichloropropane Chloroform cis-1,2-Dichloroethene Methylene Chloride trans-1,2-Dichloroethene			
		1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene	10% > %R < CL	J (Detects) R (NDs)	6L
	FB-20230809 0H-MW-07S-20230809 TB-20230809	2-Butanone Acetone 1,2,4-Trimethylbenzene 2-Hexanone	> CL	J (Detects) No action (NDs)	6H
		1,2,4-Trichlorobenzene 1,2-Dichlorobenzene Bromomethane	10% > %R < CL	J (Detects) R (NDs)	6L

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230809 is the sample duplicate for 0H-MW-07D-20230809. All RPDs were within control limits. Details are at the end of the report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- Internal standards exhibited acceptable recoveries.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8260D	OH-MW-05I-20230809	Acetone	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Chloromethane Vinyl chloride	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	FB-20230809 OH-MW-07S-20230809 TB-20230809	2-Butanone 2-Hexanone 4-Methyl-2-pentanone Acetone tert-Butyl alcohol	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
		Dichlorodifluoromethane	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL
	OH-MW-06D-20230809 OH-MW-06S-20230809 OH-MW-07D-20230809 DUP-20230809	1,1-Dichloroethene Acetone Chloroethane Chloromethane	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH
	OH-MW-06D-20230809 OH-MW-06S-20230809 OH-MW-07D-20230809 DUP-20230809	1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2-Dibromo-3-chloropropane Bromoform	CCV %D > 20% (decrease in response)	UJ (NDs) J (Detects)	SL

Compound Quantitation and Identification

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated VOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

Semivolatile Organic Compounds (SVOCs)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SVOCs by SW-846 8270E and 8270D-SIM	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and method holding times were achieved.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All samples were received properly preserved and holding times were achieved for all analyses.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for sample OH-MW-06D-20230809 which exhibited recoveries above control limits for Nitrobenzene-d5. Since only one out of three base neutral surrogates were outside control limits, no qualification was required.
- Several samples required dilution due to high concentrations of target compounds. Surrogates were outside control limits for dilution analyses; however, the original analyses exhibited acceptable recoveries in all cases. Therefore, no qualification was required.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8270E	OH-MW-07D-20230809 OH-MW-07S-20230809 DUP-20230809	4-Bromophenyl-phenyl ether	10% < %R < CL	J (Detects) UJ (NDs)	6L
		bis(2-ethylhexyl)phthalate Butylbenzylphthalate Di-n-octylphthalate Pyrene	> CL	J (Detects) No action (NDs)	6H

Matrix Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% RPD is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230809 is the sample duplicate for 0H-MW-07D-20230809. All RPDs were within control limits. Details are at the end of the report.

Internal Standard Areas

Internal standards are used to monitor instrument performance and ensure instrument sensitivity and response are stable during sample analysis. The internal standard area count must within a (50-200%) range of the associated standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard.

- All samples exhibited acceptable internal standard values.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- All recoveries and/or correlation coefficient criteria were met.
- for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed. The RRF control limit is (0.05) or (0.01) for poor responding compounds.

- ICVs and CCVs were within the specified control limits except for analytes presented in the following table.

Method	Sample	Analyte(s)	Exceedance	Qualification	Reason Code
8270E	0H-MW-05I-20230809 0H-MW-06D-20230809 0H-MW-06S-20230809	2,4-Dinitrophenol 4,6-Dinitro-2-methylphenol 4-Chloro-3-methylphenol 4-Nitrophenol Acetophenone bis(2-chloroethoxy)methane bis(2-chloroethyl)ether Caprolactam Isophorone Nitrobenzene	CCV %D > 20% (increase in response)	J (detects) No action (NDs)	SH

Reporting Limits and Compound Quantitation

GC/MS analysis utilizes retention time and mass spectra criteria to identify detected results.

- All identified compounds met the specified criteria.
- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T. Some samples were diluted due to elevated SVOC concentrations and elevated reporting limits are provided.
- Tentatively Identified Compounds (TICs) are qualified as estimated, reason code A.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Mass Spectrometer tuning criteria was within control limits.
- Overall system performance was acceptable.

GC Methods (PCBs, Pesticides, Herbicides)

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8081B (Pesticides), 8082A (PCBs) and 8151A (Herbicides)	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to <6 °C

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Surrogates

Surrogate compounds are spiked prior to sample preparation and are used to monitor the overall performance of the analytical method. GC analyses requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

- Surrogates exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Surrogate	Exceedance	Qualification	Reason Code
8082A	OH-MW-05I-20230809 OH-MW-06D-20230809 OH-MW-06S-20230809 OH-MW-07D-20230809 DUP-20230809	TCMX	%R > CL	J (Detects) No action (NDs)	3H

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS and/or LCSD analysis exhibited acceptable recoveries except for analytes presented in the following table.

Method	Sample	Analyte	Exceedance	Qualification	Reason Code
8081B	0H-MW-05I-20230809 0H-MW-06D-20230809 FB-20230809 0H-MW-06S-20230809 0H-MW-07D-20230809 0H-MW-07S-20230809 DUP-20230809	Endosulfan sulfate	10% < %R < CL	J (Detects) UJ (NDs)	6L
		beta-BHC Endrin Ketone Methoxychlor	%R > CL	J (Detects) No action (NDs)	6H

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- A MS/MSD analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230809 is the sample duplicate for 0H-MW-07D-20230809. All RPDs were within control limits. Details are at the end of the report.

Initial Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. The method specifies percent relative standard deviation (%RSD) limits for select compounds. A maximum RSD of 20% is allowed or a correlation coefficient greater than 0.99.

- All recoveries and/or correlation coefficient criteria were met.
- The original lab report was missing correlation coefficients for analytes that were evaluated with a different curve fit. That information was later provided as an addendum to the data package.

Continuing Calibration

The continuing calibration is used to assess calibration drift. A maximum percent difference (%D) of 20% is allowed.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Compound Quantitation

GC methods utilizes retention time and dual column analysis to identify detected results. When dual column analysis is performed the percent difference (%D) of detected sample results must be less than 25%.

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.
- Dual column comparison was not provided as part of the data package.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Metals and General Chemistry

Holding Times and Preservation

Samples must be extracted and/or analyzed within method-specific holding times and meet the preservation requirements listed in the following table.

Method	Matrix	Holding Time	Preservation
Metals by SW-846 6010D EPA 200.7&200.8	Water	180 days from collection to analysis	Preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.
Mercury by EPA 245.1	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

- All samples were received properly preserved and holding times were achieved for all analyses.

Blanks - Method, Trip, Field, ICBs and CCBs

Quality assurance (QA) blanks (i.e., method, trip, field, or rinse blanks) are prepared to identify and measure contamination which may have been introduced into samples during sample preparation or field sampling procedures.

- All QA/QC blanks were free of contamination.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Samples

The LCS (and LCSD) and is used to assess the accuracy and precision of the analytical method independent of sample matrix. Percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits.

- LCS/LCSD analysis exhibited acceptable recoveries.

Matric Spike and Matrix Spike Duplicate (MS/MSD) Samples

Matrix spike/matrix spike duplicate analysis is utilized to assess the accuracy and precision of the method by measuring the effects of interferences caused by the sample matrix. The MS/MSD percent recoveries and relative percent differences (RPDs) must be within laboratory-established acceptance limits. Qualifications are applied to all samples in the same preparation batch.

- The MS/MSD analysis performed on a sample OH-MW-07S-20230809 for mercury exhibited acceptable recoveries and RPDs.

Laboratory Duplicate

Laboratory duplicate analysis measures precision of the analytical method. The relative percent difference (RPD) is measured between parent and duplicate sample results. The Laboratory duplicate RPDs must be within laboratory-established acceptance limits.

- The laboratory duplicate analysis performed on sample OH-MW-07S-20230809 for mercury exhibited acceptable RPDs.

Serial Dilution

The serial dilution analysis indicates the presence matrix interferences. Sample results greater than 50 times the MDL are evaluated, and percent difference (%D) is measured between undiluted and diluted sample results. A control limit of 20% is applied.

- A serial dilution analysis was not performed on a sample in this SDG.

Field Duplicate Accuracy

The field duplicate analysis is employed to measure precision in both the field and laboratory. The relative percent difference (RPD) is measured between parent and duplicate sample results. When both results are greater than or equal to five time the reporting limit (RL), a control limit of 30% relative percent difference (RPD) is applied for water samples and 50% RPD for soil samples. When parent and/or duplicate sample results are less than five times the RL, the absolute difference between the two results is compared to two times the RL for water samples and four times the RL for soil samples.

- DUP-20230809 is the sample duplicate for OH-MW-07D-20230809. All RPDs were within control limits except for aluminum and iron. Parent and duplicate concentrations for associated analytes are qualified as estimated, J/UJ, reason code 8. Details are at the end of the report.

Initial Calibration and Continuing Calibration

The initial calibration curve is developed by plotting instrument response of analytes versus the known concentrations of analyte standards, and linearity ensures the instrument can produce quantitative data. Continuing calibration standards are used to assess calibration drift.

- ICVs and CCVs were within the specified control limits.

Reporting Limits and Analyte Quantitation

- All sample detections detected above the MDL and below the RL are appropriately qualified as estimated, J, by the laboratory, reason code T.

System Performance and Overall Assessment

Instrument performance indicators were evaluated, and overall analytical integrity was assessed.

- Overall system performance was acceptable.

Please contact the undersigned if you have any questions or need further information.

Signed:  Dated: May 8, 2024 Peer Review: CJS

Jeffrey L. Davin
Senior Validator
Brown and Caldwell

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for but was not detected above the method detection limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Reason Codes

1	Holding time violation
2	Method blank contamination
3	Surrogate recovery
4	MS/MSD recovery
5	MS/MSD precision outside limits
6	LCS recovery
7	Field blank contamination
8	Field duplicate precision outside limits
9	Other deficiencies (including cooler temperature)
A	Absence of supporting QC
S	ICV, CCV or column performance check problem
Y	Initial and continuing calibration blank problem
M	Interference check samples problem
O	Post digestion spike outside of 85-115%
F	MSA correlation coefficient <0.995, or MSA not done
G	Radiochem Minimum Detectable Concentration (MDC)
K	DFTPP or BFB tuning problem
Q	Initial calibration problem
X	Internal standard recovery problem
V	Second source standard calibration verification problem
L	Low bias
Z	Retention time problem
N	Counting time error (radionuclide chemistry)
W	Detector instability (radionuclide chemistry)
C	Co-elution of compounds
E	Value exceeds linear calibration range
I	Interferences present during analysis
T	Trace level compound, poor quantitation
P	1C/2C precision outside limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias
AA	Serial dilution percent difference outside limits

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	23H0666	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	APL Laboratories
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	GW sampling

SAMPLE INFORMATION

Parent Sample ID:	OH-MW-07D	Date/Time:	8/9/23 0:00	Matrix:	WG
Duplicate Sample ID:	DUP-20230809	Date/Time:	8/9/23 0:00	Matrix:	WG

Analytes	Unit	Fraction	Analytical Results[a]		Relative Percent Difference (RPD) Comparison		Difference between results	Reporting Limit (RL) Comparison (If Needed)							Actions Required
								OH-MW-07D			DUP-20230809			Control Limit: Is the difference in sample conc. ≥ 2X either RL?	
			OH-MW-07D	DUP-20230809	RPD Limit: 30%[b]	Are both results ≥5X RL[c]		RL	2x RL	5x RL	RL	2x RL	5x RL		
Barium	MG/L	T	0.596	0.585	1.86%	Yes	0.01	0.01	0.02	0.05	0.01	0.02	0.05		No further action required
Copper	MG/L	T	0.0133	0.0195		No	0.01	0.01	0.02	0.05	0.01	0.02	0.05	No	No further action required
Aluminum	MG/L	T	*0.100*	0.521		No	0.42	0.1	0.20	0.50	0.1	0.20	0.50	Yes	Qualify detects/non-detects as estimated, J/UJ
Beryllium	MG/L	T	0.00188	0.00184		No	0.00	0.001	0.002	0.005	0.001	0.00	0.01	No	No further action required
Calcium	MG/L	T	262	250	4.69%	Yes	12.00	1.0	2.0	5.0	1.0	2.0000	5.0000		No further action required
Iron	MG/L	T	2.97	6.01	67.71%	Yes	3.0	0.2	0.4	1.0	0.2	0.4	1.0		Qualify detects/non-detects as estimated, J/UJ
Magnesium	MG/L	T	382	365	4.55%	Yes	17.00	2	4.00	10.00	2	4.00	10.00		No further action required
Manganese	MG/L	T	0.621	0.61	1.79%	Yes	0.01	0.01	0.02	0.05	0.01	0.02	0.05		No further action required
Potassium	MG/L	T	144	140	2.82%	Yes	4.00	4.0	8.0	20.0	4.0	8.00	20.00		No further action required
1,2,4-Trimethylbenzene	UG/L	T	74.3	74.5	0.27%	Yes	0.20	1.0	2.0	5.0	1.0	2.00	5.00		No further action required
Benzene	UG/L	T	73.1	74.9	2.43%	Yes	1.80	1.0	2.0	5.0	1.0	2.00	5.00		No further action required
Chloroform	UG/L	T	0.618	0.492		No	0.13	1.0	2.0	5.0	1.0	2.00	5.00	No	No further action required
Isopropylbenzene (Cumene)	UG/L	T	4.89	5.16		No	0.27	1.0	2.0	5.0	1.0	2.00	5.00	No	No further action required
Styrene	UG/L	T	33.9	33.2	2.09%	Yes	0.70	1.0	2.0	5.0	1.0	2.00	5.00		No further action required
Xylene, o (1,2-Dimethylbenzene)	UG/L	T	88.2	86.6	1.83%	Yes	1.60	1.0	2.0	5.0	1.0	2.00	5.00		No further action required
Xylenes, m & p	UG/L	T	160	155	3.17%	Yes	5.00	2.0	4.0	10.0	2.0	4.00	10.00		No further action required
Xylenes, total	UG/L	T	248	242	2.45%	Yes	6.00	1.0	2.0	5.0	1.0	2.00	5.00		No further action required
Acenaphthene	UG/L	T	85.5	80.3	6.27%	Yes	5.200	2.0	4.0	10.0	2.0	4.00	10.00		No further action required
Acenaphthylene	UG/L	T	101	96.8	4.25%	Yes	4.20	2.0	4.0	10.0	2.0	4.00	10.00		No further action required
Anthracene	UG/L	T	12.5	12.5	0.00%	Yes	0.00	2.0	4.0	10.0	2.0	4.00	10.00		No further action required
Biphenyl (Diphenyl)	UG/L	T	35.9	32.9	8.72%	Yes	3.00	2.0	4.0	10.0	2.0	4.0	10.0		No further action required
Carbazole	UG/L	T	14.7	13.6	7.77%	Yes	1.10	2.0	4.0	10.0	2.0	4.0	10.0		No further action required
Chrysene	UG/L	T	0.7	1.01		No	0.31	2.0	4.0	10.0	2.0	4.0	10.0	No	No further action required
Dibenzofuran	UG/L	T	23.6	22.1	6.56%	Yes	1.50	2.0	4.0	10.0	2.0	4.0	10.0		No further action required
Fluoranthene	UG/L	T	5.33	6.08		No	0.75	2.0	4.0	10.0	2.0	4.0	10.0	No	No further action required
Fluorene	UG/L	T	59.4	55.6	6.61%	Yes	3.80	2.0	4.0	10.0	2.0	4.00	10.00		No further action required
Phenanthrene	UG/L	T	64	61.2	4.47%	Yes	2.80	2.0	4.0	10.0	2.0	4.0	10.0		No further action required
Pyrene	UG/L	T	6.58	7.42		No	0.8	2.0	4.0	10.0	2.0	4.0	10.0	No	No further action required
Sodium	MG/L	T	3360	3480	3.51%	Yes	120.0	20	40.0	100.0	20.0	40.0	100.0		No further action required
Ethylbenzene	UG/L	T	186	189	1.60%	Yes	3.00	20	40.0	100.0	20.0	40.0	100.0		No further action required
Toluene	UG/L	T	234	238	1.69%	Yes	4.00	20	40.0	100.0	20.0	40.0	100.0		No further action required

LABORATORY DATA VERIFICATION AND VALIDATION

Sample Duplicate Comparison

PROJECT INFORMATION

Report Number:	23H0666	Project Name/Client:	Gowanus
Project Number:	156854	Laboratory:	APL Laboratories
Project Manager:	Thakur Chaturgan	Task/Purpose of Sampling:	GW sampling

2-Methylnaphthalene	UG/L	T	551	508	8.12%	**Yes**	**43.0**	30	60.0	150.0	30.0	60.0	150.0		No further action required
Naphthalene	UG/L	T	1440	1440	0.00%	**Yes**	**0.00**	100	200.0	500.0	100.0	200.0	500.0		No further action required

[a]Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

[b]**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100$$

[c]When both results are greater than 5X the Reporting Limit (RL) the RPD is calculated. If either result is below 5X the RL, the absolute difference between the two results is compared to 2X the RL.

Pace Analytical Services, LLC-Fairfield

ANALYTICAL RESULTS

FULL DELIVERABLES FORMAT

Work Order Number: 23H0666

Yu & Associates

Project: Owls Head Phase 2



Sudip Pradhan
Laboratory Director

All Results meet the requirements of the National Environmental Laboratory Accreditation Conference and/or State specific certifications as applicable.

Report Date: Nov 07, 2023

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NELAC National Environmental Laboratory Accreditation Conference
NJDEP #07010 / NYDOH #11634 / PADEP #68-02903

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PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Sample Summary

Work Order: 23H0666

Client: Yu & Associates

Project: Owls Head Phase 2

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OH-MW-05I-20230809	23H0666-01	Ground Water	08/09/2023 08:29	08/09/2023 17:28
OH-MW-06D-20230809	23H0666-02	Ground Water	08/09/2023 10:15	08/09/2023 17:28
FB-20230809	23H0666-03	Ground Water	08/09/2023 10:25	08/09/2023 17:28
OH-MW-06S-20230809	23H0666-04	Ground Water	08/09/2023 11:25	08/09/2023 17:28
OH-MW-07D-20230809	23H0666-05	Ground Water	08/09/2023 13:12	08/09/2023 17:28
OH-MW-07S-20230809	23H0666-06	Ground Water	08/09/2023 14:13	08/09/2023 17:28
DUP-20230809	23H0666-07	Ground Water	08/09/2023 00:00	08/09/2023 17:28
TB-20230809	23H0666-08	Ground Water	08/09/2023 00:00	08/09/2023 17:28

PN: 23H0666

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CHAIN OF CUSTODY

PAGE ___ OF ___

CLIENT: Yu & Associates	SEND REPORT TO: " "
ADDRESS: 611 River Drive 3rd Floor, Elmwood Park NJ 07407	ADDRESS:
PHONE: 201-763-9621	PHONE:
E-MAIL: Swang@Yu-Associates.com	FAX:
PROJECT NAME: Gowanus OU-067	SEND INVOICE TO:
PROJECT MGR: Sixuan Wang	ADDRESS:
PROJECT or PO #: 156854	SAMPLED BY: MHM / JC

TURN-AROUND TIME
- [x] APL STANDARD 2 weeks
- [ ] RUSH (choose one below)
  - [ ] 24 hr. date & time required
  - [ ] 48 hr. date & time required
  - [ ] 72 hr. date & time required
  - [ ] 1 week

REPORT FORMAT
- [ ] RESULTS ONLY
- [ ] NJ DEP REDUCED
- [ ] NJ DEP FULL
- [ ] STATE FORMS/E2 REPORTING

PWSID#

ELECTRONIC FORMAT
- [ ] EMAIL DELIVERY
- [ ] HAZSITE EDD
- [ ] EXCEL

SRP#

✓ NY State CAL B

CONTAMINATION LEVEL
[ ] HIGH [ ] MEDIUM [ ] LOW

666

MATRIX ABBREVIATIONS: D - DRINKING WATER G - GROUNDWATER W - WASTEWATER S - SOIL SL - SLUDGE C - CONCRETE L - LAKE

	APL Lab ID#	Sample Source: Field ID	Date	Time	Sample Type: GRAB	Sample Type: COMP	MATRIX	No. of Bottles	Preservative	Analysis Requested
-01	OU-MW-05I-20230809		08/09/23	0829	✓		GW	10	HCl, NaOH None Hdpe	VOC, SVOC, Pest/PCB/Herb, Tal metals CN
-02	OU-MW-06D-20230809			015	✓		GW	10		
-03		FB-20230809		1025	✓		DI	10		
-04		OU-MW-06S-20230809		1125	✓		GW	10		
-05		OU-MW-07D-20230809		1312	✓			10		
-06		OU-MW-07S-20230809		1413	✓			10		
-07		DUP-20230809		9999	✓			10		
-08		TB-20230809		LAB	✓		DI	2	HCl	VOC

RELINQUISHED BY (Print) Max Mooney	DATE 08/09/23	RECEIVED BY (Print) Alfonso Rivera (APL)	8-9-23 1427
Signature	Time	Signature	
RELINQUISHED BY (Print) Alfonso Rivera (APL)	DATE 8-9-23	RECEIVED BY (Print) Nwbef MP	8/9/23 1728
Signature	Time 1719	Signature	
RELINQUISHED BY (Print)	DATE	RECEIVED BY (Print)	
Signature	Time	Signature	

COMMENTS/SPECIAL INSTRUCTIONS

Cooler Temp. upon receipt at lab 4.0

CERTIFICATIONS: NELAP (National Environmental Laboratory Accredation Program) NJDEP #07010 PADEP #68-02903 NYDOH #11634 CTPH #0233 US ARMY

By signing this Chain of Custody Agreement, customer expressly agrees to pay APL for all charges, reasonably incurred in connection with analysis and reporting for these samples

Extractable Petroleum Hydrocarbons:

Gas Chromatography/Flame Ionization Detector

New Jersey Department of Environmental Protection Site Remediation Program Extractable Petroleum Hydrocarbons Methodology (Version 3.0).
USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8015D or NJDEP Office of Quality Assurance Quantitation of Semi-Volatile Petroleum Products in Water, Soil and Sediment OQA-QAM-025, Revision 6.

Metals:

Inductively-Coupled Plasma Atomic Emission Spectrometry or Inductively-Coupled Plasma Mass Spectroscopy

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 200.7, Method 200.8.
Soil Samples: USEPA Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 6010D.

Mercury:

Cold Vapor Atomic Absorption Spectrometry

Wastewater and Groundwater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 245.1.
Soil Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 7471B.

Volatile Organic Compounds:

Purge and Trap Gas Chromatography/Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Organic Compounds in Drinking Water, Method 524.2.
Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 624.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8260D.

Semi-Volatile Organic Compounds:

Gas Chromatography/Mass Spectroscopy

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 625.1.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update VI, Method 8270E.

PFAS Compounds:

Liquid Chromatography/Tandem Mass Spectroscopy

Drinking Water Samples: USEPA Methods for the Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Method 537 (v1.1).

Pesticides:

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8081B.

Polychlorinated Biphenyls (PCBs):

Gas Chromatography/Electron Capture Detector

Wastewater Samples: USEPA Methods for the Analysis of Water and Wastes, Method 608.3.
Soil and Groundwater Samples: USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods Update III, Method 8082A.

General Chemistry Methods:

Various general chemistry methods are taken from "Standard Methods for the Examination of Water and Wastewater, 22nd Edition", .

Specific method citations can be found on the Analytical Results Summary page of this report listed under 'Method'.

** A complete list of Pace Fairfield's certified Methods are on the Standards And Docs page of the Results Retrieval System

Method Detection Limit (MDL):

The MDL is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. The value is calculated following the guidelines defined in:
"**Definition and Procedure for the Determination of the Method Detection Limit, Revision 2**"
EPA 821-R-16-006, published December 2016.

Reporting Limit (RL):

The RL is the Concentration of the lowest calibration standard that was included in the initial calibration of the instrument. On analytical reports this value is corrected for percent moisture and any concentration or dilution factors.

Concentration (Conc.) / Result:

If the compound is detected, the measured concentration is reported. If this column is "ND", or contains a 'less than' (<) symbol, the compound was not detected.

Tentatively Identified Compound (TIC):

A TIC is a non-targeted compound, not included in the calibration, identified by a mass spectral library search OR requested to be identified and reported by the client.

Abbreviations:

ND	Non-Detect
TNTC	Too Numerous To Count

Qualifiers:

U	Indicates the compound was analyzed for but was not detected.
J	Indicates an estimated value. All tentatively identified compounds (TICs) and results below the RL receive this qualifier.
E	Indicates that the concentration of the compound exceeds the calibration range of the instrument. In most cases the results of a diluted analysis will be reported instead and contain a "**D"** qualifier.
D	Indicates result is based on a dilution. This can occur when an initial analysis was **E** flagged, if historical data indicates a dilution may be appropriate on an initial run, OR if the consistency of the sample is such that the instrument may not perform properly if left undiluted.
H	Indicates a Hold Time violation.
B	Indicates the Analyte was found in the method blank as well as the sample.
N	Used when reporting a specific tentatively identified compound.
P	Greater than 25% diff. between 2 GC columns for a Dual Column Analysis.

QUALITY CONTROL
Conformance/Non-Conformance Summary

ANALYSIS: INORGANICS [200.8 / 200.7 / 245.1]

Methods 200.7 / 200.8:
All samples met the QC criteria.

Method 245.1:
All samples met the QC criteria.

ANALYSIS: PCBs [8082A]

Samples 23H0666-01, -02, -04, -05 and -07 have one surrogate (Tetrachloro-m-xylene) outside of the QC limits (high), due to matrix interferences.

ANALYSIS: PESTICIDES [8081B]

The percent recovery for Endosulfan sulfate was outside of the QC limits for the blank spike (low).

ANALYSIS: SEMI-VOLATILES BY GC/MS [8270E]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for 4-Bromophenyl-phenyl-ether and Hexachlorobenzene were outside of the QC limits for the blank spike (low).

Samples 23H0666-01RE2, -02RE1, -02RE2, -05RE2 and -07RE2 have surrogates diluted outside of the QC limits.

ANALYSIS: VOLATILES BY GC/MS [8260D]

The continuing calibrations were outside of the QC limits for some compounds (low and high).

The percent recoveries for some compounds were outside of the QC limits for the blank spikes and blank spike duplicates (low).

Samples 23H0666-01, -02 and -05 have surrogates outside of the QC limits (high), due to matrix interferences.



Reviewed By: _____ (SK) 11/7/2023
Sudip Pradhan - Laboratory Director — Date

For any questions about your Quality Control, please call us at 973-227-0422.

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.00107		0.000206	0.00100	mg/L	1	8/23/23 9:55
Calcium	106		0.256	1.00	mg/L	1	8/23/23 9:55
Iron	1.52		0.0580	0.200	mg/L	1	8/23/23 9:55
Magnesium	154		0.681	2.00	mg/L	1	8/23/23 9:55
Manganese	0.307		0.000242	0.0100	mg/L	1	8/23/23 9:55
Potassium	95.0		2.41	4.00	mg/L	1	8/23/23 9:55
Sodium	1920	D	2.05	20.0	mg/L	10	8/23/23 11:38

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.870	D	0.00134	0.0100	mg/L	5	8/23/23 15:08

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,4-Dimethylphenol	26.6		0.179	2.00	ug/L	1	8/15/23 18:13
2-Methylnaphthalene	610	D	1.03	30.0	ug/L	10	8/16/23 16:51
3+4-Methylphenol	6.63		0.122	2.00	ug/L	1	8/15/23 18:13
Acenaphthene	52.0		0.100	2.00	ug/L	1	8/15/23 18:13
Acenaphthylene	263	D	1.40	20.0	ug/L	10	8/16/23 16:51
Anthracene	25.7		0.121	2.00	ug/L	1	8/15/23 18:13
Benzo(g,h,i)perylene	2.91		0.0652	2.00	ug/L	1	8/15/23 18:13
Biphenyl	37.8		0.106	2.00	ug/L	1	8/15/23 18:13
Carbazole	16.9		0.188	2.00	ug/L	1	8/15/23 18:13
Chrysene	9.17		0.129	2.00	ug/L	1	8/15/23 18:13
Dibenzofuran	13.0		0.120	2.00	ug/L	1	8/15/23 18:13
Fluoranthene	21.1		0.129	2.00	ug/L	1	8/15/23 18:13
Fluorene	66.8		0.109	2.00	ug/L	1	8/15/23 18:13
Naphthalene	2940	D	6.07	200	ug/L	100	8/16/23 17:21
Phenanthrene	84.4		0.0725	2.00	ug/L	1	8/15/23 18:13
Phenol	4.74		0.0973	2.00	ug/L	1	8/15/23 18:13
Pyrene	27.2		0.115	2.00	ug/L	1	8/15/23 18:13
TIC_1H-Indene, 1-methyl-	5.71	J			ug/L	1	8/15/23 18:13
TIC_6H-Cyclobuta[jk]phenanthrene	27.7	J			ug/L	1	8/15/23 18:13
TIC_Benzene, 1,2,3-trimethyl-	46.8	J			ug/L	1	8/15/23 18:13
TIC_Benzene, 1,3-dimethyl-	196	J			ug/L	1	8/15/23 18:13
TIC_Benzene, 1-butynyl-	6.04	J			ug/L	1	8/15/23 18:13
TIC_Benzene, 1-ethyl-2-methyl-	140	J			ug/L	1	8/15/23 18:13
TIC_Indane	97.1	J			ug/L	1	8/15/23 18:13

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Indene	640	J			ug/L	1	8/15/23 18:13
TIC_Naphthalene, 1,5-dimethyl-	36.1	J			ug/L	1	8/15/23 18:13
TIC_Naphthalene, 1-ethyl-	38.3	J			ug/L	1	8/15/23 18:13
TIC_Naphthalene, 1-methyl-	10.1	J			ug/L	1	8/15/23 18:13
TIC_Naphthalene, 2,3-dimethyl-	69.8	J			ug/L	1	8/15/23 18:13
TIC_Naphthalene, 2,6-dimethyl-	59.0	J			ug/L	1	8/15/23 18:13
TIC_Naphthalene, 2,7-dimethyl-	39.8	J			ug/L	1	8/15/23 18:13

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	150		0.155	1.00	ug/L	1	8/18/23 23:43
Acetone	14.7		10.0	10.0	ug/L	1	8/18/23 23:43
Benzene	1320	D	2.58	20.0	ug/L	20	8/21/23 18:31
Carbon disulfide	3.12		0.477	1.00	ug/L	1	8/18/23 23:43
Chloroform	2.76		0.365	1.00	ug/L	1	8/18/23 23:43
EthylBenzene	392	D	4.88	20.0	ug/L	20	8/21/23 18:31
Isopropylbenzene	11.9		0.275	1.00	ug/L	1	8/18/23 23:43
m+p-Xylenes	468	D	9.22	40.0	ug/L	20	8/21/23 18:31
o-Xylene	242	D	4.88	20.0	ug/L	20	8/21/23 18:31
Styrene	169		0.176	1.00	ug/L	1	8/18/23 23:43
Toluene	425	D	4.10	20.0	ug/L	20	8/21/23 18:31
Total Xylenes	710	D	4.88	20.0	ug/L	20	8/21/23 18:31
TIC_.alpha.-Methylstyrene	4.52	J			ug/L	1	8/18/23 23:43
TIC_Benzene, (2-methyl-1-propenyl)-	4.24	J			ug/L	1	8/18/23 23:43
TIC_Benzene, 1,2,3-trimethyl-	8.13	J			ug/L	1	8/18/23 23:43
TIC_Benzene, 1,3,5-trimethyl-	5.09	J			ug/L	1	8/18/23 23:43
TIC_Benzene, 1-ethenyl-2-methyl-	43.7	J			ug/L	1	8/18/23 23:43
TIC_Benzene, 1-ethenyl-3-methyl-	11.2	J			ug/L	1	8/18/23 23:43
TIC_Benzene, 1-ethyl-2-methyl-	35.4	J			ug/L	1	8/18/23 23:43
TIC_Benzene, ethenylmethyl-	25.2	J			ug/L	1	8/18/23 23:43
TIC_Benzofuran	5.99	J			ug/L	1	8/18/23 23:43
TIC_Indene	329	J			ug/L	1	8/18/23 23:43

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809**

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	0.635		0.0522	0.100	mg/L	1	8/23/23 9:57
Beryllium	0.00198		0.000206	0.00100	mg/L	1	8/23/23 9:57
Calcium	235		0.256	1.00	mg/L	1	8/23/23 9:57
Iron	0.714		0.0580	0.200	mg/L	1	8/23/23 9:57
Magnesium	408		0.681	2.00	mg/L	1	8/23/23 9:57
Manganese	0.803		0.000242	0.0100	mg/L	1	8/23/23 9:57
Potassium	118		2.41	4.00	mg/L	1	8/23/23 9:57
Sodium	3340	D	2.05	20.0	mg/L	10	8/23/23 11:40

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.955	D	0.00134	0.0100	mg/L	5	8/23/23 15:11
Copper	0.0173	D	0.00108	0.0100	mg/L	5	8/23/23 15:11

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	678	D	1.03	30.0	ug/L	10	8/16/23 17:52
3+4-Methylphenol	1.68	J	0.122	2.00	ug/L	1	8/15/23 18:46
Acenaphthene	63.1		0.100	2.00	ug/L	1	8/15/23 18:46
Acenaphthylene	261	D	1.40	20.0	ug/L	10	8/16/23 17:52
Anthracene	17.0		0.121	2.00	ug/L	1	8/15/23 18:46
Benzo(g,h,i)perylene	0.981	J	0.0652	2.00	ug/L	1	8/15/23 18:46
Biphenyl	42.0		0.106	2.00	ug/L	1	8/15/23 18:46
Carbazole	20.0		0.188	2.00	ug/L	1	8/15/23 18:46
Chrysene	3.90		0.129	2.00	ug/L	1	8/15/23 18:46
Dibenzofuran	10.6		0.120	2.00	ug/L	1	8/15/23 18:46
Fluoranthene	10.1		0.129	2.00	ug/L	1	8/15/23 18:46
Fluorene	68.3		0.109	2.00	ug/L	1	8/15/23 18:46
Naphthalene	3970	D	6.07	200	ug/L	100	8/16/23 18:22
Phenanthrene	65.2		0.0725	2.00	ug/L	1	8/15/23 18:46
Phenol	0.982	J	0.0973	2.00	ug/L	1	8/15/23 18:46
Pyrene	14.5		0.115	2.00	ug/L	1	8/15/23 18:46
TIC_1H-Indene, 1-methyl-	5.59	J			ug/L	1	8/15/23 18:46
TIC_2-Methylindene	6.11	J			ug/L	1	8/15/23 18:46
TIC_Benzene, 1,3,5-trimethyl-	68.6	J			ug/L	1	8/15/23 18:46
TIC_Benzene, 1-ethenyl-3-methyl-	211	J			ug/L	1	8/15/23 18:46
TIC_Benzene, 1-propynyl-	783	J			ug/L	1	8/15/23 18:46
TIC_Benzene, 2-propenyl-	140	J			ug/L	1	8/15/23 18:46

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Naphthalene, 1,2-dimethyl-	33.1	J			ug/L	1	8/15/23 18:46
TIC_Naphthalene, 1,3-dimethyl-	48.1	J			ug/L	1	8/15/23 18:46
TIC_Naphthalene, 1-methyl-	9.76	J			ug/L	1	8/15/23 18:46
TIC_Naphthalene, 2,3-dimethyl-	58.1	J			ug/L	1	8/15/23 18:46
TIC_p-Xylene	229	J			ug/L	1	8/15/23 18:46

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	174	D	3.10	20.0	ug/L	20	8/23/23 11:15
Benzene	340	D	2.58	20.0	ug/L	20	8/23/23 11:15
Carbon disulfide	1.13		0.477	1.00	ug/L	1	8/18/23 15:02
Chloroform	2.83		0.365	1.00	ug/L	1	8/18/23 15:02
EthylBenzene	755	D	4.88	20.0	ug/L	20	8/23/23 11:15
Isopropylbenzene	20.5		0.275	1.00	ug/L	1	8/18/23 15:02
m+p-Xylenes	582	D	9.22	40.0	ug/L	20	8/23/23 11:15
o-Xylene	311	D	4.88	20.0	ug/L	20	8/23/23 11:15
Styrene	117		0.176	1.00	ug/L	1	8/18/23 15:02
Toluene	782	D	4.10	20.0	ug/L	20	8/23/23 11:15
Total Xylenes	893	D	4.88	20.0	ug/L	20	8/23/23 11:15
TIC_1H-Indene, 1-methyl-	4.99	J			ug/L	1	8/18/23 15:02
TIC_2-Methylindene	4.98	J			ug/L	1	8/18/23 15:02
TIC_4-Phenylbut-3-ene-1-yne	163	J			ug/L	1	8/18/23 15:02
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	23.3	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1,2,3,5-tetramethyl-	5.27	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1,2,3-trimethyl-	12.0	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1-butynyl-	33.9	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1-ethenyl-2-methyl-	16.0	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1-ethenyl-3-methyl-	31.6	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1-ethyl-2-methyl-	48.2	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 1-ethyl-4-methyl-	4.70	J			ug/L	1	8/18/23 15:02
TIC_Benzene, 2-butenyl-	5.18	J			ug/L	1	8/18/23 15:02
TIC_Benzo[c]thiophene	11.0	J			ug/L	1	8/18/23 15:02
TIC_Indene	233	J			ug/L	1	8/18/23 15:02

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-02 (Ground Water) Sample Name: OH-MW-06D-20230809

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Tetracyclo[3.3.1.0(2,8).0(4,6)]-non-2-en	57.6	J			ug/L	1	8/18/23 15:02

23H0666-03 (Ground Water) Sample Name: FB-20230809

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_2-Butenal, 3-methyl-	7.11	J			ug/L	1	8/21/23 19:14
TIC_Pyrrolidine	5.55	J			ug/L	1	8/21/23 19:14

23H0666-04 (Ground Water) Sample Name: OH-MW-06S-20230809

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	150		0.256	1.00	mg/L	1	8/23/23 10:01
Iron	11.6		0.0580	0.200	mg/L	1	8/23/23 10:01
Magnesium	69.6		0.681	2.00	mg/L	1	8/23/23 10:01
Manganese	0.764		0.000242	0.0100	mg/L	1	8/23/23 10:01
Potassium	74.7		2.41	4.00	mg/L	1	8/23/23 10:01
Sodium	517	D	2.05	20.0	mg/L	10	8/23/23 11:42

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.184	D	0.00134	0.0100	mg/L	5	8/23/23 15:16

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	10.3		0.103	3.00	ug/L	1	8/15/23 19:19
Acenaphthene	39.4		0.100	2.00	ug/L	1	8/15/23 19:19
Acenaphthylene	1.28	J	0.140	2.00	ug/L	1	8/15/23 19:19
Anthracene	4.72		0.121	2.00	ug/L	1	8/15/23 19:19
Carbazole	17.1		0.188	2.00	ug/L	1	8/15/23 19:19
Chrysene	0.466	J	0.129	2.00	ug/L	1	8/15/23 19:19
Dibenzofuran	18.7		0.120	2.00	ug/L	1	8/15/23 19:19
Dimethylphthalate	1.16	J	0.388	2.00	ug/L	1	8/15/23 19:19
Fluoranthene	3.61		0.129	2.00	ug/L	1	8/15/23 19:19
Fluorene	24.1		0.109	2.00	ug/L	1	8/15/23 19:19
Naphthalene	5.70		0.0607	2.00	ug/L	1	8/15/23 19:19
Phenanthrene	19.4		0.0725	2.00	ug/L	1	8/15/23 19:19

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Pyrene	2.44		0.115	2.00	ug/L	1	8/15/23 19:19
TIC_2-Methylindene	10.5	J			ug/L	1	8/15/23 19:19
TIC_Benzene, 1,2,3-trimethyl-	13.8	J			ug/L	1	8/15/23 19:19
TIC_Benzene, 1,2,4-trimethyl-	8.00	J			ug/L	1	8/15/23 19:19
TIC_Benzene, 1,3,5-trimethyl-	8.19	J			ug/L	1	8/15/23 19:19
TIC_Benzene, 1-butenyl-, (E)-	13.8	J			ug/L	1	8/15/23 19:19
TIC_Benzene, 1-ethyl-4-methyl-	12.2	J			ug/L	1	8/15/23 19:19
TIC_Benzofuran, 7-methyl-	18.2	J			ug/L	1	8/15/23 19:19
TIC_Dibenz[B,F][1,4]oxazepine	7.89	J			ug/L	1	8/15/23 19:19
TIC_Indan, 1-methyl-	8.84	J			ug/L	1	8/15/23 19:19
TIC_Indane	148	J			ug/L	1	8/15/23 19:19
TIC_Naphthalene, 1,6-dimethyl-	8.58	J			ug/L	1	8/15/23 19:19
TIC_Naphthalene, 1-methyl-	39.1	J			ug/L	1	8/15/23 19:19
TIC_Naphthalene, 2,7-dimethyl-	9.48	J			ug/L	1	8/15/23 19:19
TIC_unknown (01)	12.3	J			ug/L	1	8/15/23 19:19
TIC_unknown (02)	12.8	J			ug/L	1	8/15/23 19:19

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	6.11		0.155	1.00	ug/L	1	8/18/23 15:54
Benzene	8.54		0.129	1.00	ug/L	1	8/18/23 15:54
Carbon disulfide	1.93		0.477	1.00	ug/L	1	8/18/23 15:54
EthylBenzene	2.26		0.244	1.00	ug/L	1	8/18/23 15:54
Isopropylbenzene	3.69		0.275	1.00	ug/L	1	8/18/23 15:54
m+p-Xylenes	2.79		0.461	2.00	ug/L	1	8/18/23 15:54
o-Xylene	2.51		0.244	1.00	ug/L	1	8/18/23 15:54
Toluene	0.656	J	0.205	1.00	ug/L	1	8/18/23 15:54
Total Xylenes	5.30		0.244	1.00	ug/L	1	8/18/23 15:54
TIC_Benzene, (1-methyl-1-propenyl)-, (E)-	3.90	J			ug/L	1	8/18/23 15:54
TIC_Benzene, 1-propynyl-	3.14	J			ug/L	1	8/18/23 15:54
TIC_Benzene, 2-ethenyl-1,4-dimethyl-	3.21	J			ug/L	1	8/18/23 15:54
TIC_Benzofuran, 2-methyl-	4.36	J			ug/L	1	8/18/23 15:54
TIC_Benzofuran, 7-methyl-	4.78	J			ug/L	1	8/18/23 15:54
TIC_Indane	128	J			ug/L	1	8/18/23 15:54
TIC_TIC:Naphthalene	32.9	J			ug/L	1	8/18/23 15:54

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Beryllium	0.00188		0.000206	0.00100	mg/L	1	8/23/23 10:04
Calcium	262		0.256	1.00	mg/L	1	8/23/23 10:04
Iron	2.97		0.0580	0.200	mg/L	1	8/23/23 10:04
Magnesium	382		0.681	2.00	mg/L	1	8/23/23 10:04
Manganese	0.621		0.000242	0.0100	mg/L	1	8/23/23 10:04
Potassium	144		2.41	4.00	mg/L	1	8/23/23 10:04
Sodium	3360	D	2.05	20.0	mg/L	10	8/23/23 11:45

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.596	D	0.00134	0.0100	mg/L	5	8/23/23 15:18
Copper	0.0133	D	0.00108	0.0100	mg/L	5	8/23/23 15:18

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	551	D	1.03	30.0	ug/L	10	8/23/23 23:31
Acenaphthene	85.5		0.100	2.00	ug/L	1	8/21/23 19:45
Acenaphthylene	101		0.140	2.00	ug/L	1	8/21/23 19:45
Anthracene	12.5		0.121	2.00	ug/L	1	8/21/23 19:45
Biphenyl	35.9		0.106	2.00	ug/L	1	8/21/23 19:45
Carbazole	14.7		0.188	2.00	ug/L	1	8/21/23 19:45
Chrysene	0.700	J	0.129	2.00	ug/L	1	8/21/23 19:45
Dibenzofuran	23.6		0.120	2.00	ug/L	1	8/21/23 19:45
Fluoranthene	5.33		0.129	2.00	ug/L	1	8/21/23 19:45
Fluorene	59.4		0.109	2.00	ug/L	1	8/21/23 19:45
Naphthalene	1440	D	3.04	100	ug/L	50	8/28/23 12:22
Phenanthrene	64.0		0.0725	2.00	ug/L	1	8/21/23 19:45
Pyrene	6.58		0.115	2.00	ug/L	1	8/21/23 19:45
TIC_Benzene, 1-ethyl-3-methyl-	37.0	J			ug/L	1	8/21/23 19:45
TIC_Indane	73.5	J			ug/L	1	8/21/23 19:45
TIC_Indene	270	J			ug/L	1	8/21/23 19:45
TIC_Naphthalene, 1-ethyl-	29.0	J			ug/L	1	8/21/23 19:45
TIC_Naphthalene, 1-methyl-	10.4	J			ug/L	1	8/21/23 19:45
TIC_Naphthalene, 2,3-dimethyl-	53.1	J			ug/L	1	8/21/23 19:45
TIC_Naphthalene, 2,6-dimethyl-	38.8	J			ug/L	1	8/21/23 19:45
TIC_unknown (01)	72.7	J			ug/L	1	8/21/23 19:45
TIC_unknown (02)	113	J			ug/L	1	8/21/23 19:45

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	74.3		0.155	1.00	ug/L	1	8/18/23 16:20
Benzene	73.1		0.129	1.00	ug/L	1	8/18/23 16:20
Chloroform	0.618	J	0.365	1.00	ug/L	1	8/18/23 16:20
EthylBenzene	186	D	4.88	20.0	ug/L	20	8/21/23 18:58
Isopropylbenzene	4.89		0.275	1.00	ug/L	1	8/18/23 16:20
m+p-Xylenes	160		0.461	2.00	ug/L	1	8/18/23 16:20
o-Xylene	88.2		0.244	1.00	ug/L	1	8/18/23 16:20
Styrene	33.9		0.176	1.00	ug/L	1	8/18/23 16:20
Toluene	234	D	4.10	20.0	ug/L	20	8/21/23 18:58
Total Xylenes	248		0.244	1.00	ug/L	1	8/18/23 16:20
TIC_1,2-Butadiene, 3-phenyl-	34.8	J			ug/L	1	8/18/23 16:20
TIC_2-Methylindene	8.99	J			ug/L	1	8/18/23 16:20
TIC_4-Phenylbut-3-ene-1-yne	383	J			ug/L	1	8/18/23 16:20
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-(01)	25.1	J			ug/L	1	8/18/23 16:20
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-(02)	6.39	J			ug/L	1	8/18/23 16:20
TIC_Benzene, (2-methyl-1-propenyl)-	7.04	J			ug/L	1	8/18/23 16:20
TIC_Benzene, 1,2,3,5-tetramethyl-	7.65	J			ug/L	1	8/18/23 16:20
TIC_Benzene, 1,2,3-trimethyl-	9.49	J			ug/L	1	8/18/23 16:20
TIC_Benzene, 1-ethenyl-3-methyl-	28.5	J			ug/L	1	8/18/23 16:20
TIC_Benzene, 1-ethyl-2-methyl-	26.9	J			ug/L	1	8/18/23 16:20
TIC_Benzene, 1-ethynyl-4-methyl-	207	J			ug/L	1	8/18/23 16:20
TIC_Benzene, 1-propenyl-	12.2	J			ug/L	1	8/18/23 16:20
TIC_Benzene, methyl(1-methylethenyl)-	7.15	J			ug/L	1	8/18/23 16:20
TIC_Benzo[c]thiophene	8.56	J			ug/L	1	8/18/23 16:20
TIC_Indane	47.6	J			ug/L	1	8/18/23 16:20

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	0.438		0.0522	0.100	mg/L	1	8/23/23 10:06
Beryllium	0.00288		0.000206	0.00100	mg/L	1	8/23/23 10:06

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Calcium	243		0.256	1.00	mg/L	1	8/23/23 10:06
Magnesium	597		0.681	2.00	mg/L	1	8/23/23 10:06
Manganese	0.0535		0.000242	0.0100	mg/L	1	8/23/23 10:06
Potassium	249		2.41	4.00	mg/L	1	8/23/23 10:06
Sodium	6300	D	20.5	200	mg/L	100	8/23/23 12:00

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Arsenic	0.0129	D	0.00136	0.0100	mg/L	5	8/23/23 15:21
Barium	0.108	D	0.00134	0.0100	mg/L	5	8/23/23 15:21
Copper	0.0411	D	0.00108	0.0100	mg/L	5	8/23/23 15:21
Lead	0.0179	D	0.00169	0.0100	mg/L	5	8/23/23 15:21
Nickel	0.0137	D	0.00150	0.0100	mg/L	5	8/23/23 15:21
Zinc	0.156	D	0.00274	0.150	mg/L	5	8/23/23 15:21

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	8.47		0.103	3.00	ug/L	1	8/21/23 20:17
Acenaphthene	48.3		0.100	2.00	ug/L	1	8/21/23 20:17
Acenaphthylene	0.921	J	0.140	2.00	ug/L	1	8/21/23 20:17
Anthracene	12.7		0.121	2.00	ug/L	1	8/21/23 20:17
Benzo(g,h,i)perylene	1.21	J	0.0652	2.00	ug/L	1	8/21/23 20:17
Biphenyl	3.51		0.106	2.00	ug/L	1	8/21/23 20:17
Carbazole	6.41		0.188	2.00	ug/L	1	8/21/23 20:17
Chrysene	1.43	J	0.129	2.00	ug/L	1	8/21/23 20:17
Dibenzofuran	27.2		0.120	2.00	ug/L	1	8/21/23 20:17
Fluoranthene	12.1		0.129	2.00	ug/L	1	8/21/23 20:17
Fluorene	27.0		0.109	2.00	ug/L	1	8/21/23 20:17
Naphthalene	67.3		0.0607	2.00	ug/L	1	8/21/23 20:17
Phenanthrene	40.3		0.0725	2.00	ug/L	1	8/21/23 20:17
Pyrene	8.95		0.115	2.00	ug/L	1	8/21/23 20:17
TIC_2-Butenal, 3-methyl-	5.33	J			ug/L	1	8/21/23 20:17
TIC_3,3-Dimethyl-2-pentanol	4.57	J			ug/L	1	8/21/23 20:17
TIC_Naphthalene, 1,6-dimethyl-	14.6	J			ug/L	1	8/21/23 20:17
TIC_Naphthalene, 1-methyl-	36.3	J			ug/L	1	8/21/23 20:17
TIC_Naphthalene, 2,3-dimethyl-	4.86	J			ug/L	1	8/21/23 20:17
TIC_Naphthalene, 2,6-dimethyl-	5.25	J			ug/L	1	8/21/23 20:17

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Naphthalene, 2,7-dimethyl-	9.27	J			ug/L	1	8/21/23 20:17
TIC_Naphthalene, 2-ethyl-	6.49	J			ug/L	1	8/21/23 20:17
TIC_unknown (01)	7.44	J			ug/L	1	8/21/23 20:17
TIC_unknown (02)	4.28	J			ug/L	1	8/21/23 20:17
TIC_unknown (03)	4.76	J			ug/L	1	8/21/23 20:17
TIC_unknown (04)	8.05	J			ug/L	1	8/21/23 20:17

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	1.01		0.155	1.00	ug/L	1	8/21/23 16:40
EthylBenzene	0.688	J	0.244	1.00	ug/L	1	8/21/23 16:40
Isopropylbenzene	0.556	J	0.275	1.00	ug/L	1	8/21/23 16:40
Total Xylenes	0.347	J	0.244	1.00	ug/L	1	8/21/23 16:40
TIC_TIC:Naphthalene	64.8	J			ug/L	1	8/21/23 16:40

23H0666-07 (Ground Water) Sample Name: **DUP-20230809**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	0.521		0.0522	0.100	mg/L	1	8/23/23 10:08
Beryllium	0.00184		0.000206	0.00100	mg/L	1	8/23/23 10:08
Calcium	250		0.256	1.00	mg/L	1	8/23/23 10:08
Iron	6.01		0.0580	0.200	mg/L	1	8/23/23 10:08
Magnesium	365		0.681	2.00	mg/L	1	8/23/23 10:08
Manganese	0.610		0.000242	0.0100	mg/L	1	8/23/23 10:08
Potassium	140		2.41	4.00	mg/L	1	8/23/23 10:08
Sodium	3480	D	2.05	20.0	mg/L	10	8/23/23 11:49

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Barium	0.585	D	0.00134	0.0100	mg/L	5	8/23/23 15:23
Copper	0.0195	D	0.00108	0.0100	mg/L	5	8/23/23 15:23

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	508	D	1.03	30.0	ug/L	10	8/24/23 0:03
Acenaphthene	80.3		0.100	2.00	ug/L	1	8/21/23 20:49
Acenaphthylene	96.8		0.140	2.00	ug/L	1	8/21/23 20:49
Anthracene	12.5		0.121	2.00	ug/L	1	8/21/23 20:49

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Positive Results Only Summary

Pace Analytical Services, LLC-Fairfield

23H0666-07 (Ground Water) Sample Name: **DUP-20230809**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Biphenyl	32.9		0.106	2.00	ug/L	1	8/21/23 20:49
Carbazole	13.6		0.188	2.00	ug/L	1	8/21/23 20:49
Chrysene	1.01	J	0.129	2.00	ug/L	1	8/21/23 20:49
Dibenzofuran	22.1		0.120	2.00	ug/L	1	8/21/23 20:49
Fluoranthene	6.08		0.129	2.00	ug/L	1	8/21/23 20:49
Fluorene	55.6		0.109	2.00	ug/L	1	8/21/23 20:49
Naphthalene	1440	D	3.04	100	ug/L	50	8/28/23 12:55
Phenanthrene	61.2		0.0725	2.00	ug/L	1	8/21/23 20:49
Pyrene	7.42		0.115	2.00	ug/L	1	8/21/23 20:49
TIC_Benzene, 1,3-dimethyl-	63.3	J			ug/L	1	8/21/23 20:49
TIC_Benzene, 1-ethyl-3-methyl-	33.3	J			ug/L	1	8/21/23 20:49
TIC_Indane	66.8	J			ug/L	1	8/21/23 20:49
TIC_Indene	250	J			ug/L	1	8/21/23 20:49
TIC_Naphthalene, 1,3-dimethyl-	28.7	J			ug/L	1	8/21/23 20:49
TIC_Naphthalene, 1-methyl-	10.3	J			ug/L	1	8/21/23 20:49
TIC_Naphthalene, 2,3-dimethyl-	50.4	J			ug/L	1	8/21/23 20:49
TIC_Naphthalene, 2,6-dimethyl-	37.8	J			ug/L	1	8/21/23 20:49
TIC_Naphthalene, 2-ethyl-	27.7	J			ug/L	1	8/21/23 20:49
TIC_unknown	101	J			ug/L	1	8/21/23 20:49

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,2,4-Trimethylbenzene	74.5		0.155	1.00	ug/L	1	8/18/23 17:12
Benzene	74.9		0.129	1.00	ug/L	1	8/18/23 17:12
Chloroform	0.492	J	0.365	1.00	ug/L	1	8/18/23 17:12
EthylBenzene	189	D	4.88	20.0	ug/L	20	8/21/23 19:24
Isopropylbenzene	5.16		0.275	1.00	ug/L	1	8/18/23 17:12
m+p-Xylenes	155		0.461	2.00	ug/L	1	8/18/23 17:12
o-Xylene	86.6		0.244	1.00	ug/L	1	8/18/23 17:12
Styrene	33.2		0.176	1.00	ug/L	1	8/18/23 17:12
Toluene	238	D	4.10	20.0	ug/L	20	8/21/23 19:24
Total Xylenes	242		0.244	1.00	ug/L	1	8/18/23 17:12
TIC_1H-Indene, 1-methyl-	6.52	J			ug/L	1	8/18/23 17:12
TIC_2-Methylindene	26.9	J			ug/L	1	8/18/23 17:12
TIC_4-Phenylbut-3-ene-1-yne	371	J			ug/L	1	8/18/23 17:12
TIC_Benzene, (1-methyl-2-cyclopropen-1-yl)-	35.9	J			ug/L	1	8/18/23 17:12

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

PEOPLE ADVANCING SCIENCE

Pace Analytical Services, LLC-Fairfield

Positive Results Only Summary

23H0666-07 (Ground Water) Sample Name: **DUP-20230809**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
TIC_Benzene, 1,2,3,4-tetramethyl-	7.67	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 1,2,3-trimethyl-	9.66	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 1,2-propadienyl-	207	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 1-ethenyl-3-methyl-	28.4	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 1-ethyl-2-methyl-	24.5	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 1-propenyl-	12.1	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 2-butenyl-	7.41	J			ug/L	1	8/18/23 17:12
TIC_Benzene, 2-ethyl-1,3-dimethyl-	5.32	J			ug/L	1	8/18/23 17:12
TIC_Benzo[c]thiophene	9.00	J			ug/L	1	8/18/23 17:12
TIC_Cycloprop[a]indene, 1,1a,6,6a-tetrahydro	9.16	J			ug/L	1	8/18/23 17:12
TIC_Indane	46.2	J			ug/L	1	8/18/23 17:12

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809** Collected: **8/9/2023 8:29:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0540	0.543	ug/L	1	8/15/23 13:28
Aroclor-1221	ND	U	0.382	0.543	ug/L	1	8/15/23 13:28
Aroclor-1232	ND	U	0.119	0.543	ug/L	1	8/15/23 13:28
Aroclor-1242	ND	U	0.202	0.543	ug/L	1	8/15/23 13:28
Aroclor-1248	ND	U	0.101	0.543	ug/L	1	8/15/23 13:28
Aroclor-1254	ND	U	0.112	0.543	ug/L	1	8/15/23 13:28
Aroclor-1260	ND	U	0.0852	0.543	ug/L	1	8/15/23 13:28
Aroclor-1262	ND	U	0.184	0.543	ug/L	1	8/15/23 13:28
Aroclor-1268	ND	U	0.173	0.543	ug/L	1	8/15/23 13:28
Total PCBs	ND	U	0.0540	0.543	ug/L	1	8/15/23 13:28

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 15:42

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	8/23/23 9:55
Beryllium	**0.00107**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/23/23 9:55**
Calcium	**106**		**0.256**	**1.00**	**mg/L**	**1**	**8/23/23 9:55**
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 9:55
Iron	**1.52**		**0.0580**	**0.200**	**mg/L**	**1**	**8/23/23 9:55**
Magnesium	**154**		**0.681**	**2.00**	**mg/L**	**1**	**8/23/23 9:55**
Manganese	**0.307**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/23/23 9:55**
Potassium	**95.0**		**2.41**	**4.00**	**mg/L**	**1**	**8/23/23 9:55**
Sodium	**1920**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/23/23 11:38**
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 9:55

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:08
Arsenic	ND	U	0.00136	0.0100	mg/L	5	8/23/23 15:08
Barium	**0.870**	D	**0.00134**	**0.0100**	**mg/L**	**5**	**8/23/23 15:08**
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:08
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:08
Copper	ND	U	0.00108	0.0100	mg/L	5	8/23/23 15:08
Lead	ND	U	0.00169	0.0100	mg/L	5	8/23/23 15:08
Nickel	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:08
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:08

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809** Collected: **8/9/2023 8:29:00AM**

EPA 200.8 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:08
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:08
Zinc	ND	U	0.00274	0.150	mg/L	5	8/23/23 15:08

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000411	0.0217	ug/L	1	8/14/23 20:37
4,4'-DDE	ND	U	0.000254	0.0217	ug/L	1	8/14/23 20:37
4,4'-DDT	ND	U	0.000347	0.0217	ug/L	1	8/14/23 20:37
Aldrin	ND	U	0.000573	0.0217	ug/L	1	8/14/23 20:37
alpha-BHC	ND	U	0.000277	0.0217	ug/L	1	8/14/23 20:37
beta-BHC	ND	U	0.000403	0.0217	ug/L	1	8/14/23 20:37
Chlordane	ND	U	0.000355	0.0543	ug/L	1	8/14/23 20:37
delta-BHC	ND	U	0.000348	0.0217	ug/L	1	8/14/23 20:37
Dieldrin	ND	U	0.000295	0.0217	ug/L	1	8/14/23 20:37
Endosulfan I	ND	U	0.000413	0.0217	ug/L	1	8/14/23 20:37
Endosulfan II	ND	U	0.000276	0.0217	ug/L	1	8/14/23 20:37
Endosulfan sulfate	ND	U	0.000150	0.0217	ug/L	1	8/14/23 20:37 UJ, RC:6L
Endrin	ND	U	0.000249	0.0217	ug/L	1	8/14/23 20:37
Endrin aldehyde	ND	U	0.000346	0.0217	ug/L	1	8/14/23 20:37
Endrin ketone	ND	U	0.000221	0.0217	ug/L	1	8/14/23 20:37
gamma-BHC (Lindane)	ND	U	0.000262	0.0217	ug/L	1	8/14/23 20:37
Heptachlor	ND	U	0.000612	0.0217	ug/L	1	8/14/23 20:37
Heptachlor Epoxide	ND	U	0.000328	0.0217	ug/L	1	8/14/23 20:37
Methoxychlor	ND	U	0.000373	0.0217	ug/L	1	8/14/23 20:37
Toxaphene	ND	U	0.0258	0.217	ug/L	1	8/14/23 20:37

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/15/23 18:13
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/15/23 18:13
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/15/23 18:13
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/15/23 18:13
2,4-Dimethylphenol	**26.6**		**0.179**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/15/23 18:13
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/15/23 18:13
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/15/23 18:13
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/15/23 18:13
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/15/23 18:13

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809** Collected: **8/9/2023 8:29:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2-Methylnaphthalene	**610**	D	**1.03**	**30.0**	**ug/L**	**10**	**8/16/23 16:51**
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/15/23 18:13
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/15/23 18:13
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/15/23 18:13
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/15/23 18:13
3+4-Methylphenol	**6.63**		**0.122**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/15/23 18:13
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/15/23 18:13
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/15/23 18:13
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/15/23 18:13
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/15/23 18:13
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/15/23 18:13
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/15/23 18:13
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/15/23 18:13
Acenaphthene	**52.0**		**0.100**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Acenaphthylene	**263**	D	**1.40**	**20.0**	**ug/L**	**10**	**8/16/23 16:51**
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/15/23 18:13
Anthracene	**25.7**		**0.121**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/15/23 18:13
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/15/23 18:13
Benzo(g,h,i)perylene	**2.91**		**0.0652**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Biphenyl	**37.8**		**0.106**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/15/23 18:13
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/15/23 18:13
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/15/23 18:13
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/15/23 18:13
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/15/23 18:13
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/15/23 18:13
Carbazole	**16.9**		**0.188**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Chrysene	**9.17**		**0.129**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Dibenzofuran	**13.0**		**0.120**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/15/23 18:13
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/15/23 18:13
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/15/23 18:13
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/15/23 18:13
Fluoranthene	**21.1**		**0.129**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Fluorene	**66.8**		**0.109**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/15/23 18:13
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/15/23 18:13

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809** Collected: **8/9/2023 8:29:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isophorone	ND	U	0.111	2.00	ug/L	1	8/15/23 18:13
Naphthalene	**2940**	D	**6.07**	**200**	**ug/L**	**100**	**8/16/23 17:21**
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/15/23 18:13
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/15/23 18:13
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/15/23 18:13
Phenanthrene	**84.4**		**0.0725**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Phenol	**4.74**		**0.0973**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**
Pyrene	**27.2**		**0.115**	**2.00**	**ug/L**	**1**	**8/15/23 18:13**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	5.71	7.27	J	ug/L	1	8/15/23 18:13
6H-Cyclobuta[jk]phenanthrene	27.7	11.38	J	ug/L	1	8/15/23 18:13
Benzene, 1,2,3-trimethyl-	46.8	6.28	J	ug/L	1	8/15/23 18:13
Benzene, 1,3-dimethyl-	196	5.18	J	ug/L	1	8/15/23 18:13
Benzene, 1-butynyl-	6.04	7.23	J	ug/L	1	8/15/23 18:13
Benzene, 1-ethyl-2-methyl-	140	6.05	J	ug/L	1	8/15/23 18:13
Indane	97.1	6.41	J	ug/L	1	8/15/23 18:13
Indene	640	6.50	J	ug/L	1	8/15/23 18:13
Naphthalene, 1,5-dimethyl-	36.1	9.02	J	ug/L	1	8/15/23 18:13
Naphthalene, 1-ethyl-	38.3	8.76	J	ug/L	1	8/15/23 18:13
Naphthalene, 1-methyl-	10.1	8.31	J	ug/L	1	8/15/23 18:13
Naphthalene, 2,3-dimethyl-	69.8	8.90	J	ug/L	1	8/15/23 18:13
Naphthalene, 2,6-dimethyl-	59.0	8.83	J	ug/L	1	8/15/23 18:13
Naphthalene, 2,7-dimethyl-	39.8	8.93	J	ug/L	1	8/15/23 18:13
TIC Total	**1,410**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/18/23 23:43
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/18/23 23:43
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/18/23 23:43
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/18/23 23:43
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/18/23 23:43
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/18/23 23:43
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/18/23 23:43
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/18/23 23:43

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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809** Collected: **8/9/2023 8:29:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2,4-Trimethylbenzene	**150**		**0.155**	**1.00**	**ug/L**	**1**	**8/18/23 23:43**	J, RC:3H
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/18/23 23:43	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/18/23 23:43	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/18/23 23:43	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/18/23 23:43	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/18/23 23:43	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/18/23 23:43	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/18/23 23:43	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/18/23 23:43	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/18/23 23:43	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/18/23 23:43	
Acetone	**14.7**		**10.0**	**10.0**	**ug/L**	**1**	**8/18/23 23:43**	J, RC:SH,3H
Benzene	**1320**	D	**2.58**	**20.0**	**ug/L**	**20**	**8/21/23 18:31**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/18/23 23:43	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/18/23 23:43	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/18/23 23:43	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/18/23 23:43	
Carbon disulfide	**3.12**		**0.477**	**1.00**	**ug/L**	**1**	**8/18/23 23:43**	J, RC:3H
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/18/23 23:43	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/18/23 23:43	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/18/23 23:43	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/18/23 23:43	
Chloroform	**2.76**		**0.365**	**1.00**	**ug/L**	**1**	**8/18/23 23:43**	J, RC:3H
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/18/23 23:43	UJ, RC:SL
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/18/23 23:43	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/18/23 23:43	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/18/23 23:43	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/18/23 23:43	
EthylBenzene	**392**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/21/23 18:31**	
Isopropylbenzene	**11.9**		**0.275**	**1.00**	**ug/L**	**1**	**8/18/23 23:43**	J, RC:3H
m+p-Xylenes	**468**	D	**9.22**	**40.0**	**ug/L**	**20**	**8/21/23 18:31**	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/18/23 23:43	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/18/23 23:43	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/18/23 23:43	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/18/23 23:43	
o-Xylene	**242**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/21/23 18:31**	
Styrene	**169**		**0.176**	**1.00**	**ug/L**	**1**	**8/18/23 23:43**	J, RC:3H
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/18/23 23:43	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/18/23 23:43	

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-01 (Ground Water) Sample Name: **OH-MW-05I-20230809** Collected: **8/9/2023 8:29:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Toluene	**425**	D	**4.10**	**20.0**	**ug/L**	**20**	**8/21/23 18:31**	
Total Xylenes	**710**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/21/23 18:31**	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/18/23 23:43	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/18/23 23:43	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/18/23 23:43	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/18/23 23:43	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/18/23 23:43	UJ, RC:SL

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
.alpha.-Methylstyrene	4.52	17.24	J	ug/L	1	8/18/23 23:43
Benzene, (2-methyl-1-propenyl)-	4.24	19.42	J	ug/L	1	8/18/23 23:43
Benzene, 1,2,3-trimethyl-	8.13	16.72	J	ug/L	1	8/18/23 23:43
Benzene, 1,3,5-trimethyl-	5.09	17.16	J	ug/L	1	8/18/23 23:43
Benzene, 1-ethenyl-2-methyl-	43.7	18.78	J	ug/L	1	8/18/23 23:43
Benzene, 1-ethenyl-3-methyl-	11.2	17.62	J	ug/L	1	8/18/23 23:43
Benzene, 1-ethyl-2-methyl-	35.4	16.63	J	ug/L	1	8/18/23 23:43
Benzene, ethenylmethyl-	25.2	17.52	J	ug/L	1	8/18/23 23:43
Benzofuran	5.99	18.10	J	ug/L	1	8/18/23 23:43
Indene	329	19.12	J	ug/L	1	8/18/23 23:43
TIC Total	**473**					

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 13:50
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 13:50
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 13:50
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 13:50
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 13:50
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 13:50
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 13:50
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 13:50
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 13:50
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 13:50

ND, U - Indicates compound analyzed for but not detected
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B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 15:50

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**0.635**		**0.0522**	**0.100**	**mg/L**	**1**	**8/23/23 9:57**
Beryllium	**0.00198**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/23/23 9:57**
Calcium	**235**		**0.256**	**1.00**	**mg/L**	**1**	**8/23/23 9:57**
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 9:57
Iron	**0.714**		**0.0580**	**0.200**	**mg/L**	**1**	**8/23/23 9:57**
Magnesium	**408**		**0.681**	**2.00**	**mg/L**	**1**	**8/23/23 9:57**
Manganese	**0.803**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/23/23 9:57**
Potassium	**118**		**2.41**	**4.00**	**mg/L**	**1**	**8/23/23 9:57**
Sodium	**3340**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/23/23 11:40**
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 9:57

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:11
Arsenic	ND	U	0.00136	0.0100	mg/L	5	8/23/23 15:11
Barium	**0.955**	D	**0.00134**	**0.0100**	**mg/L**	**5**	**8/23/23 15:11**
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:11
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:11
Copper	**0.0173**	D	**0.00108**	**0.0100**	**mg/L**	**5**	**8/23/23 15:11**
Lead	ND	U	0.00169	0.0100	mg/L	5	8/23/23 15:11
Nickel	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:11
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:11
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:11
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:11
Zinc	ND	U	0.00274	0.150	mg/L	5	8/23/23 15:11

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 20:55
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 20:55
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 20:55
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 20:55
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 20:55
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 20:55
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 20:55

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D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 20:55	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 20:55	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 20:55	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 20:55	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 20:55	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 20:55	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 20:55	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 20:55	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 20:55	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 20:55	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 20:55	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 20:55	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 20:55	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/15/23 18:46
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/15/23 18:46
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/15/23 18:46
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/15/23 18:46
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/15/23 18:46
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/15/23 18:46
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/15/23 18:46
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/15/23 18:46
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/15/23 18:46
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/15/23 18:46
2-Methylnaphthalene	**678**	D	**1.03**	**30.0**	**ug/L**	**10**	**8/16/23 17:52**
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/15/23 18:46
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/15/23 18:46
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/15/23 18:46
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/15/23 18:46
3+4-Methylphenol	**1.68**	J	**0.122**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/15/23 18:46
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/15/23 18:46
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/15/23 18:46
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/15/23 18:46
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/15/23 18:46
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/15/23 18:46
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/15/23 18:46

ND, U - Indicates compound analyzed for but not detected
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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/15/23 18:46
Acenaphthene	**63.1**		**0.100**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Acenaphthylene	**261**	D	**1.40**	**20.0**	**ug/L**	**10**	**8/16/23 17:52**
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/15/23 18:46
Anthracene	**17.0**		**0.121**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/15/23 18:46
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/15/23 18:46
Benzo(g,h,i)perylene	**0.981**	J	**0.0652**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Biphenyl	**42.0**		**0.106**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/15/23 18:46
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/15/23 18:46
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/15/23 18:46
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/15/23 18:46
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/15/23 18:46
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/15/23 18:46
Carbazole	**20.0**		**0.188**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Chrysene	**3.90**		**0.129**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Dibenzofuran	**10.6**		**0.120**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/15/23 18:46
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/15/23 18:46
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/15/23 18:46
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/15/23 18:46
Fluoranthene	**10.1**		**0.129**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Fluorene	**68.3**		**0.109**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/15/23 18:46
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/15/23 18:46
Isophorone	ND	U	0.111	2.00	ug/L	1	8/15/23 18:46
Naphthalene	**3970**	D	**6.07**	**200**	**ug/L**	**100**	**8/16/23 18:22**
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/15/23 18:46
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/15/23 18:46
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/15/23 18:46
Phenanthrene	**65.2**		**0.0725**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Phenol	**0.982**	J	**0.0973**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**
Pyrene	**14.5**		**0.115**	**2.00**	**ug/L**	**1**	**8/15/23 18:46**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	5.59	7.24	J	ug/L	1	8/15/23 18:46
2-Methylindene	6.11	7.27	J	ug/L	1	8/15/23 18:46

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,3,5-trimethyl-	68.6	6.28	J	ug/L	1	8/15/23 18:46
Benzene, 1-ethenyl-3-methyl-	211	6.05	J	ug/L	1	8/15/23 18:46
Benzene, 1-propynyl-	783	6.50	J	ug/L	1	8/15/23 18:46
Benzene, 2-propenyl-	140	6.41	J	ug/L	1	8/15/23 18:46
Naphthalene, 1,2-dimethyl-	33.1	8.76	J	ug/L	1	8/15/23 18:46
Naphthalene, 1,3-dimethyl-	48.1	8.82	J	ug/L	1	8/15/23 18:46
Naphthalene, 1-methyl-	9.76	8.31	J	ug/L	1	8/15/23 18:46
Naphthalene, 2,3-dimethyl-	58.1	8.90	J	ug/L	1	8/15/23 18:46
p-Xylene	229	5.18	J	ug/L	1	8/15/23 18:46
TIC Total	**1,590**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/18/23 15:02
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/18/23 15:02
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/18/23 15:02
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/18/23 15:02
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/18/23 15:02
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/18/23 15:02
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/18/23 15:02
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/18/23 15:02
1,2,4-Trimethylbenzene	**174**	D	**3.10**	**20.0**	**ug/L**	**20**	**8/23/23 11:15**
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/18/23 15:02
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/18/23 15:02
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/18/23 15:02
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/18/23 15:02
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/18/23 15:02
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/18/23 15:02
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/18/23 15:02
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/18/23 15:02
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/18/23 15:02
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/18/23 15:02
Acetone	ND	U	10.0	10.0	ug/L	1	8/18/23 15:02
Benzene	**340**	D	**2.58**	**20.0**	**ug/L**	**20**	**8/23/23 11:15**
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/18/23 15:02
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/18/23 15:02
Bromoform	ND	U	0.421	1.00	ug/L	1	8/18/23 15:02
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/18/23 15:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Carbon disulfide	**1.13**		**0.477**	**1.00**	**ug/L**	**1**	**8/18/23 15:02**	J, RC:3H
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/18/23 15:02	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/18/23 15:02	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/18/23 15:02	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/18/23 15:02	
Chloroform	**2.83**		**0.365**	**1.00**	**ug/L**	**1**	**8/18/23 15:02**	J, RC:3H
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/18/23 15:02	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/18/23 15:02	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/18/23 15:02	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/18/23 15:02	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/18/23 15:02	
EthylBenzene	**755**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/23/23 11:15**	
Isopropylbenzene	**20.5**		**0.275**	**1.00**	**ug/L**	**1**	**8/18/23 15:02**	J, RC:3H
m+p-Xylenes	**582**	D	**9.22**	**40.0**	**ug/L**	**20**	**8/23/23 11:15**	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/18/23 15:02	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/18/23 15:02	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/18/23 15:02	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/18/23 15:02	
o-Xylene	**311**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/23/23 11:15**	
Styrene	**117**		**0.176**	**1.00**	**ug/L**	**1**	**8/18/23 15:02**	J, RC:3H
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/18/23 15:02	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/18/23 15:02	
Toluene	**782**	D	**4.10**	**20.0**	**ug/L**	**20**	**8/23/23 11:15**	
Total Xylenes	**893**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/23/23 11:15**	
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/18/23 15:02	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/18/23 15:02	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/18/23 15:02	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/18/23 15:02	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/18/23 15:02	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	4.99	16.42	J	ug/L	1	8/18/23 15:02
2-Methylindene	4.98	16.46	J	ug/L	1	8/18/23 15:02
4-Phenylbut-3-ene-1-yne	163	17.09	J	ug/L	1	8/18/23 15:02
Benzene, (1-methyl-2-cyclopropen-1-yl)-	23.3	16.39	J	ug/L	1	8/18/23 15:02
Benzene, 1,2,3,5-tetramethyl-	5.27	15.69	J	ug/L	1	8/18/23 15:02
Benzene, 1,2,3-trimethyl-	12.0	13.20	J	ug/L	1	8/18/23 15:02

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-02 (Ground Water) Sample Name: **OH-MW-06D-20230809** Collected: **8/9/2023 10:15:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-butynyl-	33.9	16.53	J	ug/L	1	8/18/23 15:02
Benzene, 1-ethenyl-2-methyl-	16.0	13.88	J	ug/L	1	8/18/23 15:02
Benzene, 1-ethenyl-3-methyl-	31.6	13.80	J	ug/L	1	8/18/23 15:02
Benzene, 1-ethyl-2-methyl-	48.2	13.13	J	ug/L	1	8/18/23 15:02
Benzene, 1-ethyl-4-methyl-	4.70	13.53	J	ug/L	1	8/18/23 15:02
Benzene, 2-butenyl-	5.18	15.28	J	ug/L	1	8/18/23 15:02
Benzo[c]thiophene	11.0	17.27	J	ug/L	1	8/18/23 15:02
Indene	233	15.01	J	ug/L	1	8/18/23 15:02
Tetracyclo[3.3.1.0(2,8).0(4,6)]-non-2-en	57.6	14.74	J	ug/L	1	8/18/23 15:02
TIC Total	**655**					

23H0666-03 (Ground Water) Sample Name: **FB-20230809** Collected: **8/9/2023 10:25:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 14:12
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 14:12
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 14:12
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 14:12
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 14:12
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 14:12
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 14:12
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 14:12
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 14:12
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 14:12

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 15:52

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	8/23/23 9:59
Beryllium	ND	U	0.000206	0.00100	mg/L	1	8/23/23 9:59
Calcium	ND	U	0.256	1.00	mg/L	1	8/23/23 9:59
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 9:59
Iron	ND	U	0.0580	0.200	mg/L	1	8/23/23 9:59

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-03 (Ground Water) Sample Name: **FB-20230809** Collected: **8/9/2023 10:25:00AM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Magnesium	ND	U	0.681	2.00	mg/L	1	8/23/23 9:59
Manganese	ND	U	0.000242	0.0100	mg/L	1	8/23/23 9:59
Potassium	ND	U	2.41	4.00	mg/L	1	8/23/23 9:59
Sodium	ND	U	0.205	2.00	mg/L	1	8/23/23 9:59
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 9:59

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:13
Arsenic	ND	U	0.00136	0.0100	mg/L	5	8/23/23 15:13
Barium	ND	U	0.00134	0.0100	mg/L	5	8/23/23 15:13
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:13
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:13
Copper	ND	U	0.00108	0.0100	mg/L	5	8/23/23 15:13
Lead	ND	U	0.00169	0.0100	mg/L	5	8/23/23 15:13
Nickel	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:13
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:13
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:13
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:13
Zinc	ND	U	0.00274	0.150	mg/L	5	8/23/23 15:13

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 21:14	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 21:14	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 21:14	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 21:14	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 21:14	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 21:14	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 21:14	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 21:14	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 21:14	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 21:14	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 21:14	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 21:14	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 21:14	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 21:14	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 21:14	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 21:14	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-03 (Ground Water) Sample Name: **FB-20230809** Collected: **8/9/2023 10:25:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 21:14
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 21:14
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 21:14
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 21:14

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 19:14
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 19:14
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 19:14
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 19:14
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 19:14
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 19:14
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 19:14
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 19:14
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 19:14
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 19:14
2-Methylnaphthalene	ND	U	0.103	3.00	ug/L	1	8/21/23 19:14
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 19:14
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 19:14
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 19:14
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 19:14
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 19:14
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 19:14
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 19:14
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 19:14
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 19:14
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 19:14
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 19:14
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 19:14
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 19:14
Acenaphthene	ND	U	0.100	2.00	ug/L	1	8/21/23 19:14
Acenaphthylene	ND	U	0.140	2.00	ug/L	1	8/21/23 19:14
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/21/23 19:14
Anthracene	ND	U	0.121	2.00	ug/L	1	8/21/23 19:14
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 19:14
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 19:14
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 19:14
Biphenyl	ND	U	0.106	2.00	ug/L	1	8/21/23 19:14

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-03 (Ground Water) Sample Name: **FB-20230809** Collected: **8/9/2023 10:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 19:14	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 19:14	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 19:14	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 19:14	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 19:14	
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 19:14	
Carbazole	ND	U	0.188	2.00	ug/L	1	8/21/23 19:14	
Chrysene	ND	U	0.129	2.00	ug/L	1	8/21/23 19:14	
Dibenzofuran	ND	U	0.120	2.00	ug/L	1	8/21/23 19:14	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 19:14	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 19:14	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 19:14	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 19:14	
Fluoranthene	ND	U	0.129	2.00	ug/L	1	8/21/23 19:14	
Fluorene	ND	U	0.109	2.00	ug/L	1	8/21/23 19:14	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 19:14	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 19:14	
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 19:14	
Naphthalene	ND	U	0.0607	2.00	ug/L	1	8/21/23 19:14	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 19:14	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 19:14	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 19:14	
Phenanthrene	ND	U	0.0725	2.00	ug/L	1	8/21/23 19:14	
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 19:14	
Pyrene	ND	U	0.115	2.00	ug/L	1	8/21/23 19:14	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Butenal, 3-methyl-	7.11	5.47	J	ug/L	1	8/21/23 19:14
Pyrrolidine	5.55	5.72	J	ug/L	1	8/21/23 19:14
TIC Total	**12.7**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/21/23 16:09
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/21/23 16:09
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/21/23 16:09
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/21/23 16:09

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-03 (Ground Water) Sample Name: **FB-20230809** Collected: **8/9/2023 10:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/21/23 16:09	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/21/23 16:09	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/21/23 16:09	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/21/23 16:09	UJ, RC:6L
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/21/23 16:09	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/21/23 16:09	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/21/23 16:09	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/21/23 16:09	UJ, RC:6L
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/21/23 16:09	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/21/23 16:09	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/21/23 16:09	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/21/23 16:09	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/21/23 16:09	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/21/23 16:09	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/21/23 16:09	
Acetone	ND	U	10.0	10.0	ug/L	1	8/21/23 16:09	
Benzene	ND	U	0.129	1.00	ug/L	1	8/21/23 16:09	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/21/23 16:09	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/21/23 16:09	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/21/23 16:09	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/21/23 16:09	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/21/23 16:09	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/21/23 16:09	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/21/23 16:09	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/21/23 16:09	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/21/23 16:09	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/21/23 16:09	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/21/23 16:09	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/21/23 16:09	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/21/23 16:09	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/21/23 16:09	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/21/23 16:09	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	8/21/23 16:09	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/21/23 16:09	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/21/23 16:09	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/21/23 16:09	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/21/23 16:09	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/21/23 16:09	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/21/23 16:09	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-03 (Ground Water) Sample Name: **FB-20230809** Collected: **8/9/2023 10:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/21/23 16:09
Styrene	ND	U	0.176	1.00	ug/L	1	8/21/23 16:09
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/21/23 16:09
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/21/23 16:09
Toluene	ND	U	0.205	1.00	ug/L	1	8/21/23 16:09
Total Xylenes	ND	U	0.244	1.00	ug/L	1	8/21/23 16:09
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/21/23 16:09
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/21/23 16:09
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/21/23 16:09
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/21/23 16:09
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/21/23 16:09

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0502	0.505	ug/L	1	8/15/23 14:34
Aroclor-1221	ND	U	0.355	0.505	ug/L	1	8/15/23 14:34
Aroclor-1232	ND	U	0.110	0.505	ug/L	1	8/15/23 14:34
Aroclor-1242	ND	U	0.187	0.505	ug/L	1	8/15/23 14:34
Aroclor-1248	ND	U	0.0942	0.505	ug/L	1	8/15/23 14:34
Aroclor-1254	ND	U	0.104	0.505	ug/L	1	8/15/23 14:34
Aroclor-1260	ND	U	0.0792	0.505	ug/L	1	8/15/23 14:34
Aroclor-1262	ND	U	0.171	0.505	ug/L	1	8/15/23 14:34
Aroclor-1268	ND	U	0.161	0.505	ug/L	1	8/15/23 14:34
Total PCBs	ND	U	0.0502	0.505	ug/L	1	8/15/23 14:34

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 15:55

ND, U - Indicates compound analyzed for but not detected
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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	ND	U	0.0522	0.100	mg/L	1	8/23/23 10:01
Beryllium	ND	U	0.000206	0.00100	mg/L	1	8/23/23 10:01
Calcium	**150**		**0.256**	**1.00**	**mg/L**	**1**	**8/23/23 10:01**
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 10:01
Iron	**11.6**		**0.0580**	**0.200**	**mg/L**	**1**	**8/23/23 10:01**
Magnesium	**69.6**		**0.681**	**2.00**	**mg/L**	**1**	**8/23/23 10:01**
Manganese	**0.764**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/23/23 10:01**
Potassium	**74.7**		**2.41**	**4.00**	**mg/L**	**1**	**8/23/23 10:01**
Sodium	**517**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/23/23 11:42**
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 10:01

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:16
Arsenic	ND	U	0.00136	0.0100	mg/L	5	8/23/23 15:16
Barium	**0.184**	D	**0.00134**	**0.0100**	**mg/L**	**5**	**8/23/23 15:16**
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:16
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:16
Copper	ND	U	0.00108	0.0100	mg/L	5	8/23/23 15:16
Lead	ND	U	0.00169	0.0100	mg/L	5	8/23/23 15:16
Nickel	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:16
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:16
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:16
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:16
Zinc	ND	U	0.00274	0.150	mg/L	5	8/23/23 15:16

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
4,4'-DDD	ND	U	0.000382	0.0202	ug/L	1	8/14/23 21:32
4,4'-DDE	ND	U	0.000236	0.0202	ug/L	1	8/14/23 21:32
4,4'-DDT	ND	U	0.000322	0.0202	ug/L	1	8/14/23 21:32
Aldrin	ND	U	0.000532	0.0202	ug/L	1	8/14/23 21:32
alpha-BHC	ND	U	0.000258	0.0202	ug/L	1	8/14/23 21:32
beta-BHC	ND	U	0.000375	0.0202	ug/L	1	8/14/23 21:32
Chlordane	ND	U	0.000330	0.0505	ug/L	1	8/14/23 21:32
delta-BHC	ND	U	0.000323	0.0202	ug/L	1	8/14/23 21:32
Dieldrin	ND	U	0.000274	0.0202	ug/L	1	8/14/23 21:32
Endosulfan I	ND	U	0.000384	0.0202	ug/L	1	8/14/23 21:32
Endosulfan II	ND	U	0.000257	0.0202	ug/L	1	8/14/23 21:32

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Endosulfan sulfate	ND	U	0.000139	0.0202	ug/L	1	8/14/23 21:32	UJ, RC:6L
Endrin	ND	U	0.000231	0.0202	ug/L	1	8/14/23 21:32	
Endrin aldehyde	ND	U	0.000321	0.0202	ug/L	1	8/14/23 21:32	
Endrin ketone	ND	U	0.000205	0.0202	ug/L	1	8/14/23 21:32	
gamma-BHC (Lindane)	ND	U	0.000243	0.0202	ug/L	1	8/14/23 21:32	
Heptachlor	ND	U	0.000569	0.0202	ug/L	1	8/14/23 21:32	
Heptachlor Epoxide	ND	U	0.000305	0.0202	ug/L	1	8/14/23 21:32	
Methoxychlor	ND	U	0.000346	0.0202	ug/L	1	8/14/23 21:32	
Toxaphene	ND	U	0.0239	0.202	ug/L	1	8/14/23 21:32	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/15/23 19:19
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/15/23 19:19
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/15/23 19:19
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/15/23 19:19
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/15/23 19:19
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/15/23 19:19
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/15/23 19:19
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/15/23 19:19
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/15/23 19:19
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/15/23 19:19
2-Methylnaphthalene	**10.3**		**0.103**	**3.00**	**ug/L**	**1**	**8/15/23 19:19**
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/15/23 19:19
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/15/23 19:19
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/15/23 19:19
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/15/23 19:19
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/15/23 19:19
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/15/23 19:19
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/15/23 19:19
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/15/23 19:19
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/15/23 19:19
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/15/23 19:19
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/15/23 19:19
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/15/23 19:19
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/15/23 19:19
Acenaphthene	**39.4**		**0.100**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Acenaphthylene	**1.28**	J	**0.140**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/15/23 19:19

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Anthracene	**4.72**		**0.121**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/15/23 19:19
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/15/23 19:19
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/15/23 19:19
Biphenyl	ND	U	0.106	2.00	ug/L	1	8/15/23 19:19
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/15/23 19:19
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/15/23 19:19
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/15/23 19:19
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/15/23 19:19
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/15/23 19:19
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/15/23 19:19
Carbazole	**17.1**		**0.188**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Chrysene	**0.466**	J	**0.129**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Dibenzofuran	**18.7**		**0.120**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/15/23 19:19
Dimethylphthalate	**1.16**	J	**0.388**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/15/23 19:19
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/15/23 19:19
Fluoranthene	**3.61**		**0.129**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Fluorene	**24.1**		**0.109**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/15/23 19:19
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/15/23 19:19
Isophorone	ND	U	0.111	2.00	ug/L	1	8/15/23 19:19
Naphthalene	**5.70**		**0.0607**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/15/23 19:19
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/15/23 19:19
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/15/23 19:19
Phenanthrene	**19.4**		**0.0725**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**
Phenol	ND	U	0.0973	2.00	ug/L	1	8/15/23 19:19
Pyrene	**2.44**		**0.115**	**2.00**	**ug/L**	**1**	**8/15/23 19:19**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Methylindene	10.5	7.27	J	ug/L	1	8/15/23 19:19
Benzene, 1,2,3-trimethyl-	13.8	6.28	J	ug/L	1	8/15/23 19:19
Benzene, 1,2,4-trimethyl-	8.00	5.92	J	ug/L	1	8/15/23 19:19
Benzene, 1,3,5-trimethyl-	8.19	5.45	J	ug/L	1	8/15/23 19:19
Benzene, 1-butenyl-, (E)-	13.8	7.22	J	ug/L	1	8/15/23 19:19
Benzene, 1-ethyl-4-methyl-	12.2	6.05	J	ug/L	1	8/15/23 19:19

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzofuran, 7-methyl-	18.2	6.90	J	ug/L	1	8/15/23 19:19
Dibenz[B,F][1,4]oxazepine	7.89	12.60	J	ug/L	1	8/15/23 19:19
Indan, 1-methyl-	8.84	7.15	J	ug/L	1	8/15/23 19:19
Indane	148	6.41	J	ug/L	1	8/15/23 19:19
Naphthalene, 1,6-dimethyl-	8.58	8.90	J	ug/L	1	8/15/23 19:19
Naphthalene, 1-methyl-	39.1	8.30	J	ug/L	1	8/15/23 19:19
Naphthalene, 2,7-dimethyl-	9.48	8.81	J	ug/L	1	8/15/23 19:19
unknown (01)	12.3	6.85	J	ug/L	1	8/15/23 19:19
unknown (02)	12.8	10.16	J	ug/L	1	8/15/23 19:19
TIC Total	**331**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/18/23 15:54	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/18/23 15:54	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/18/23 15:54	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/18/23 15:54	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/18/23 15:54	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/18/23 15:54	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/18/23 15:54	UJ, RC:SL,6L
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/18/23 15:54	UJ, RC:SL,6L
1,2,4-Trimethylbenzene	**6.11**		**0.155**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/18/23 15:54	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/18/23 15:54	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/18/23 15:54	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/18/23 15:54	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/18/23 15:54	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/18/23 15:54	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/18/23 15:54	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/18/23 15:54	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/18/23 15:54	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/18/23 15:54	
Acetone	ND	U	10.0	10.0	ug/L	1	8/18/23 15:54	
Benzene	**8.54**		**0.129**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/18/23 15:54	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/18/23 15:54	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/18/23 15:54	UJ, RC:SL
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/18/23 15:54	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Carbon disulfide	**1.93**		**0.477**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/18/23 15:54
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/18/23 15:54
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/18/23 15:54
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/18/23 15:54
Chloroform	ND	U	0.365	1.00	ug/L	1	8/18/23 15:54
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/18/23 15:54
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/18/23 15:54
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/18/23 15:54
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/18/23 15:54
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/18/23 15:54
EthylBenzene	**2.26**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**
Isopropylbenzene	**3.69**		**0.275**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**
m+p-Xylenes	**2.79**		**0.461**	**2.00**	**ug/L**	**1**	**8/18/23 15:54**
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/18/23 15:54
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/18/23 15:54
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/18/23 15:54
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/18/23 15:54
o-Xylene	**2.51**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**
Styrene	ND	U	0.176	1.00	ug/L	1	8/18/23 15:54
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/18/23 15:54
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/18/23 15:54
Toluene	**0.656**	J	**0.205**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**
Total Xylenes	**5.30**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 15:54**
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/18/23 15:54
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/18/23 15:54
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/18/23 15:54
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/18/23 15:54
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/18/23 15:54

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, (1-methyl-1-propenyl)-, (E)-	3.90	16.35	J	ug/L	1	8/18/23 15:54
Benzene, 1-propynyl-	3.14	15.00	J	ug/L	1	8/18/23 15:54
Benzene, 2-ethenyl-1,4-dimethyl-	3.21	16.15	J	ug/L	1	8/18/23 15:54
Benzofuran, 2-methyl-	4.36	15.72	J	ug/L	1	8/18/23 15:54
Benzofuran, 7-methyl-	4.78	15.78	J	ug/L	1	8/18/23 15:54
Indane	128	14.73	J	ug/L	1	8/18/23 15:54

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-04 (Ground Water) Sample Name: **OH-MW-06S-20230809** Collected: **8/9/2023 11:25:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC (con't)

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
TIC:Naphthalene	32.9	17.08	J	ug/L	1	8/18/23 15:54
TIC Total	**180**					

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809** Collected: **8/9/2023 1:12:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 14:56
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 14:56
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 14:56
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 14:56
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 14:56
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 14:56
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 14:56
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 14:56
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 14:56
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 14:56

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 15:57

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	ND	U	0.0522	0.100	mg/L	1	8/23/23 10:04	UJ, RC:8
Beryllium	**0.00188**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/23/23 10:04**	
Calcium	**262**		**0.256**	**1.00**	**mg/L**	**1**	**8/23/23 10:04**	
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 10:04	
Iron	**2.97**		**0.0580**	**0.200**	**mg/L**	**1**	**8/23/23 10:04**	J, RC:8
Magnesium	**382**		**0.681**	**2.00**	**mg/L**	**1**	**8/23/23 10:04**	
Manganese	**0.621**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/23/23 10:04**	
Potassium	**144**		**2.41**	**4.00**	**mg/L**	**1**	**8/23/23 10:04**	
Sodium	**3360**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/23/23 11:45**	
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 10:04	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809** Collected: **8/9/2023 1:12:00PM**

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:18
Arsenic	ND	U	0.00136	0.0100	mg/L	5	8/23/23 15:18
Barium	**0.596**	D	**0.00134**	**0.0100**	**mg/L**	**5**	**8/23/23 15:18**
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:18
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:18
Copper	**0.0133**	D	**0.00108**	**0.0100**	**mg/L**	**5**	**8/23/23 15:18**
Lead	ND	U	0.00169	0.0100	mg/L	5	8/23/23 15:18
Nickel	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:18
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:18
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:18
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:18
Zinc	ND	U	0.00274	0.150	mg/L	5	8/23/23 15:18

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 21:50	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 21:50	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 21:50	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 21:50	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 21:50	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 21:50	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 21:50	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 21:50	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 21:50	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 21:50	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 21:50	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 21:50	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 21:50	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 21:50	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 21:50	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 21:50	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 21:50	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 21:50	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 21:50	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 21:50	

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J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809** Collected: **8/9/2023 1:12:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 19:45	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 19:45	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 19:45	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 19:45	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 19:45	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 19:45	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 19:45	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 19:45	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 19:45	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 19:45	
2-Methylnaphthalene	**551**	D	**1.03**	**30.0**	**ug/L**	**10**	**8/23/23 23:31**	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 19:45	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 19:45	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 19:45	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 19:45	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 19:45	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 19:45	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 19:45	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 19:45	UJ, RC:6L
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 19:45	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 19:45	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 19:45	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 19:45	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 19:45	
Acenaphthene	**85.5**		**0.100**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Acenaphthylene	**101**		**0.140**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/21/23 19:45	
Anthracene	**12.5**		**0.121**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 19:45	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 19:45	
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 19:45	
Biphenyl	**35.9**		**0.106**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 19:45	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 19:45	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 19:45	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 19:45	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 19:45	
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 19:45	
Carbazole	**14.7**		**0.188**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809** Collected: **8/9/2023 1:12:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Chrysene	**0.700**	J	**0.129**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Dibenzofuran	**23.6**		**0.120**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 19:45	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 19:45	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 19:45	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 19:45	
Fluoranthene	**5.33**		**0.129**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Fluorene	**59.4**		**0.109**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 19:45	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 19:45	
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 19:45	
Naphthalene	**1440**	D	**3.04**	**100**	**ug/L**	**50**	**8/28/23 12:22**	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 19:45	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 19:45	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 19:45	
Phenanthrene	**64.0**		**0.0725**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 19:45	
Pyrene	**6.58**		**0.115**	**2.00**	**ug/L**	**1**	**8/21/23 19:45**	J, RC:6H

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1-ethyl-3-methyl-	37.0	5.86	J	ug/L	1	8/21/23 19:45
Indane	73.5	6.51	J	ug/L	1	8/21/23 19:45
Indene	270	6.59	J	ug/L	1	8/21/23 19:45
Naphthalene, 1-ethyl-	29.0	8.85	J	ug/L	1	8/21/23 19:45
Naphthalene, 1-methyl-	10.4	8.41	J	ug/L	1	8/21/23 19:45
Naphthalene, 2,3-dimethyl-	53.1	9.00	J	ug/L	1	8/21/23 19:45
Naphthalene, 2,6-dimethyl-	38.8	8.92	J	ug/L	1	8/21/23 19:45
unknown (01)	72.7	5.28	J	ug/L	1	8/21/23 19:45
unknown (02)	113	6.15	J	ug/L	1	8/21/23 19:45
TIC Total	**698**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/18/23 16:20
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/18/23 16:20
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/18/23 16:20
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/18/23 16:20

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809** Collected: **8/9/2023 1:12:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/18/23 16:20	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/18/23 16:20	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/18/23 16:20	UJ, RC:SL,6L
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/18/23 16:20	UJ, RC:SL,6L
1,2,4-Trimethylbenzene	**74.3**		**0.155**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/18/23 16:20	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/18/23 16:20	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/18/23 16:20	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/18/23 16:20	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/18/23 16:20	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/18/23 16:20	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/18/23 16:20	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/18/23 16:20	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/18/23 16:20	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/18/23 16:20	
Acetone	ND	U	10.0	10.0	ug/L	1	8/18/23 16:20	
Benzene	**73.1**		**0.129**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/18/23 16:20	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/18/23 16:20	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/18/23 16:20	UJ, RC:SL
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/18/23 16:20	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/18/23 16:20	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/18/23 16:20	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/18/23 16:20	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/18/23 16:20	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/18/23 16:20	
Chloroform	**0.618**	J	**0.365**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H,6H
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/18/23 16:20	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/18/23 16:20	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/18/23 16:20	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/18/23 16:20	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/18/23 16:20	
EthylBenzene	**186**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/21/23 18:58**	
Isopropylbenzene	**4.89**		**0.275**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
m+p-Xylenes	**160**		**0.461**	**2.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/18/23 16:20	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/18/23 16:20	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/18/23 16:20	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/18/23 16:20	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-05 (Ground Water) Sample Name: **OH-MW-07D-20230809** Collected: **8/9/2023 1:12:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
o-Xylene	**88.2**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
Styrene	**33.9**		**0.176**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/18/23 16:20	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/18/23 16:20	
Toluene	**234**	D	**4.10**	**20.0**	**ug/L**	**20**	**8/21/23 18:58**	
Total Xylenes	**248**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 16:20**	J, RC:3H
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/18/23 16:20	
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/18/23 16:20	
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/18/23 16:20	
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/18/23 16:20	
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/18/23 16:20	

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1,2-Butadiene, 3-phenyl-	34.8	16.52	J	ug/L	1	8/18/23 16:20
2-Methylindene	8.99	16.42	J	ug/L	1	8/18/23 16:20
4-Phenylbut-3-ene-1-yne	383	17.09	J	ug/L	1	8/18/23 16:20
Benzene, (1-methyl-2-cyclopropen-1-yl)- (01)	25.1	16.39	J	ug/L	1	8/18/23 16:20
Benzene, (1-methyl-2-cyclopropen-1-yl)- (02)	6.39	16.46	J	ug/L	1	8/18/23 16:20
Benzene, (2-methyl-1-propenyl)-	7.04	15.28	J	ug/L	1	8/18/23 16:20
Benzene, 1,2,3,5-tetramethyl-	7.65	15.69	J	ug/L	1	8/18/23 16:20
Benzene, 1,2,3-trimethyl-	9.49	13.19	J	ug/L	1	8/18/23 16:20
Benzene, 1-ethenyl-3-methyl-	28.5	13.79	J	ug/L	1	8/18/23 16:20
Benzene, 1-ethyl-2-methyl-	26.9	13.13	J	ug/L	1	8/18/23 16:20
Benzene, 1-ethynyl-4-methyl-	207	15.00	J	ug/L	1	8/18/23 16:20
Benzene, 1-propenyl-	12.2	13.88	J	ug/L	1	8/18/23 16:20
Benzene, methyl(1-methylethenyl)-	7.15	15.81	J	ug/L	1	8/18/23 16:20
Benzo[c]thiophene	8.56	17.27	J	ug/L	1	8/18/23 16:20
Indane	47.6	14.74	J	ug/L	1	8/18/23 16:20
TIC Total	**820**					

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P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809** Collected: **8/9/2023 2:13:00PM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 15:19
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 15:19
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 15:19
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 15:19
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 15:19
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 15:19
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 15:19
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 15:19
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 15:19
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 15:19

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 15:26

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aluminum	**0.438**		**0.0522**	**0.100**	**mg/L**	**1**	**8/23/23 10:06**
Beryllium	**0.00288**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/23/23 10:06**
Calcium	**243**		**0.256**	**1.00**	**mg/L**	**1**	**8/23/23 10:06**
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 10:06
Iron	ND	U	0.0580	0.200	mg/L	1	8/23/23 10:06
Magnesium	**597**		**0.681**	**2.00**	**mg/L**	**1**	**8/23/23 10:06**
Manganese	**0.0535**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/23/23 10:06**
Potassium	**249**		**2.41**	**4.00**	**mg/L**	**1**	**8/23/23 10:06**
Sodium	**6300**	D	**20.5**	**200**	**mg/L**	**100**	**8/23/23 12:00**
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 10:06

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:21
Arsenic	**0.0129**	D	**0.00136**	**0.0100**	**mg/L**	**5**	**8/23/23 15:21**
Barium	**0.108**	D	**0.00134**	**0.0100**	**mg/L**	**5**	**8/23/23 15:21**
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:21
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:21
Copper	**0.0411**	D	**0.00108**	**0.0100**	**mg/L**	**5**	**8/23/23 15:21**
Lead	**0.0179**	D	**0.00169**	**0.0100**	**mg/L**	**5**	**8/23/23 15:21**
Nickel	**0.0137**	D	**0.00150**	**0.0100**	**mg/L**	**5**	**8/23/23 15:21**
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:21

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809** Collected: **8/9/2023 2:13:00PM**

EPA 200.8 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:21
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:21
Zinc	**0.156**	D	**0.00274**	**0.150**	**mg/L**	**5**	**8/23/23 15:21**

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 22:09	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 22:09	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 22:09	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 22:09	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 22:09	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 22:09	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 22:09	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 22:09	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 22:09	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 22:09	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 22:09	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 22:09	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 22:09	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 22:09	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 22:09	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 22:09	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 22:09	
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 22:09	
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 22:09	
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 22:09	

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 20:17
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 20:17
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 20:17
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 20:17
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 20:17
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 20:17
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 20:17
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 20:17
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 20:17
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 20:17

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809** Collected: **8/9/2023 2:13:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2-Methylnaphthalene	**8.47**		**0.103**	**3.00**	**ug/L**	**1**	**8/21/23 20:17**	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 20:17	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 20:17	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 20:17	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 20:17	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 20:17	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 20:17	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 20:17	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 20:17	UJ, RC:6L
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 20:17	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 20:17	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 20:17	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 20:17	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 20:17	
Acenaphthene	**48.3**		**0.100**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Acenaphthylene	**0.921**	J	**0.140**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/21/23 20:17	
Anthracene	**12.7**		**0.121**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 20:17	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 20:17	
Benzo(g,h,i)perylene	**1.21**	J	**0.0652**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Biphenyl	**3.51**		**0.106**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 20:17	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 20:17	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 20:17	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 20:17	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 20:17	
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 20:17	
Carbazole	**6.41**		**0.188**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Chrysene	**1.43**	J	**0.129**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Dibenzofuran	**27.2**		**0.120**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 20:17	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 20:17	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 20:17	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 20:17	
Fluoranthene	**12.1**		**0.129**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Fluorene	**27.0**		**0.109**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 20:17	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 20:17	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809** Collected: **8/9/2023 2:13:00PM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 20:17
Naphthalene	**67.3**		**0.0607**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 20:17
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 20:17
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 20:17
Phenanthrene	**40.3**		**0.0725**	**2.00**	**ug/L**	**1**	**8/21/23 20:17**
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 20:17
Pyrene	**8.95**		**0.115**	**2.00**	**ug/L**	**1**	**8/21/23 20:17** J, RC:6H

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
2-Butenal, 3-methyl-	5.33	5.47	J	ug/L	1	8/21/23 20:17
3,3-Dimethyl-2-pentanol	4.57	5.72	J	ug/L	1	8/21/23 20:17
Naphthalene, 1,6-dimethyl-	14.6	8.99	J	ug/L	1	8/21/23 20:17
Naphthalene, 1-methyl-	36.3	8.40	J	ug/L	1	8/21/23 20:17
Naphthalene, 2,3-dimethyl-	4.86	9.12	J	ug/L	1	8/21/23 20:17
Naphthalene, 2,6-dimethyl-	5.25	9.03	J	ug/L	1	8/21/23 20:17
Naphthalene, 2,7-dimethyl-	9.27	8.91	J	ug/L	1	8/21/23 20:17
Naphthalene, 2-ethyl-	6.49	8.85	J	ug/L	1	8/21/23 20:17
unknown (01)	7.44	10.05	J	ug/L	1	8/21/23 20:17
unknown (02)	4.28	10.45	J	ug/L	1	8/21/23 20:17
unknown (03)	4.76	10.76	J	ug/L	1	8/21/23 20:17
unknown (04)	8.05	11.49	J	ug/L	1	8/21/23 20:17
TIC Total	**111**					

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/21/23 16:40
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/21/23 16:40
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/21/23 16:40
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/21/23 16:40
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/21/23 16:40
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/21/23 16:40
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/21/23 16:40
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/21/23 16:40 UJ, RC:6L
1,2,4-Trimethylbenzene	**1.01**		**0.155**	**1.00**	**ug/L**	**1**	**8/21/23 16:40** J, RC:6H
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/21/23 16:40

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809** Collected: **8/9/2023 2:13:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/21/23 16:40	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/21/23 16:40	UJ, RC:6L
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/21/23 16:40	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/21/23 16:40	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/21/23 16:40	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/21/23 16:40	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/21/23 16:40	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/21/23 16:40	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/21/23 16:40	
Acetone	ND	U	10.0	10.0	ug/L	1	8/21/23 16:40	
Benzene	ND	U	0.129	1.00	ug/L	1	8/21/23 16:40	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/21/23 16:40	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/21/23 16:40	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/21/23 16:40	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/21/23 16:40	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/21/23 16:40	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/21/23 16:40	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/21/23 16:40	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/21/23 16:40	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/21/23 16:40	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/21/23 16:40	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/21/23 16:40	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/21/23 16:40	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/21/23 16:40	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/21/23 16:40	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/21/23 16:40	UJ, RC:SL
EthylBenzene	**0.688**	J	**0.244**	**1.00**	**ug/L**	**1**	**8/21/23 16:40**	
Isopropylbenzene	**0.556**	J	**0.275**	**1.00**	**ug/L**	**1**	**8/21/23 16:40**	
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/21/23 16:40	
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/21/23 16:40	
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/21/23 16:40	
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/21/23 16:40	
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/21/23 16:40	
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/21/23 16:40	
Styrene	ND	U	0.176	1.00	ug/L	1	8/21/23 16:40	
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/21/23 16:40	
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/21/23 16:40	
Toluene	ND	U	0.205	1.00	ug/L	1	8/21/23 16:40	
Total Xylenes	**0.347**	J	**0.244**	**1.00**	**ug/L**	**1**	**8/21/23 16:40**	

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E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-06 (Ground Water) Sample Name: **OH-MW-07S-20230809** Collected: **8/9/2023 2:13:00PM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/21/23 16:40
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/21/23 16:40
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/21/23 16:40
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/21/23 16:40
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/21/23 16:40

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
TIC:Naphthalene	64.8	21.90	J	ug/L	1	8/21/23 16:40
TIC Total	**64.8**					

23H0666-07 (Ground Water) Sample Name: **DUP-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8082A - PCBs

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Aroclor-1016	ND	U	0.0497	0.500	ug/L	1	8/15/23 15:41
Aroclor-1221	ND	U	0.352	0.500	ug/L	1	8/15/23 15:41
Aroclor-1232	ND	U	0.109	0.500	ug/L	1	8/15/23 15:41
Aroclor-1242	ND	U	0.185	0.500	ug/L	1	8/15/23 15:41
Aroclor-1248	ND	U	0.0933	0.500	ug/L	1	8/15/23 15:41
Aroclor-1254	ND	U	0.103	0.500	ug/L	1	8/15/23 15:41
Aroclor-1260	ND	U	0.0784	0.500	ug/L	1	8/15/23 15:41
Aroclor-1262	ND	U	0.169	0.500	ug/L	1	8/15/23 15:41
Aroclor-1268	ND	U	0.159	0.500	ug/L	1	8/15/23 15:41
Total PCBs	ND	U	0.0497	0.500	ug/L	1	8/15/23 15:41

EPA 245.1 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Mercury	ND	U	0.000183	0.000200	mg/L	1	8/15/23 16:00

EPA 200.7 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
Aluminum	**0.521**		**0.0522**	**0.100**	**mg/L**	**1**	**8/23/23 10:08**	J, RC:8
Beryllium	**0.00184**		**0.000206**	**0.00100**	**mg/L**	**1**	**8/23/23 10:08**	
Calcium	**250**		**0.256**	**1.00**	**mg/L**	**1**	**8/23/23 10:08**	
Chromium	ND	U	0.000480	0.0100	mg/L	1	8/23/23 10:08	
Iron	**6.01**		**0.0580**	**0.200**	**mg/L**	**1**	**8/23/23 10:08**	J, RC:8
Magnesium	**365**		**0.681**	**2.00**	**mg/L**	**1**	**8/23/23 10:08**	

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H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2
Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-07 (Ground Water) Sample Name: **DUP-20230809** Collected: **8/9/2023 12:00:00AM**

EPA 200.7 - Total Metals (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Manganese	**0.610**		**0.000242**	**0.0100**	**mg/L**	**1**	**8/23/23 10:08**
Potassium	**140**		**2.41**	**4.00**	**mg/L**	**1**	**8/23/23 10:08**
Sodium	**3480**	D	**2.05**	**20.0**	**mg/L**	**10**	**8/23/23 11:49**
Vanadium	ND	U	0.00668	0.00800	mg/L	1	8/23/23 10:08

EPA 200.8 - Total Metals

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Antimony	ND	U	0.00146	0.0300	mg/L	5	8/23/23 15:23
Arsenic	ND	U	0.00136	0.0100	mg/L	5	8/23/23 15:23
Barium	**0.585**	D	**0.00134**	**0.0100**	**mg/L**	**5**	**8/23/23 15:23**
Cadmium	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:23
Cobalt	ND	U	0.000980	0.0100	mg/L	5	8/23/23 15:23
Copper	**0.0195**	D	**0.00108**	**0.0100**	**mg/L**	**5**	**8/23/23 15:23**
Lead	ND	U	0.00169	0.0100	mg/L	5	8/23/23 15:23
Nickel	ND	U	0.00150	0.0100	mg/L	5	8/23/23 15:23
Selenium	ND	U	0.00300	0.0300	mg/L	5	8/23/23 15:23
Silver	ND	U	0.00133	0.0100	mg/L	5	8/23/23 15:23
Thallium	ND	U	0.00170	0.0100	mg/L	5	8/23/23 15:23
Zinc	ND	U	0.00274	0.150	mg/L	5	8/23/23 15:23

SW 846 8081B - Pesticides

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
4,4'-DDD	ND	U	0.000378	0.0200	ug/L	1	8/14/23 22:27	
4,4'-DDE	ND	U	0.000234	0.0200	ug/L	1	8/14/23 22:27	
4,4'-DDT	ND	U	0.000319	0.0200	ug/L	1	8/14/23 22:27	
Aldrin	ND	U	0.000527	0.0200	ug/L	1	8/14/23 22:27	
alpha-BHC	ND	U	0.000255	0.0200	ug/L	1	8/14/23 22:27	
beta-BHC	ND	U	0.000371	0.0200	ug/L	1	8/14/23 22:27	
Chlordane	ND	U	0.000327	0.0500	ug/L	1	8/14/23 22:27	
delta-BHC	ND	U	0.000320	0.0200	ug/L	1	8/14/23 22:27	
Dieldrin	ND	U	0.000271	0.0200	ug/L	1	8/14/23 22:27	
Endosulfan I	ND	U	0.000380	0.0200	ug/L	1	8/14/23 22:27	
Endosulfan II	ND	U	0.000254	0.0200	ug/L	1	8/14/23 22:27	
Endosulfan sulfate	ND	U	0.000138	0.0200	ug/L	1	8/14/23 22:27	UJ, RC:6L
Endrin	ND	U	0.000229	0.0200	ug/L	1	8/14/23 22:27	
Endrin aldehyde	ND	U	0.000318	0.0200	ug/L	1	8/14/23 22:27	
Endrin ketone	ND	U	0.000203	0.0200	ug/L	1	8/14/23 22:27	
gamma-BHC (Lindane)	ND	U	0.000241	0.0200	ug/L	1	8/14/23 22:27	
Heptachlor	ND	U	0.000563	0.0200	ug/L	1	8/14/23 22:27	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-07 (Ground Water) Sample Name: **DUP-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8081B - Pesticides (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
Heptachlor Epoxide	ND	U	0.000302	0.0200	ug/L	1	8/14/23 22:27
Methoxychlor	ND	U	0.000343	0.0200	ug/L	1	8/14/23 22:27
Toxaphene	ND	U	0.0237	0.200	ug/L	1	8/14/23 22:27

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
2,3,4,6-Tetrachlorophenol	ND	U	0.210	2.00	ug/L	1	8/21/23 20:49	
2,4,5-Trichlorophenol	ND	U	0.0438	2.00	ug/L	1	8/21/23 20:49	
2,4,6-Trichlorophenol	ND	U	0.137	2.00	ug/L	1	8/21/23 20:49	
2,4-Dichlorophenol	ND	U	0.152	2.00	ug/L	1	8/21/23 20:49	
2,4-Dimethylphenol	ND	U	0.179	2.00	ug/L	1	8/21/23 20:49	
2,4-Dinitrophenol	ND	U	0.326	5.00	ug/L	1	8/21/23 20:49	
2,4-Dinitrotoluene	ND	U	0.108	2.00	ug/L	1	8/21/23 20:49	
2,6-Dinitrotoluene	ND	U	0.143	2.00	ug/L	1	8/21/23 20:49	
2-Chloronaphthalene	ND	U	0.122	2.00	ug/L	1	8/21/23 20:49	
2-Chlorophenol	ND	U	0.111	2.00	ug/L	1	8/21/23 20:49	
2-Methylnaphthalene	**508**	D	**1.03**	**30.0**	**ug/L**	**10**	**8/24/23 0:03**	
2-Methylphenol	ND	U	0.155	2.00	ug/L	1	8/21/23 20:49	
2-Nitroaniline	ND	U	0.101	2.00	ug/L	1	8/21/23 20:49	
2-Nitrophenol	ND	U	0.162	2.00	ug/L	1	8/21/23 20:49	
3,3'-Dichlorobenzidine	ND	U	0.110	2.00	ug/L	1	8/21/23 20:49	
3+4-Methylphenol	ND	U	0.122	2.00	ug/L	1	8/21/23 20:49	
3-Nitroaniline	ND	U	0.134	2.00	ug/L	1	8/21/23 20:49	
4,6-Dinitro-2-methylphenol	ND	U	0.0793	2.00	ug/L	1	8/21/23 20:49	
4-Bromophenyl-phenyl ether	ND	U	0.191	2.00	ug/L	1	8/21/23 20:49	UJ, RC:6L
4-Chloro-3-methylphenol	ND	U	0.141	2.00	ug/L	1	8/21/23 20:49	
4-Chloroaniline	ND	U	0.162	2.00	ug/L	1	8/21/23 20:49	
4-Chlorophenyl phenyl ether	ND	U	0.136	2.00	ug/L	1	8/21/23 20:49	
4-Nitroaniline	ND	U	0.0868	2.00	ug/L	1	8/21/23 20:49	
4-Nitrophenol	ND	U	0.168	2.00	ug/L	1	8/21/23 20:49	
Acenaphthene	**80.3**		**0.100**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Acenaphthylene	**96.8**		**0.140**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Acetophenone	ND	U	0.170	2.00	ug/L	1	8/21/23 20:49	
Anthracene	**12.5**		**0.121**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Atrazine	ND	U	0.0861	2.00	ug/L	1	8/21/23 20:49	
Benzaldehyde	ND	U	0.134	2.00	ug/L	1	8/21/23 20:49	
Benzo(g,h,i)perylene	ND	U	0.0652	2.00	ug/L	1	8/21/23 20:49	
Biphenyl	**32.9**		**0.106**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
bis(2-chloroethoxy)methane	ND	U	0.112	2.00	ug/L	1	8/21/23 20:49	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-07 (Ground Water) Sample Name: **DUP-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
bis(2-chloroethyl)ether	ND	U	0.121	2.00	ug/L	1	8/21/23 20:49	
bis(2-chloroisopropyl)ether	ND	U	0.132	2.00	ug/L	1	8/21/23 20:49	
bis(2-ethylhexyl)phthalate	ND	U	0.183	2.00	ug/L	1	8/21/23 20:49	
Butylbenzylphthalate	ND	U	0.190	2.00	ug/L	1	8/21/23 20:49	
Caprolactam	ND	U	0.193	2.00	ug/L	1	8/21/23 20:49	
Carbazole	**13.6**		**0.188**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Chrysene	**1.01**	J	**0.129**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Dibenzofuran	**22.1**		**0.120**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Diethylphthalate	ND	U	0.123	2.00	ug/L	1	8/21/23 20:49	
Dimethylphthalate	ND	U	0.388	2.00	ug/L	1	8/21/23 20:49	
Di-n-butylphthalate	ND	U	0.131	2.00	ug/L	1	8/21/23 20:49	
Di-n-octylphthalate	ND	U	0.139	2.00	ug/L	1	8/21/23 20:49	
Fluoranthene	**6.08**		**0.129**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Fluorene	**55.6**		**0.109**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Hexachlorocyclopentadiene	ND	U	0.205	2.00	ug/L	1	8/21/23 20:49	UJ, RC:SL
Hexachloroethane	ND	U	0.111	2.00	ug/L	1	8/21/23 20:49	
Isophorone	ND	U	0.111	2.00	ug/L	1	8/21/23 20:49	
Naphthalene	**1440**	D	**3.04**	**100**	**ug/L**	**50**	**8/28/23 12:55**	
Nitrobenzene	ND	U	0.146	2.00	ug/L	1	8/21/23 20:49	
n-Nitroso-di-n-propylamine	ND	U	0.130	2.00	ug/L	1	8/21/23 20:49	
n-Nitrosodiphenylamine	ND	U	0.0626	2.00	ug/L	1	8/21/23 20:49	
Phenanthrene	**61.2**		**0.0725**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	
Phenol	ND	U	0.0973	2.00	ug/L	1	8/21/23 20:49	
Pyrene	**7.42**		**0.115**	**2.00**	**ug/L**	**1**	**8/21/23 20:49**	J, RC:6H

SW 846 8270E - Semivolatile Organics - GC/MS - BNA+25 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
Benzene, 1,3-dimethyl-	63.3	5.28	J	ug/L	1	8/21/23 20:49
Benzene, 1-ethyl-3-methyl-	33.3	5.87	J	ug/L	1	8/21/23 20:49
Indane	66.8	6.50	J	ug/L	1	8/21/23 20:49
Indene	250	6.59	J	ug/L	1	8/21/23 20:49
Naphthalene, 1,3-dimethyl-	28.7	9.12	J	ug/L	1	8/21/23 20:49
Naphthalene, 1-methyl-	10.3	8.41	J	ug/L	1	8/21/23 20:49
Naphthalene, 2,3-dimethyl-	50.4	9.00	J	ug/L	1	8/21/23 20:49
Naphthalene, 2,6-dimethyl-	37.8	8.92	J	ug/L	1	8/21/23 20:49
Naphthalene, 2-ethyl-	27.7	8.85	J	ug/L	1	8/21/23 20:49
unknown	101	6.15	J	ug/L	1	8/21/23 20:49
TIC Total	**669**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client: Yu & Associates
Project: Owls Head Phase 2

Work Order: 23H0666
Date to Lab: 8/9/2023 5:28:00PM

23H0666-07 (Ground Water) Sample Name: **DUP-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/18/23 17:12	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/18/23 17:12	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/18/23 17:12	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/18/23 17:12	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/18/23 17:12	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/18/23 17:12	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/18/23 17:12	UJ, RC:SL,6L
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/18/23 17:12	UJ, RC:SL,6L
1,2,4-Trimethylbenzene	**74.5**		**0.155**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/18/23 17:12	UJ, RC:SL
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/18/23 17:12	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/18/23 17:12	
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/18/23 17:12	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/18/23 17:12	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/18/23 17:12	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/18/23 17:12	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/18/23 17:12	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/18/23 17:12	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/18/23 17:12	
Acetone	ND	U	10.0	10.0	ug/L	1	8/18/23 17:12	
Benzene	**74.9**		**0.129**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/18/23 17:12	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/18/23 17:12	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/18/23 17:12	UJ, RC:SL
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/18/23 17:12	
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/18/23 17:12	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/18/23 17:12	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/18/23 17:12	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/18/23 17:12	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/18/23 17:12	
Chloroform	**0.492**	J	**0.365**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**	J, RC:6H
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/18/23 17:12	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/18/23 17:12	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/18/23 17:12	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/18/23 17:12	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/18/23 17:12	
EthylBenzene	**189**	D	**4.88**	**20.0**	**ug/L**	**20**	**8/21/23 19:24**	
Isopropylbenzene	**5.16**		**0.275**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-07 (Ground Water) Sample Name: **DUP-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	**155**		**0.461**	**2.00**	**ug/L**	**1**	**8/18/23 17:12**
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/18/23 17:12
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/18/23 17:12
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/18/23 17:12
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/18/23 17:12
o-Xylene	**86.6**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**
Styrene	**33.2**		**0.176**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/18/23 17:12
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/18/23 17:12
Toluene	**238**	D	**4.10**	**20.0**	**ug/L**	**20**	**8/21/23 19:24**
Total Xylenes	**242**		**0.244**	**1.00**	**ug/L**	**1**	**8/18/23 17:12**
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/18/23 17:12
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/18/23 17:12
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/18/23 17:12
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/18/23 17:12
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/18/23 17:12

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
1H-Indene, 1-methyl-	6.52	16.46	J	ug/L	1	8/18/23 17:12
2-Methylindene	26.9	16.39	J	ug/L	1	8/18/23 17:12
4-Phenylbut-3-ene-1-yne	371	17.09	J	ug/L	1	8/18/23 17:12
Benzene, (1-methyl-2-cyclopropen-1-yl)-	35.9	16.53	J	ug/L	1	8/18/23 17:12
Benzene, 1,2,3,4-tetramethyl-	7.67	15.69	J	ug/L	1	8/18/23 17:12
Benzene, 1,2,3-trimethyl-	9.66	13.20	J	ug/L	1	8/18/23 17:12
Benzene, 1,2-propadienyl-	207	15.00	J	ug/L	1	8/18/23 17:12
Benzene, 1-ethenyl-3-methyl-	28.4	13.80	J	ug/L	1	8/18/23 17:12
Benzene, 1-ethyl-2-methyl-	24.5	13.12	J	ug/L	1	8/18/23 17:12
Benzene, 1-propenyl-	12.1	13.88	J	ug/L	1	8/18/23 17:12
Benzene, 2-butenyl-	7.41	15.28	J	ug/L	1	8/18/23 17:12
Benzene, 2-ethyl-1,3-dimethyl-	5.32	15.10	J	ug/L	1	8/18/23 17:12
Benzo[c]thiophene	9.00	17.27	J	ug/L	1	8/18/23 17:12
Cycloprop[a]indene, 1,1a,6,6a-tetrahydro	9.16	16.43	J	ug/L	1	8/18/23 17:12
Indane	46.2	14.73	J	ug/L	1	8/18/23 17:12
TIC Total	**807**					

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-08 (Ground Water) Sample Name: **TB-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed	
1,1,1-Trichloroethane	ND	U	0.216	1.00	ug/L	1	8/21/23 15:07	
1,1,2,2-Tetrachloroethane	ND	U	0.218	1.00	ug/L	1	8/21/23 15:07	
1,1,2-Trichloro-1,2,2 Trifluoroethane	ND	U	0.546	1.00	ug/L	1	8/21/23 15:07	
1,1,2-Trichloroethane	ND	U	0.476	1.00	ug/L	1	8/21/23 15:07	
1,1-Dichloroethane	ND	U	0.393	1.00	ug/L	1	8/21/23 15:07	
1,1-Dichloroethene	ND	U	0.149	1.00	ug/L	1	8/21/23 15:07	
1,2,3-Trichlorobenzene	ND	U	0.488	1.00	ug/L	1	8/21/23 15:07	
1,2,4-Trichlorobenzene	ND	U	0.437	1.00	ug/L	1	8/21/23 15:07	UJ, RC:6L
1,2,4-Trimethylbenzene	ND	U	0.155	1.00	ug/L	1	8/21/23 15:07	
1,2-Dibromo-3-chloropropane	ND	U	1.09	2.00	ug/L	1	8/21/23 15:07	
1,2-Dibromoethane	ND	U	0.320	1.00	ug/L	1	8/21/23 15:07	
1,2-Dichlorobenzene	ND	U	0.210	1.00	ug/L	1	8/21/23 15:07	UJ, RC:6L
1,2-Dichloroethane	ND	U	0.306	1.00	ug/L	1	8/21/23 15:07	
1,2-Dichloropropane	ND	U	0.267	1.00	ug/L	1	8/21/23 15:07	
1,3-Dichlorobenzene	ND	U	0.287	1.00	ug/L	1	8/21/23 15:07	
1,4-Dichlorobenzene	ND	U	0.238	1.00	ug/L	1	8/21/23 15:07	
2-Butanone	ND	U	10.0	10.0	ug/L	1	8/21/23 15:07	
2-Hexanone	ND	U	0.635	2.00	ug/L	1	8/21/23 15:07	
4-Methyl-2-pentanone	ND	U	0.638	2.00	ug/L	1	8/21/23 15:07	
Acetone	ND	U	10.0	10.0	ug/L	1	8/21/23 15:07	
Benzene	ND	U	0.129	1.00	ug/L	1	8/21/23 15:07	
Bromochloromethane	ND	U	0.307	1.00	ug/L	1	8/21/23 15:07	
Bromodichloromethane	ND	U	0.258	1.00	ug/L	1	8/21/23 15:07	
Bromoform	ND	U	0.421	1.00	ug/L	1	8/21/23 15:07	
Bromomethane	ND	U	0.702	10.0	ug/L	1	8/21/23 15:07	UJ, RC:6L
Carbon disulfide	ND	U	0.477	1.00	ug/L	1	8/21/23 15:07	
Carbon Tetrachloride	ND	U	0.372	1.00	ug/L	1	8/21/23 15:07	
Chlorobenzene	ND	U	0.300	1.00	ug/L	1	8/21/23 15:07	
Chlorodibromomethane	ND	U	0.504	1.00	ug/L	1	8/21/23 15:07	
Chloroethane	ND	U	0.299	2.00	ug/L	1	8/21/23 15:07	
Chloroform	ND	U	0.365	1.00	ug/L	1	8/21/23 15:07	
Chloromethane	ND	U	0.758	1.00	ug/L	1	8/21/23 15:07	
cis-1,2-Dichloroethene	ND	U	0.352	1.00	ug/L	1	8/21/23 15:07	
cis-1,3-Dichloropropene	ND	U	0.294	1.00	ug/L	1	8/21/23 15:07	
Cyclohexane	ND	U	0.298	2.00	ug/L	1	8/21/23 15:07	
Dichlorodifluoromethane	ND	U	0.328	2.00	ug/L	1	8/21/23 15:07	UJ, RC:SL
EthylBenzene	ND	U	0.244	1.00	ug/L	1	8/21/23 15:07	
Isopropylbenzene	ND	U	0.275	1.00	ug/L	1	8/21/23 15:07	

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

All Results Summary

Pace Analytical Services, LLC-Fairfield

Client:	Yu & Associates	**Work Order:**	23H0666
Project:	Owls Head Phase 2	**Date to Lab:**	8/9/2023 5:28:00PM

23H0666-08 (Ground Water) Sample Name: **TB-20230809** Collected: **8/9/2023 12:00:00AM**

SW 846 8260D - Volatile Organics - GC/MS - VO+15 (con't)

Analyte	Result	Qual	MDL	RL	Units	Dilution	Analyzed
m+p-Xylenes	ND	U	0.461	2.00	ug/L	1	8/21/23 15:07
Methyl Acetate	ND	U	0.373	1.00	ug/L	1	8/21/23 15:07
Methyl tert-Butyl Ether	ND	U	0.596	1.00	ug/L	1	8/21/23 15:07
Methylcyclohexane	ND	U	0.222	1.00	ug/L	1	8/21/23 15:07
Methylene Chloride	ND	U	3.00	3.00	ug/L	1	8/21/23 15:07
o-Xylene	ND	U	0.244	1.00	ug/L	1	8/21/23 15:07
Styrene	ND	U	0.176	1.00	ug/L	1	8/21/23 15:07
tert-Butyl alcohol	ND	U	8.17	10.0	ug/L	1	8/21/23 15:07
Tetrachloroethene	ND	U	0.466	1.00	ug/L	1	8/21/23 15:07
Toluene	ND	U	0.205	1.00	ug/L	1	8/21/23 15:07
Total Xylenes	ND	U	0.244	1.00	ug/L	1	8/21/23 15:07
trans-1,2-Dichloroethene	ND	U	0.241	1.00	ug/L	1	8/21/23 15:07
trans-1,3-Dichloropropene	ND	U	0.279	1.00	ug/L	1	8/21/23 15:07
Trichloroethene	ND	U	0.146	1.00	ug/L	1	8/21/23 15:07
Trichlorofluoromethane	ND	U	0.413	1.00	ug/L	1	8/21/23 15:07
Vinyl chloride	ND	U	0.157	1.00	ug/L	1	8/21/23 15:07

SW 846 8260D - Volatile Organics - GC/MS - VO+15 - TIC

Tentitively Identified Compound	Est Conc	RT	Qual	Units	Dilution	Analyzed
No TICs Found			U			

ND, U - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard
D - Indicates result is based on a dilution
H - Indicates a Hold Time violation
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit, **RL** - Reporting limit
D1 - Sample was Decanted (Dissolved)

Appendix C: Asbestos in Soil Survey Report

Use of contents on this sheet is subject to the limitations specified at the end of this document.
CSO-GC-SFS-DES-R-PHASE II INVESTIGATION-20250220.DOCX

ASBESTOS in SOIL SURVEY REPORT

NYC DEP
Owl's Head Gowanus Canal
IC Industrial - 134A 5th Street
Plumbing Works - 142 5th Street
First Response Restoration Services - 32 2nd Avenue
Workspace 11 - 110 5th Street
Ferro Fabricators - 134B 5th Street
Bus Parking Lot - 2 2nd Avenue
Brooklyn, New York 11215

Project # OH-007

EPM Project # 202145

PREPARED FOR:
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Revised August 17, 2023

July 28, 2023

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EXECUTIVE SUMMARY

Environmental Planning & Management, Inc. (EPM), as a sub-consultant to HSBC, performed an investigation for the presence of asbestos containing materials (ACM) in Soil for the project at **NYC DEP Owl's Head Gowanus Canal**. The buildings and areas on site investigated to date are located at the following addresses:

- **134 A 5th Street, Brooklyn – IC Industrial**
- **142 5th Street, Brooklyn – Plumbing Works**
- **32 2nd Avenue, Brooklyn – First Response Restoration Services**
- **110 5th Street, Brooklyn – Workspace 11**
- **134 B 5th Street, Brooklyn – Ferro Fabricators**
- **2 Second Avenue, Brooklyn - Bus Parking Lot**

The scope of work for this project is the demolition of the buildings and grading of the soil to prepare the property for construction of new buildings. Field inspections were conducted on May 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 30, 31, and June 1, 2, 5, 6, and 7, 2023 by Joseph P. Cascio a New York City Department of Environmental Protection (NYC DEP) Certified Asbestos Investigator of Environmental Planning & Management Inc.

Asbestos Survey

EPM conducted an asbestos soil survey of the buildings and the bus parking lot. Bulk samples were collected from soil during soil boring operations. For the indoor locations a 6-inch diameter hole was cut in the concrete floor slab. Hand removal of the soil beneath the slab to a depth between one and two feet, an asbestos soil sample was collected. The soil bore would continue to a depth of four to six feet, where a second asbestos soil sample was collected. The second sample was only to be analyzed if the first sample was found to contain asbestos. In some instances, a second sample could not be collected because of an impenetrable barrier existing below the first layer of soil or the boring location was moved to a new location.

There were seventy-eight (78) soil samples collected at forty soil boring locations. **Laboratory analytical results indicate that thirteen (13) of the soil boring locations have asbestos materials and/or asbestos fibers in the soil.** These materials will be impacted by the demolition of the buildings and grading of the soil for construction. The areas which have asbestos contaminated soil are the First Response Restoration Services, Plumbing Works tenant space and the Bus Parking Lot. Two tenant's areas, TL State Distributers and Shred Up, the survey team were not permitted access for soil sampling due to the buildings being occupied at the time of the survey and the drilling work interfering with tenant operations. In these two areas the soil has been presumed asbestos contaminated until the areas can be sampled.

It is possible that additional suspect asbestos contaminated soil/ debris may be present below the floor slabs in other buildings at the Owl's Head Gowanus Canal site where no asbestos was found during the survey. It is impossible to identify all the materials below the floor in a building when only sampling from only a few locations within each tenant space. All suspect materials encountered during the course of demolition work and site preparation must be assumed to contain asbestos until proven otherwise via laboratory analytical testing.

All asbestos containing materials which will be disturbed by the demolition and construction activities must be removed in accordance with all applicable Federal, State and City asbestos regulations**.**

A summary of all asbestos containing materials anticipated to be impacted by this project, including their description, location, and quantity, are summarized in the following Table 1. A soil depth of 4.5 feet has been used to calculate quantities of asbestos contaminated soil in cubic yards. Schematics showing ACM sample locations are included in Appendix C. Asbestos bulk sample laboratory analytical data is included as Appendix E. Impacted asbestos material location schematics are included as Appendix F.

Table 1
Summary of Asbestos in Soil
NYC DEP Owl's Head Gowanus Canal, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content		Asbestos Contaminated Soil
			Polarized Light Microscopy	Transmission Electron Microscopy	
First Response Restoration Services					
FR-01A	OH-SB-50 at 1 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	0.23% Chrysotile Asbestos		The estimated quantity of soil to be disposed of should be based on the depth of the planned excavation of the property
FR-01B-FF-BM2 23-05-007-08	OH-SB-50 at 3.5 Foot Depth	Coarse Fraction - Building Material 2-Tar Like	2.1 Chrysotile Asbestos		
FR-01B-FF-BM3 23-05-007-09	OH-SB-50 at 3.5 Foot Depth	Coarse Fraction - Building Material 3-Linoleum Like	No Asbestos Detected, Inconclusive	16% Chrysotile Asbestos	

Sample I.D.	Sampling Location	Sample Description	Asbestos Content		Asbestos Contaminated Soil
			Polarized Light Microscopy	Transmission Electron Microscopy	
Plumbing Works					
PW-01A	OH-SB-45 at 1 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	0.21% Chrysotile Asbestos		The estimated quantity of soil to be disposed of should be based on the depth of the planned excavation of the property
PW-02A-CF-BM1 23-05-056-02	OH-SB-46 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Flooring	3.7% Chrysotile Asbestos		
PW-02A-FF-BM4 23-05-056-05	OH-SB-46 at 1 Foot Depth	Coarse Fraction - Building Material 4 - Firestop	6.2% Chrysotile Asbestos		
Bus Parking Lot					
BPL-06A	OH-SB-14 at 1-2 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	0.17% Chrysotile Asbestos		The estimated quantity of soil to be disposed of should be based on the depth of the planned excavation of the property
BPL-05A-CF-BM1 23-05-076-02	OH-SB-13 at 1.5 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	1.5% Chrysotile Asbestos		
BPL-08A-CF-BM1 23-05-076-06	OH-SB-18 at 1.5 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	4.8% Chrysotile Asbestos		
BPL-10A	OH-SB-23 at 1.5 Foot Depth	Soil Fractions (> 19mm, Coarse, Medium, Fine)	0.23% Amosite Asbestos		
BPL-10A-CF-BM3 23-05-085-03	OH-SB-23 at 1.5 Foot Depth	Coarse Fraction - Building Material 3 - Cementitious	6.2% Amosite Asbestos		
BPL-10B	OH-SB-23 at 4.5 Foot Depth	Soil Fractions (> 19mm, Coarse, Medium, Fine)	2.4% Chrysotile Asbestos		
BPL-10B	OH-SB-23 at 4.5 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
BPL-10B-CF-BM1 23-05-085-11	OH-SB-23 at 4.5 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	1.5% Chrysotile Asbestos		

Sample I.D.	Sampling Location	Sample Description	Asbestos Content		Asbestos Contaminated Soil
			Polarized Light Microscopy	Transmission Electron Microscopy	
BPL-12A	OH-SB-27 at 2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	0.28% Chrysotile Asbestos		
BPL-12A-CF-BM1 23-05-085-06	OH-SB-27 at 2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious	6.0% Chrysotile Asbestos		
BPL-13A	OH-SB-28 at 2 Foot Depth	Soil Fractions (> 19mm, Coarse, Medium, Fine)	0.11% Chrysotile Asbestos		
BPL-13A	OH-SB-28 at 2 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
BPL-13A-CF-BM2 23-05-085-08	OH-SB-28 at 2 Foot Depth	Coarse Fraction - Building Material 1 - Vinyl Tile	No Asbestos Detected, Inconclusive	8.5% Chrysotile Asbestos	
BPL-13A-CF-BM3 23-05-085-09	OH-SB-28 at 2 Foot Depth	Coarse Fraction - Building Material 2- Cementitious	7.1% Chrysotile Asbestos		
BPL-17A	OH-SB-22 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	0.11% Amosite Asbestos		
BPL-17A	OH-SB-22 at 1-2 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
BPL-17A-CF-BM1 23-05-092-05	OH-SB-22 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious	8.0% Amosite Asbestos		
BPL-19A	OH-SB-16A at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	0.59% Chrysotile Asbestos		
BPL-19A	OH-SB-16A at 1-2 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
BPL-22A	OH-SB-12A at 2 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
BPL-22B-CF-BM2 23-06-001-06	OH-SB-12A at 3.5 Foot Depth	Coarse Fraction - Building Material 2 - Tar/Mastic	No Asbestos Detected, Inconclusive	0.53% Chrysotile Asbestos	
MW-07A	Monitoring Well (MW) 07 at 1 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	1.6% Chrysotile Asbestos		
MW-07A	Monitoring Well (MW) 07 at 1 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
MW-07A-CF-BM1 23-06-012-01	MW-07 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Like Transite	23.5% Chrysotile Asbestos		

Sample I.D.	Sampling Location	Sample Description	Asbestos Content		Asbestos Contaminated Soil
			Polarized Light Microscopy	Transmission Electron Microscopy	
MW-07B	MW-07 at 4 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	0.67% Chrysotile Asbestos		
MW-07B	MW-at 4 Foot Depth	Fine Fraction (Soil)		Asbestos Structures Detected	
MW-07B-CF-BM1 23-06-012-03	MW-07 at 4 Foot Depth	Coarse Fraction - Building Material 1 - Like Carpet with Mastic	0.26% Chrysotile Inconclusive	1.2% Chrysotile Asbestos	
MW-07B-CF-BM3 23-06-012-05	MW-07 at 4 Foot Depth	Coarse Fraction - Building Material 2 - Like Tar/Mastic	1.4% Chrysotile Asbestos		
TL State Distributers					
		Presumed Asbestos Containing Soil until the soil below the floor slab can be sampled.			The estimated quantity of soil to be disposed of should be based on the depth of the planned excavation of the property
Shred Up					
		Presumed Asbestos Containing Soil until the soil below the floor slab can be sampled.			The estimated quantity of soil to be disposed of should be based on the depth of the planned excavation of the property

1.0 INTRODUCTION

Environmental Planning & Management, Inc. (EPM), as a sub-consultant to HSBC, performed an investigation for the presence of asbestos containing materials (ACM) within the buildings at **NYC DEP Owl's Head Gowanus Canal.** The buildings are located at the following addresses:

- **134A 5th Street, Brooklyn – IC Industrial**
- **142 5th Street, Brooklyn – Plumbing Works**
- **32 2nd Avenue, Brooklyn – First Response Restoration Services**
- **110 5th Street, Brooklyn – Workspace 11**
- **134B 5th Street, Brooklyn – Ferro Fabricators**
- **2 2nd Avenue, Brooklyn – Bus Parking Lot**

The purpose of this hazardous materials investigation was to survey the soil underneath the buildings and bus parking lot that will be impacted by the demolition scope of work to identify asbestos containing materials (materials with an asbestos content of greater than 1%).

The scope of work for the investigation consisted of the following tasks:

1. Collect soil samples during the soil boring within the spaces identified above.

2. Submit the suspect ACM samples to a certified laboratory for asbestos analysis of soil aggregate samples by ASTM D7521.

3. Prepare a report summarizing the location of asbestos containing materials within the soil which will be impacted as part of the demolition scope of work.

2.0 HAZARDOUS MATERIALS SURVEY

This section describes data collection activities including the site inspection and sample collection. Field inspections were conducted on May 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 30, 31, June 1, 2, 5, 6, and 7, 2023 by Joseph P Cascio a New York City Department of Environmental Protection Certified Asbestos Investigator (117607) of Environmental Planning & Management Inc.

2.1 Scope of Work

The scope of work for this project is the demolition of these buildings to prepare the property for construction of a new NYC DEP facility.

2.2 Sample Collection Methods

2.2.1 Asbestos Survey

A strategy for soil boring at the proposed location was based upon previous site reconnaissance during the site visit. The exact soil boring location was adjusted to accommodate tenant requirements, as long as the drilling operation could be conducted safely. A coring device was utilized to cut a six-inch hole through the concrete floor slab. Once through the slab to the soil, the drilling contractor will utilize various hand tools to remove soil and debris from the location down to six feet. Soil sampling was conducted at a depth between one to two feet is reached. A second sample was collected at a depth of between four to six feet. The second sample was only analyzed if the first sample is asbestos or has asbestos fibers in the soil. The asbestos soil boring locations bulk sample location schematics are presented in Appendix C.

2.3 Field Observations

2.3.1 General Description

All the buildings are constructed of cement block walls, red brick, white brick, steel or wood beams, with either a wood ceiling deck or metal ceiling deck. The floors of the buildings are bare concrete slabs. The asbestos soil sampling required the coring of the floor slabs to sample the soil beneath. The floor slabs were usually greater than 12 inches of concrete. The soil beneath contained debris such as: bricks, small rocks and pieces of building material.

The Bus Parking Lot has an asphalt top layer with a several inches of soil and a second layer of asphalt beneath. There are layers of brick and more debris such as; wood, metal, glass, brick, rocks and other small pieces of building materials. At the five-to-six-foot depth is the water table. All soil samples were dried before laboratory analysis. Saturated soil below the water table line was not sampled for asbestos.

2.3.2 Asbestos Survey Observations

During the asbestos soil survey, the accessible areas potentially impacted by the proposed work were investigated. The soil underneath the floor slabs in two of the buildings, TL State Distributors and Shred Up, were not accessible. These areas were not accessible due to **tenant occupancy. These areas must be inspected once the buildings have been vacated or the soil presumed asbestos containing**.

The soil within the First Response Restoration Services, Plumbing Works Spaces property and Bus Parking Lot contain asbestos materials and detectable asbestos mineral structures (fibers).

All asbestos materials removed as part of this demolition project must be removed in compliance with New York City Title 15 Chapter 1, New York State Industrial Code Rule 56, and US Environmental Protection Agency asbestos regulations prior to demolition of the buildings or other construction trades impacting these materials.

2.4 Analytical Procedures

2.4.1 Asbestos Bulk Sample Analysis

The bulk samples of suspect ACM were delivered to Alpha Laboratories located at 14-26 28th Avenue, Long Island City, New York. Alpha Labs is accredited by the New York State Department of Health (NYS DOH) Environmental Laboratory Accreditation Program (Alpha Labs ELAP # 11833), and the National Voluntary Laboratory Accreditation Program (Alpha Labs NVLAP# 200691-0). Laboratory accreditation documentation is included as Appendix D.

The asbestos in soil analysis was conducted by ASTM Method D7521. During the soil sample preparations pieces of soil which appeared to be remnants of building materials were removed and analyzed using Polarized Light Microscopy (PLM) with dispersion staining, as described in 40 CFR Part 763 and National Emissions Standards for Hazardous Air Pollutants (NESHAPS) regulations.

Friable samples were analyzed by Polarized Light Microscopy (PLM) via ELAP Method 198.1. Non-friable organically bound materials (NOBs) were analyzed by PLM NOB via ELAP Method 198.6. NOBs with an asbestos concentration less than or equal to one percent were reanalyzed by Transmission Electron Microscopy (TEM) with gravimetric preparation via ELAP Method 198.4. TEM analysis is the only method that can be used to determine if inconclusive non-friable organically bound materials (NOBs) can be considered non-asbestos containing.

3.0 SURVEY RESULTS

3.1 Asbestos Analytical Results

Laboratory analytical results indicate that **asbestos containing materials** and **asbestos structures (fibers)** exist in the soil underneath the floor slab of the **First Response Restoration Services and Plumbing Works property,** and in the **Bus Parking Lot underneath the asphalt**. The following areas have asbestos in the soil:

First Response Restoration Services – 32 2nd Avenue, Brooklyn

- Asbestos containing building materials were found within the soil underneath the slab at Soil Boring Hole 50 at the 3.5-foot level.

Plumbing Works – 142 5th Street, Brooklyn

- Asbestos containing building materials were found within the soil underneath the slab at Soil Boring Holes 45 and 46 at the one-foot level.

Bus Parking Lot – 2 Second Avenue, Brooklyn

- Asbestos containing building materials were found within the soil underneath the parking lot and at Soil Boring Holes 13, 14, 18, 23, 27, 28, 22, 16A, 12A and the hole for Monitoring Well 07. The soil depth varied from 1 to 4.5 feet.

A summary of all asbestos containing soils anticipated to be impacted by this project, including their description, location and quantity, are summarized in Table 1. A list of the soils sampled along with the associated laboratory analyses can be found in Tables 2. Schematics showing locations of boring holes where the soil was collected are included in Appendix C. The Lab Report for the Asbestos in Soil - Analysis by Method ASTM D7521 with bulk sample laboratory analytical data is included as Appendix E. Impacted asbestos material location schematics are included as Appendix F.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Asbestos Containing Materials

Asbestos containing soil has been identified at NYC DEP Owl's Head Gowanus Canal. The following addresses contain asbestos materials or presumed asbestos containing materials:

- **32 2nd Avenue, Brooklyn – First Response Restoration Services**
- **142 5th Street, Brooklyn – Plumbing Works**
- **2 2nd Avenue, Brooklyn – Bus Parking Lot**
- **22 2nd Avenue – TL State Distributers**
- **110 5th Street – Shred-Up**

First Response Restoration Services - 32 2nd Avenue, Brooklyn
Asbestos building materials were found within the soil underneath the slab at Soil Boring Hole 50. The soil within the limits of the 32 2nd Avenue property should be considered asbestos containing.

Plumbing Works - 142 5th Street, Brooklyn
Asbestos building materials were found within the soil underneath the slab at Soil Boring Hole 45 and 46. The soil within the limits of the 142 5th Street property should be considered asbestos containing.

Bus Parking Lot - 2 Second Avenue, Brooklyn
Asbestos building materials were found within the soil underneath the parking lot and at Soil Boring Holes 13, 14, 18, 23, 27, 28, 22, 16A, 12A and the hole for Well 07. The soil within the limits of the 2 Second Avenue property should be considered asbestos containing.

TL State Distributers - 22 2nd Avenue, Brooklyn
The soil below the floor slab is **presumed** to be asbestos contaminated until it can be sampled and analyzed. The soil within the limits of the 22 2nd Avenue property should be considered asbestos containing.

Shred Up - 110 5th Street, Brooklyn
The soil below the floor slab is **presumed** to be asbestos contaminated until it can be sampled and analyzed. The soil within the limits of the 110 5th Street property should be considered asbestos containing.

A site-specific asbestos abatement variance for excavation and disposal of this soil must be obtained from the New York City Department of Environmental Protection. Site specific variance procedures should include the following work procedures.

- The asbestos soil abatement work must be performed by a licensed asbestos abatement contractor.
- All abatement workers including the heavy equipment operators must have asbestos certification.

- Designation of a restricted work area where asbestos soil is being excavated.
- Use of wet methods to prevent asbestos fiber generation or migration.
- Air monitoring should be conducted around the perimeter of the abatement work area.
- Designation of an equipment decontamination area for heavy equipment.
- Capture of the wastewater from decontamination procedures to be filtered and disposed.

This soil may contain additional contaminants based on other environmental analysis performed. This soil may require special handling procedures and disposal requirements if it contains additional contaminants. The estimated quantity of soil to be disposed of should be based on the depth of the planned excavation of the property.

It is possible that additional suspect ACM may be present within concealed hidden spaces which were not identified on the drawing. All suspect asbestos containing materials encountered during the demolition activities must be assumed to contain asbestos until proven otherwise via laboratory analytical testing. All asbestos containing materials must be removed and properly disposed of in accordance with all City, State, and Federal regulations prior to impact by the demolition project.

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
First Response - 32 2nd Avenue				
FR-01A	**First Response 32 2nd Avenue OH-SB-50 at 1 Foot Depth**	**Soil Fractions (>19mm, Coarse, Medium, Fine)**	**0.23% Chrysotile Asbestos**	
FR-01A	First Response 32 2nd Avenue OH-SB-50 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FR-01A-FF-BM1 23-05-007-01	First Response 32 2nd Avenue OH-SB-50 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
FR-01A-FF-BM2 23-05-007-02	First Response 32 2nd Avenue OH-SB-50 at 1 Foot Depth	Coarse Fraction - Building Material 2 - Tar / Asphalt	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-01A-FF-BM3 23-05-007-03	First Response 32 2nd Avenue OH-SB-50 at 1 Foot Depth	Coarse Fraction - Building Material 3 - Flooring Material	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-01A-FF-BM4 23-05-007-04	First Response 32 2nd Avenue OH-SB-50 at 1 Foot Depth	Coarse Fraction - Building Material 4 - Paper Like Material	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-01B	First Response 32 2nd Avenue OH-SB-50 at 3.5 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	No Asbestos Detected	
FR-01B	First Response 32 2nd Avenue OH-SB-50 at 3.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FR-01B-FF-BM1 23-05-007-07	First Response 32 2nd Avenue OH-SB-50 at 3.5 Foot Depth	Coarse Fraction - Building Material 1- Cementitious Material	No Asbestos Detected	
FR-01B-FF-BM2 23-05-007-08	**First Response 32 2nd Avenue OH-SB-50 at 3.5 Foot Depth**	**Coarse Fraction - Building Material 2- Tar Like Material**	**2.1 % Chrysotile Asbestos**	
FR-01B-FF-BM3 23-05-007-09	**First Response 32 2nd Avenue OH-SB-50 at 3.5 Foot Depth**	**Coarse Fraction - Building Material 3- Linoleum Like Material**	**No Asbestos Detected, Inconclusive**	**16 % Chrysotile Asbestos**

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
FR-02A	First Response 32 2nd Avenue OH-SB-52 at 1 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	No Asbestos Detected	
FR-02A	First Response 32 2nd Avenue OH-SB-52 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FR-02A-FF-BM1 23-05-007-01	First Response 32 2nd Avenue OH-SB-52 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Tar / Asphalt	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-02A-FF-BM2 23-05-007-04	First Response 32 2nd Avenue OH-SB-52 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material Tar / Asphalt	No Asbestos Detected	
FR-03A	First Response 32 2nd Avenue OH-SB-51 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
FR-03A	First Response 32 2nd Avenue OH-SB-51 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FR-03A-CF-BM1 23-05-016-01	First Response 32 2nd Avenue OH-SB-51 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
FR-03A-CF-BM2 23-05-016-02	First Response 32 2nd Avenue OH-SB-51 at 1 Foot Depth	Coarse Fraction - Building Material 2 - Asphalt	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-03A-CF-BM3 23-05-016-03	First Response 32 2nd Avenue OH-SB-51 at 1 Foot Depth	Coarse Fraction - Building Material 3 - Tar / Mastic	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-04A	First Response 32 2nd Avenue OH-SB-60 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
FR-04A	First Response 32 2nd Avenue OH-SB-60 at 1-2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FR-04A-CF-BM1 23-05-016-04	First Response 32 2nd Avenue OH-SB-60 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
FR-05A	First Response 32 2nd Avenue OH-SB-58 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
FR-05A	First Response 32 2nd Avenue OH-SB-58 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
FR-05A-CF-BM1 23-05-016-05	First Response 32 2nd Avenue OH-SB-58 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
FR-06A	First Response 32 2nd Avenue OH-SB-53 at 1 Foot Depth	Soil Fractions (> Coarse, Coarse, Medium, Fine)	No Asbestos Detected	
FR-06A	First Response 32 2nd Avenue OH-SB-53 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FR-06A-CF-BM1 23-05-016-06	First Response 32 2nd Avenue OH-SB-53 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Asphalt / Bituminous Material	No Asbestos Detected, Inconclusive	No Asbestos Detected
FR-07A	First Response 32 2nd Avenue OH-SB-56 at 1.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
FR-07A	First Response 32 2nd Avenue OH-SB-56 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
IC Industrial - 134A 5th Street				
IC-01A	IC Industrial 134A 5th Street OH-SB-40 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
IC-01A	IC Industrial 134A 5th Street OH-SB-40 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
IC-01A-CF-BM1 23-05-035-01	IC Industrial 134A 5th Street OH-SB-40 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
IC-02A	IC Industrial 134A 5th Street OH-SB-41 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
IC-02A	IC Industrial 134A 5th Street OH-SB-41 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
Ferro Fabricators - 134B 5th Street				
FF-01A	Ferro Fabricators 134B 5th Street OH-SB-42 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
FF-01A	Ferro Fabricators 134B 5th Street OH-SB-42 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FF-01A-CF-BM1 23-05-041-01	Ferro Fabricators 134B 5th Street OH-SB-42 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
FF-02A	Ferro Fabricators 134B 5th Street OH-SB-39 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
FF-02A	Ferro Fabricators 134B 5th Street OH-SB-39 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
FF-02A-CF-BM1 23-05-041-02	Ferro Fabricators 134B 5th Street OH-SB-39 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
Plumbing Works - 142 5th Street				
PW-01A	**Plumbing Works 142 5th Street OH-SB-45 at 1 Foot Depth**	**Soil Fractions (Coarse, Medium, Fine)**	**0.21% Chrysotile Asbestos**	
PW-01A	Plumbing Works 142 5th Street OH-SB-45 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
PW-01A-CF-BM1 23-05-056-01	Plumbing Works 142 5th Street OH-SB-45 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
PW-01B	Plumbing Works 142 5th Street OH-SB-45 at 6 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
PW-01B	Plumbing Works 142 5th Street OH-SB-45 at 6 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
PW-01B-CF-BM1 23-05-056-06	Plumbing Works 142 5th Street OH-SB-45 at 6 Foot Depth	Coarse Fraction -Building Material 1-Cementitious material	No Asbestos Detected	
PW-01B-CF-BM2 23-05-056-07	Plumbing Works 142 5th Street OH-SB-45 at 6 Foot Depth	Coarse Fraction -Building Material 2-Cementitious material	No Asbestos Detected	
PW-02A	Plumbing Works 142 5th Street OH-SB-46 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
PW-02A	Plumbing Works 142 5th Street OH-SB-46 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
PW-02A-CF-BM1 23-05-056-02	**Plumbing Works 142 5th Street OH-SB-46 at 1 Foot Depth**	**Coarse Fraction - Building Material 1 - Flooring Material**	**3.7% Chrysotile Asbestos**	
PW-02A-FF-BM2 23-05-056-03	Plumbing Works 142 5th Street OH-SB-46 at 1 Foot Depth	Coarse Fraction - Building Material 2 - Sealant Material	No Asbestos Detected, Inconclusive	No Asbestos Detected
PW-02A-FF-BM3 23-05-056-04	Plumbing Works 142 5th Street OH-SB-46 at 1 Foot Depth	Coarse Fraction - Building Material 3 - Cementitious Material	No Asbestos Detected	
PW-02A-FF-BM4 23-05-056-05	**Plumbing Works 142 5th Street OH-SB-46 at 1 Foot Depth**	**Coarse Fraction - Building Material 4 - Firestop**	**6.2% Chrysotile Asbestos**	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
PW-02B	Plumbing Works 142 5th Street OH-SB-46 at 4 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
PW-02B	Plumbing Works 142 5th Street OH-SB-46 at 4 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
Workspace 11 - 110 5th Street				
W11-01A	Workspace 11-110 5th Street OH-SB-33 at 1 Foot Dept	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
W11-01B	Workspace 11 - 110 5th Street OH-SB-33 at 1 Foot Dept	Fine Fraction (Soil)		No Asbestos Structures Found
W11-02A	Workspace 11 - 110 5th Street OH-SB-34 at 1 Foot Dept	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
W11-02B	Workspace 11 - 110 5th Street OH-SB-34 at 3.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
W11-02A-CF-BM1 23-05-058-01	Workspace 11 - 110 5th Street OH-SB-34 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
Bus Parking Lot - 2 Second Avenue				
BPL-01A	Bus Parking Lot - 2 2nd Avenue OH-SB-20 at 1 foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-01A	Bus Parking Lot - 2 2nd Avenue OH-SB-20 at 1 foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-01A-CF-BM1 23-05-059-01	Bus Parking Lot - 2 2nd Avenue OH-SB-20 at 1 foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-02A	Bus Parking Lot - 2 2nd Avenue OH-SB-15 at 3.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-02A	Bus Parking Lot - 2 2nd Avenue OH-SB-15 at 3.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-02A-CF-BM1 23-05-059-02	Bus Parking Lot - 2 2nd Avenue OH-SB-15 at 3.5 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-03A	Bus Parking Lot - 2 2nd Avenue OH-SB-66 at 1.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-03A	Bus Parking Lot - 2 2nd Avenue OH-SB-66 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-03A-CF-BM1 23-05-059-03	Bus Parking Lot - 2 2nd Avenue OH-SB-66 at 1.5 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-04A	Bus Parking Lot - 2 2nd Avenue OH-SB-30 at 1 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-04A	Bus Parking Lot - 2 2nd Avenue OH-SB-30 at 1 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-04A-CF-BM1 23-05-076-01	Bus Parking Lot - 2 2nd Avenue OH-SB-30 at 1 Foot Depth	Coarse Fraction - Building Material 1 - Floor Material	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-05A	Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 1.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-05A	Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-05A-CF-BM1 23-05-076-02	**Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 1.5 Foot Depth**	**Coarse Fraction - Building Material 1 - Tar/Mastic**	**1.5% Chrysotile Asbestos**	
BPL-05A-CF-BM2 23-05-076-03	Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 1.5 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious	No Asbestos Detected	
BPL-05B	Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 4 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-05B	Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 4 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-5B-CF-BM2 23-05-076-07	Bus Parking Lot - 2 2nd Avenue OH-SB-13 at 4 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious	No Asbestos Detected	
BPL-06A	**Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 1-2 Foot Depth**	**Soil Fractions (Coarse, Medium, Fine)**	**0.17% Chrysotile Asbestos**	
BPL-06A	Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 1-2 Foot Depth	Fine Fraction (soil)		No Asbestos Structures Found
BPL-06A-CF-BM1 23-05-076-04	Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious	No Asbestos Detected	
BPL-06B	Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 6 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-06B	Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 6 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-6B-CF-BM1 23-05-076-08	Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 6 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious material	No Asbestos Detected	
BPL-6B-CF-BM2 23-05-076-09	Bus Parking Lot - 2 2nd Avenue OH-SB-14 at 6 Foot Depth	Coarse Fraction - Building Material 2 - Tar	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-07A	Bus Parking Lot - 2 2nd Avenue OH-SB-19 at 2.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-07A	Bus Parking Lot - 2 2nd Avenue OH-SB-19 at 2.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-07A-CF-BM1 23-05-076-05	Bus Parking Lot - 2 2nd Avenue OH-SB-19 at 2.5 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious	No Asbestos Detected	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-08A	Bus Parking Lot - 2 2nd Avenue OH-SB-18 at 1.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-08A	Bus Parking Lot - 2 2nd Avenue OH-SB-18 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-08A-CF-BM1 23-05-076-06	**Bus Parking Lot - 2 2nd Avenue OH-SB-18 at 1.5 Foot Depth**	**Coarse Fraction - Building Material 1 - Tar/Mastic**	**4.8% Chrysotile Asbestos**	
BPL-08B	Bus Parking Lot - 2 2nd Avenue OH-SB-18 at 6 Foot Depth	Soil Fractions (> 19mm, Coarse, Medium, Fine)	No Asbestos Detected	
BPL-08B	Bus Parking Lot - 2 2nd Avenue OH-SB-18 at 6 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-09A	Bus Parking Lot - 2 2nd Avenue OH-SB-17 at 1.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-09A	Bus Parking Lot - 2 2nd Avenue OH-SB-17 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-10A	**Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 1.5 Foot Depth**	**Soil Fractions (> 19mm, Coarse, Medium, Fine)**	**0.23% Amosite Asbestos**	
BPL-10A	Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-10A-CF-BM1 23-05-085-01	Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 1.5 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-10A-CF-BM2 23-05-085-02	Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 1.5 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious	No Asbestos Detected	
BPL-10A-CF-BM3 23-05-085-03	**Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 1.5 Foot Depth**	**Coarse Fraction - Building Material 3 - Cementitious**	**6.2% Amosite Asbestos**	
BPL-10B	**Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 4.5 Foot Depth**	**Soil Fractions (> 19mm, Coarse, Medium, Fine)**	**2.4% Chrysotile Asbestos**	
BPL-10B	**Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 4.5 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
BPL-10B-CF-BM1 23-05-085-11	**Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 4.5 Foot Depth**	**Coarse Fraction - Building Material 1 - Tar/Mastic**	**1.5% Chrysotile Asbestos**	
BPL-10B-CF-BM2 23-05-085-12	Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 4.5 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-10B-CF-BM3 23-05-085-13	Bus Parking Lot - 2 2nd Avenue OH-SB-23 at 4.5 Foot Depth	Coarse Fraction - Building Material 3 - Cementitious Material	No Asbestos Detected	
BPL-11A	Bus Parking Lot - 2 2nd Avenue OH-SB-29 at 2 Foot Depth	Soil Fractions (> 19mm, Coarse, Medium, Fine)	No Asbestos Detected	
BPL-11A	Bus Parking Lot - 2 2nd Avenue OH-SB-29 at 2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-11A-CF-BM1 23-05-085-04	Bus Parking Lot - 2 2nd Avenue OH-SB-29 at 2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-11A-CF-BM2 23-05-085-05	Bus Parking Lot - 2 2nd Avenue OH-SB-29 at 2 Foot Depth	Coarse Fraction - Building Material 2 - Stucco Like	No Asbestos Detected	
BPL-12A	**Bus Parking Lot - 2 2nd Avenue OH-SB-27 at 2 Foot Depth**	**Soil Fractions (Coarse, Medium, Fine)**	**0.28% Chrysotile Asbestos**	
BPL-12A	Bus Parking Lot - 2 2nd Avenue OH-SB-27 at 2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-12A-CF-BM1 23-05-085-06	**Bus Parking Lot - 2 2nd Avenue OH-SB-27 at 2 Foot Depth**	**Coarse Fraction - Building Material 1 - Cementitious Material**	**6.0% Chrysotile Asbestos**	
BPL-12B	Bus Parking Lot - 2 2nd Avenue OH-SB-27 at 6 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-12B	Bus Parking Lot - 2 2nd Avenue OH-SB-27 at 6 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-12B-CF-BM1 23-05-085-14	Bus Parking Lot - 2 2nd Avenue OH-SB-27 at 6 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-13A	**Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 2 Foot Depth**	**Soil Fractions (> 19mm, Coarse, Medium, Fine)**	**0.11% Chrysotile Asbestos**	
BPL-13A	**Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 2 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
BPL-13A-CF-BM1 23-05-085-07	Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 2 Foot Depth	Coarse Fraction - Building Material 1 - Felt Paper	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-13A-CF-BM2 23-05-085-08	**Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 2 Foot Depth**	**Coarse Fraction - Building Material 2 - Vinyl Tile**	**No Asbestos Detected, Inconclusive**	**8.5% Chrysotile Asbestos**
BPL-13A-CF-BM3 23-05-085-09	**Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 2 Foot Depth**	**Coarse Fraction - Building Material 3 - Cementitious Material**	**7.1% Chrysotile Asbestos**	
BPL-13A-CF-BM4 23-05-085-10	Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 2 Foot Depth	Coarse Fraction - Building Material 4 - Cementitious Material	No Asbestos Detected	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-13B	Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 6 Foot Depth	Soil Fractions (> 19mm, Coarse, Medium, Fine)	No Asbestos Detected	
BPL-13B	Bus Parking Lot - 2 2nd Avenue OH-SB-28 at 6 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-14A	Bus Parking Lot - 2 2nd Avenue OH-SB-25 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-14A	Bus Parking Lot - 2 2nd Avenue OH-SB-25 at 1-2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-14A-CF-BM1 23-05-092-01	Bus Parking Lot - 2 2nd Avenue OH-SB-25 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-15A	Bus Parking Lot - 2 2nd Avenue OH-SB-31 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-15A	Bus Parking Lot - 2 2nd Avenue OH-SB-31 at 1-2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-15A-CF-BM1 23-05-092-02	Bus Parking Lot - 2 2nd Avenue OH-SB-31 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-16A	Bus Parking Lot - 2 2nd Avenue OH-SB-21 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-16A	Bus Parking Lot - 2 2nd Avenue OH-SB-21 at 1-2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-16A-CF-BM1 23-05-092-03	Bus Parking Lot - 2 2nd Avenue OH-SB-21 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-16A-CF-BM2 23-05-092-04	Bus Parking Lot - 2 2nd Avenue OH-SB-21 at 1-2 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-17A	**Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 1-2 Foot Depth**	**Soil Fractions (Coarse, Medium, Fine)**	**0.11% Amosite Asbestos**	
BPL-17A	**Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 1-2 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
BPL-17A-CF-BM1 23-05-092-05	**Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 1-2 Foot Depth**	**Coarse Fraction - Building Material 1 - Cementitious Material**	**8.0% Amosite Asbestos**	

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-17A-CF-BM2 23-05-092-06	Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 1-2 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-17B	Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 4 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-17B	Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 4 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-17B-CF-BM1 23-05-092-07	Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 4 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-17B-CF-BM2 23-05-092-08	Bus Parking Lot - 2 2nd Avenue OH-SB-22 at 4 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-18A	Bus Parking Lot - 2 2nd Avenue OH-SB-16 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-18A	Bus Parking Lot - 2 2nd Avenue OH-SB-16 at 1-2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-18A-CF BM1 23-05-108-01	Bus Parking Lot - 2 2nd Avenue OH-SB-16 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-18A-CF BM2 23-05-108-02	Bus Parking Lot - 2 2nd Avenue OH-SB-16 at 1-2 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-19A	**Bus Parking Lot - 2 2nd Avenue OH-SB-16A at 1-2 Foot Depth**	**Soil Fractions (Coarse, Medium, Fine)**	**0.59% Chrysotile Asbestos**	
BPL-19A	**Bus Parking Lot - 2 2nd Avenue OH-SB-16A at 1-2 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
BPL-19A-CF-BM1 23-05-108-03	Bus Parking Lot - 2 2nd Avenue OH-SB-16A at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-19A-CF-BM2 23-05-108-04	Bus Parking Lot - 2 2nd Avenue OH-SB-16A at 1-2 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-19B	Bus Parking Lot - 2 2nd Avenue OH-SB-16A at 3-4 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-19B	Bus Parking Lot - 2 2nd Avenue OH-SB-16A at 3-4 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Detected
BPL-20A	Bus Parking Lot - 2 2nd Avenue OH-SB-24 at 2-3 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-20A	Bus Parking Lot - 2 2nd Avenue OH-SB-24 at 2-3 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-20A-CF-BM1 23-05-119-01	Bus Parking Lot - 2 2nd Avenue OH-SB-24 at 2-3 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-20A-CF-BM2 23-05-119-02	Bus Parking Lot - 2 2nd Avenue OH-SB-24 at 2-3 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-21A	Bus Parking Lot - 2 2nd Avenue OH-SB-12 at 1-2 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
BPL-21A	Bus Parking Lot - 2 2nd Avenue OH-SB-12 at 1-2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-21A-CF-BM1 23-06-001-01	Bus Parking Lot - 2 2nd Avenue OH-SB-12 at 1-2 Foot Depth	Coarse Fraction - Building Material 1 - Tar/Mastic	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-21A-CF-BM2 23-06-001-02	Bus Parking Lot - 2 2nd Avenue OH-SB-12 at 1-2 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-22A	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 2 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	No Asbestos Detected	
BPL-22A	**Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 2 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
BPL-22A-CF-BM1 23-06-001-03	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
BPL-22A-CF-BM2 23-06-001-04	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 2 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
BPL-22B	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Soil Fractions (>19mm, Coarse, Medium, Fine)	No Asbestos Detected	
BPL-22B	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
BPL-22B-CF-BM1 23-06-001-05	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Coarse Fraction - Building Material 1 - Elastic Material	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-22B-CF-BM2 23-06-001-06	**Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth**	**Coarse Fraction - Building Material 2 - Tar/Mastic**	**No Asbestos Detected, Inconclusive**	**0.53% Chrysotile Asbestos**
BPL-22B-CF-BM3 23-06-001-07	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Coarse Fraction - Building Material 3 - Cementitious Material	No Asbestos Detected	

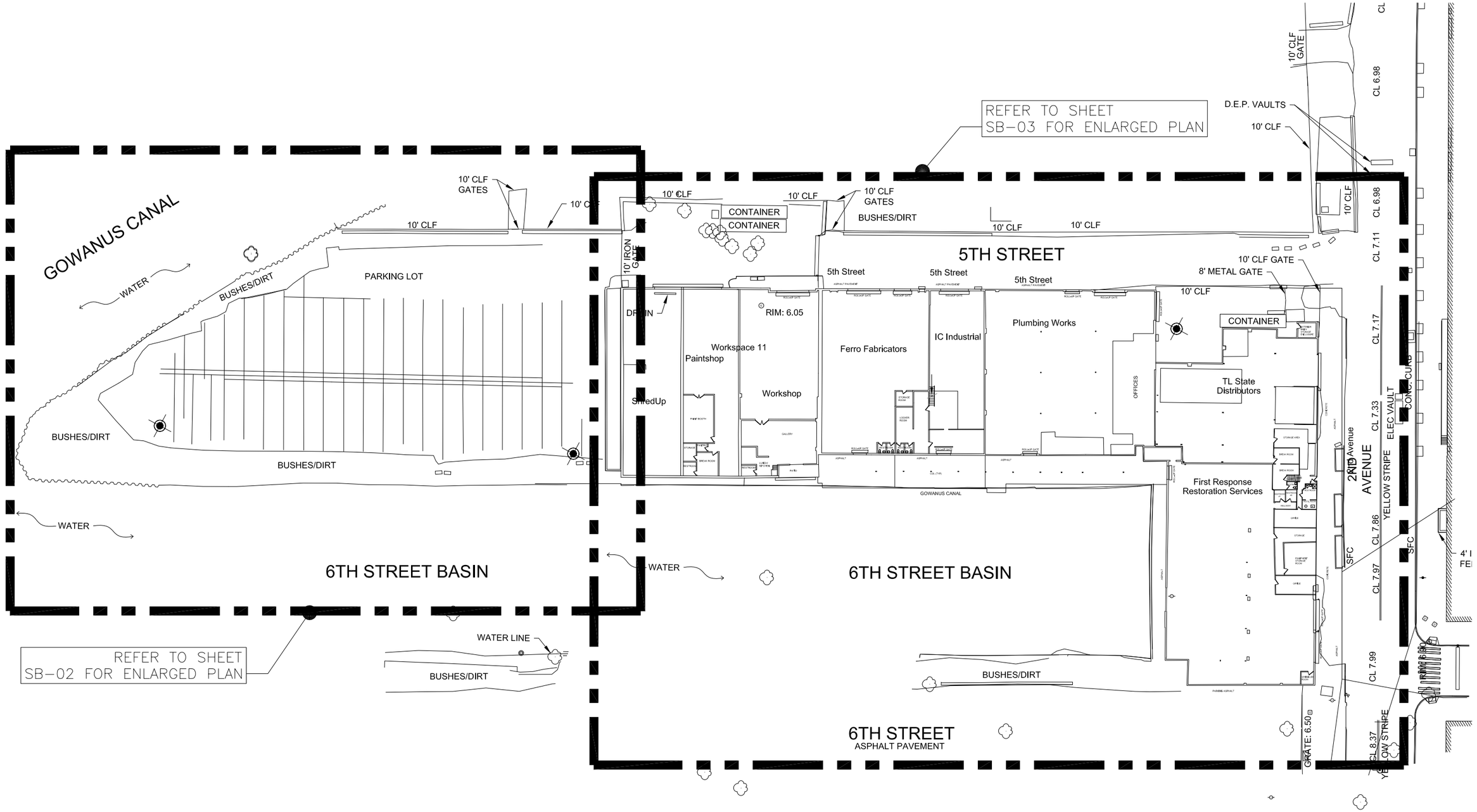
Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
BPL-22B-CF-BM4 23-06-001-08	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Coarse Fraction - Building Material 4 - Cementitious Material	No Asbestos Detected	
BPL-22B-CF-BM5 23-06-001-09	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Coarse Fraction - Building Material 5 - Paper Like	No Asbestos Detected, Inconclusive	No Asbestos Detected
BPL-22B-CF-BM6 23-06-001-10	Bus Parking Lot - 2 2nd Avenue OH-SB-12A at 3.5 Foot Depth	Coarse Fraction - Building Material 6 - Cloth Type	No Asbestos Detected	
MW-07A	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 1 Foot Depth**	**Soil Fractions (>19mm, Coarse, Medium, Fine)**	**1.6% Chrysotile Asbestos**	
MW-07A	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 1 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
MW-07A-CF-BM1 23-06-012-01	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 1 Foot Depth**	**Coarse Fraction - Building Material 1 - Like Transite**	**23.5% Chrysotile Asbestos**	
MW-07A-CF-BM2 23-06-012-02	Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 1 Foot Depth	Coarse Fraction - Building Material 2 - Cementitious Material	No Asbestos Detected	
MW-07B	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 4 Foot Depth**	**Soil Fractions (>19mm, Coarse, Medium, Fine)**	**0.67% Chrysotile Asbestos**	
MW-07B	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 4 Foot Depth**	**Fine Fraction (Soil)**		**Asbestos Structures Detected**
MW-07B-CF-BM1 23-06-012-03	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 4 Foot Depth**	**Coarse Fraction - Building Material 1 - Like Carpet with Mastic**	**0.26% Chrysotile Inconclusive**	**1.2% Chrysotile Asbestos**
MW-07B-CF-BM2 23-06-012-04	Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 4 Foot Depth	Coarse Fraction - Building Material 2 - Like Cloth Material	No Asbestos Detected	
MW-07B-CF-BM3 23-06-012-05	**Bus Parking Lot - 2 2nd Avenue Monitoring Well 07 at 4 Foot Depth**	**Coarse Fraction - Building Material 2 - Like Tar/Mastic**	**1.4% Chrysotile Asbestos**	
MW-05A	Bus Parking Lot - 2 2nd Avenue Monitoring Well 05 at 1.5 Foot Depth	Soil Fractions (Coarse, Medium, Fine)	No Asbestos Detected	
MW-05A	Bus Parking Lot - 2 2nd Avenue Monitoring Well 05 at 1.5 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found

Table 2
Asbestos Soil Analysis Results for
NYC DEP Gowanus Canal Owl's Head, Brooklyn, New York

Sample I.D.	Sampling Location	Sample Description	Asbestos Content	
			Polarized Light Microscopy	Transmission Electron Microscopy
MW-05A-CF-BM1 23-06-027-01	Bus Parking Lot - 2 2nd Avenue Monitoring Well 05 at 1.5 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	
MW-05A-CF-BM2 23-06-027-02	Bus Parking Lot - 2 2nd Avenue Monitoring Well 05 at 1.5 Foot Depth	Coarse Fraction - Building Material 2 - Tar/Mastic	No Asbestos Detected, Inconclusive	No Asbestos Detected
MW-04A	Plumbing Works 142 5th Street Monitoring Well 04 at 2 Foot Depth	**Soil Fractions (>19mm, Coarse, Medium, Fine)**	No Asbestos Detected	
MW-04A	Plumbing Works 142 5th Street Monitoring Well 04 at 2 Foot Depth	Fine Fraction (Soil)		No Asbestos Structures Found
MW-04A-CF-BM1 23-06-030-01	Plumbing Works 142 5th Street Monitoring Well 04 at 2 Foot Depth	Coarse Fraction - Building Material 1 - Cementitious Material	No Asbestos Detected	

APPENDIX A
Asbestos Soil Boring Location Schematics

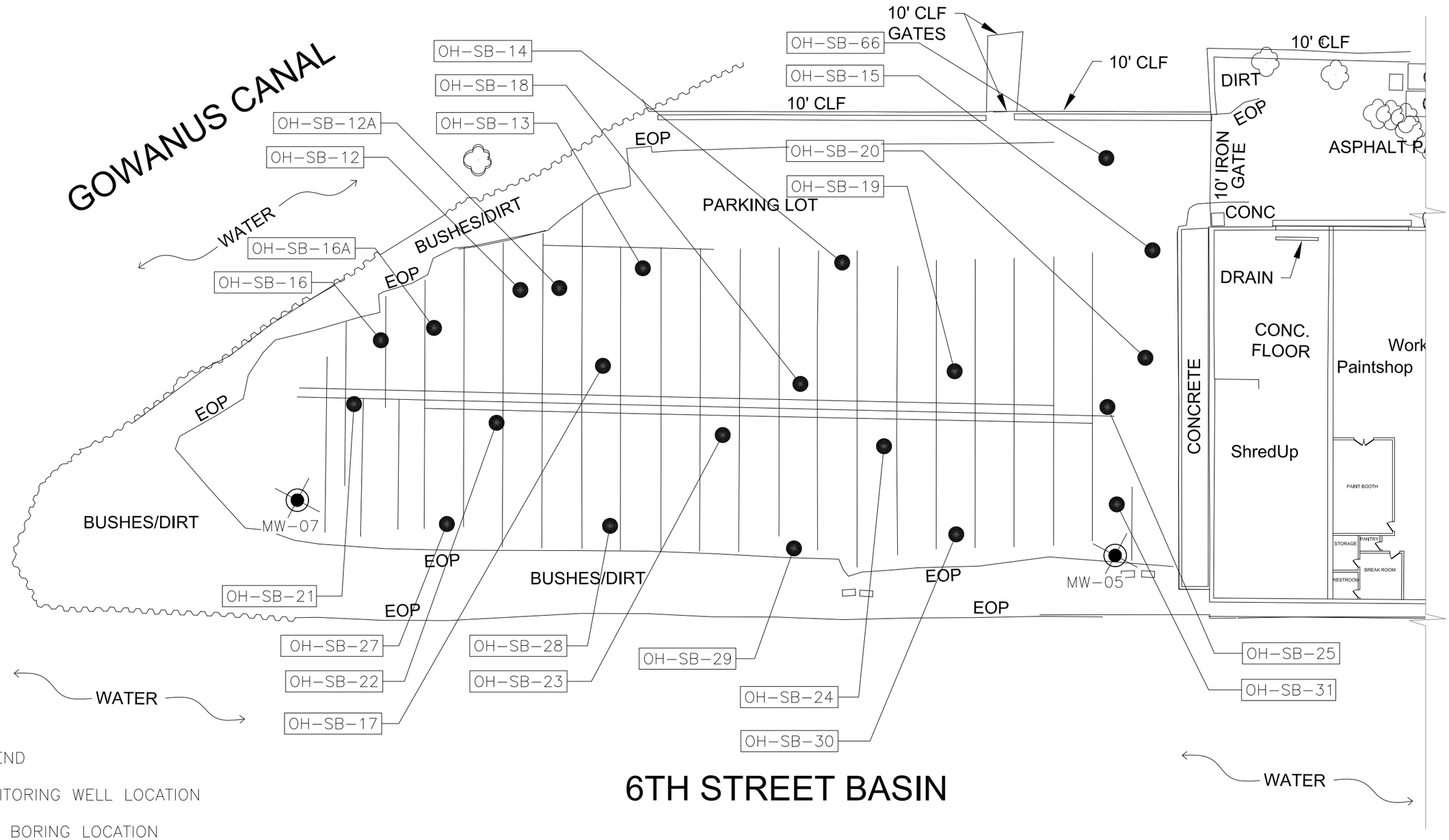


EPM Environmental Planning & Management, Inc. www.epmco.com	DRAWN BY: MH/AR	DATE: JULY, 2023	AGENCY: NYC Environmental Protection
	CHECKED BY: JC	FILENAME: 202145	PROJECT NAME: NYC DEP CSO FACILITY BUILDING DEMOLITION GOWANUS CANAL 'OWLS HEAD' FACILITY SITE
	APPR'VD BY: AS	SCALE: NOT TO SCALE	FIGURE NAME: OVERALL SITE PLAN
	PATH: NYC DEP\202145 – ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)		TITLE: ASBESTOS SOIL BORING SURVEY ASBESTOS BORING LOCATION SCHEMATIC

FIGURE: **SB-01**

SHEET # 1 OF 3

X:\NYC DEP\202145 - ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)\202145_EPM Drawings\202145_SOILS Sample Loc\202145_SOILS Sample Loc Schem.dwg, 7/14/2023



LEGEND

MONITORING WELL LOCATION

SOIL BORING LOCATION

NOTE:
SOIL BORING FOR THE MONITORING WELLS WAS ALSO SAMPLED FOR ASBESTOS.

EPM Environmental Planning & Management, Inc. www.epmco.com	DRAWN BY: MH/AR	DATE: JULY, 2023	AGENCY: NYC Environmental Protection	PROJECT NAME: NYC DEP CSO FACILITY BUILDING DEMOLITION GOWANUS CANAL 'OWLS HEAD' FACILITY SITE	FIGURE NAME: SOIL BORING LOCATION SCHEMATIC IN BUS PARKING AREA
	CHECKED BY: JC	FILENAME: 202145			TITLE: ASBESTOS SOIL BORING SURVEY ASBESTOS BORING LOCATION SCHEMATIC
	APPR'VD BY: AS	SCALE: NOT TO SCALE			FIGURE: SB-02
	PATH: NYC DEP\202145 – ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)				SHEET # 2 OF 3

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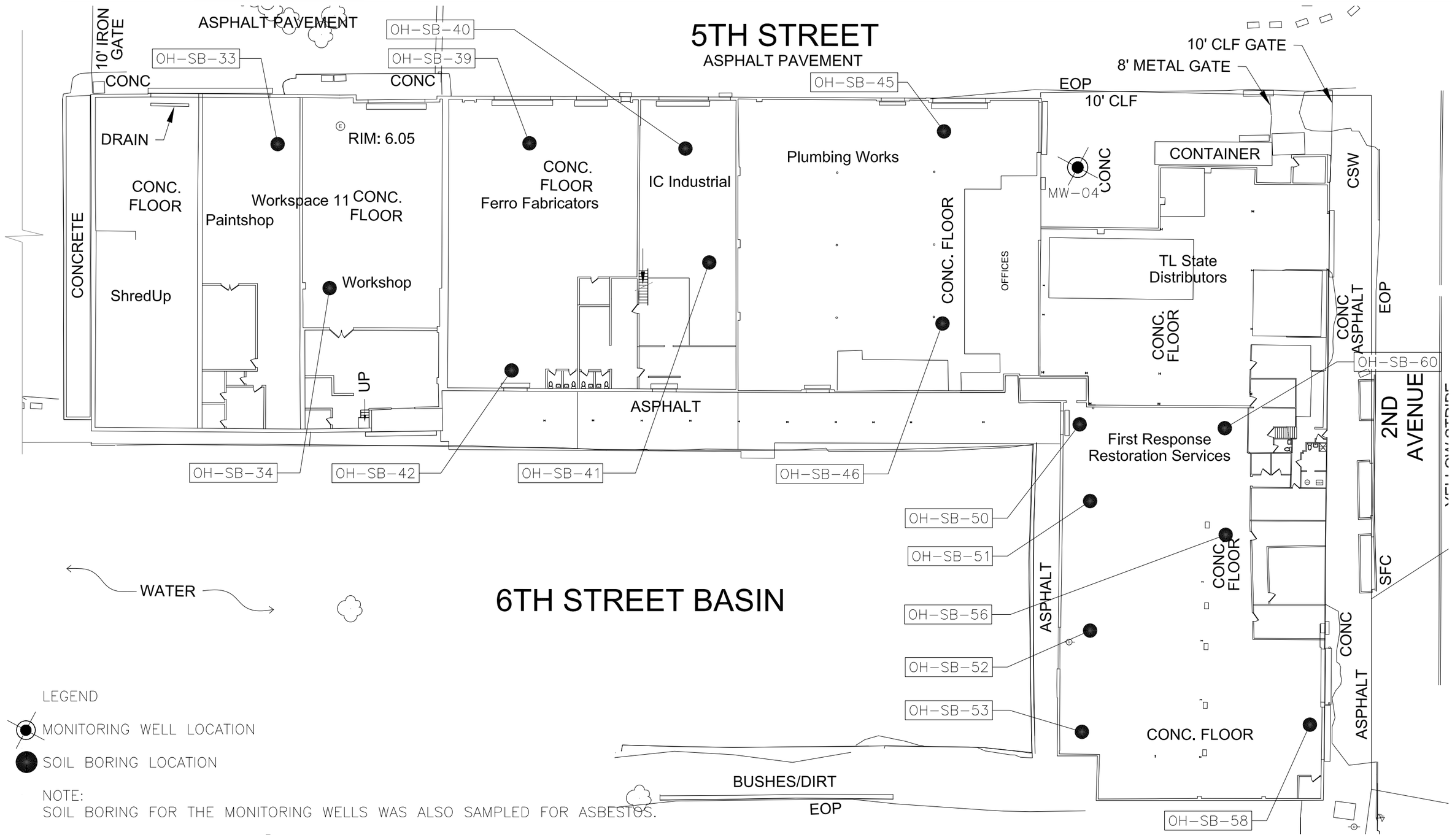

Environmental Planning & Management, Inc. www.epmco.com	DRAWN BY: MH/AR	DATE: JULY, 2023	AGENCY: NYC Environmental Protection	PROJECT NAME: NYC DEP CSO FACILITY BUILDING DEMOLITION GOWANUS CANAL 'OWLS HEAD' FACILITY SITE	FIGURE NAME: SOIL BORING LOCATION SCHEMATIC IN BUILDINGS
	CHECKED BY: JC	FILENAME: 202145			TITLE: ASBESTOS SOIL BORING SURVEY ASBESTOS BORING LOCATION SCHEMATIC
	APPR'VD BY: AS	SCALE: NOT TO SCALE			FIGURE: **SB-03**
	PATH: NYC DEP\202145 – ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)				SHEET # 3 OF 3

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APPENDIX B
Company and Personnel Licenses

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Environmental Planning & Management, Inc.
1983 Marcus Avenue, Suite 109, Lake Success, NY, 11042

License Number: 28623
License Class: RESTRICTED
Date of Issue: 11/02/2022
Expiration Date: 11/30/2023
Duly Authorized Representative: Aphrodite Socrates

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

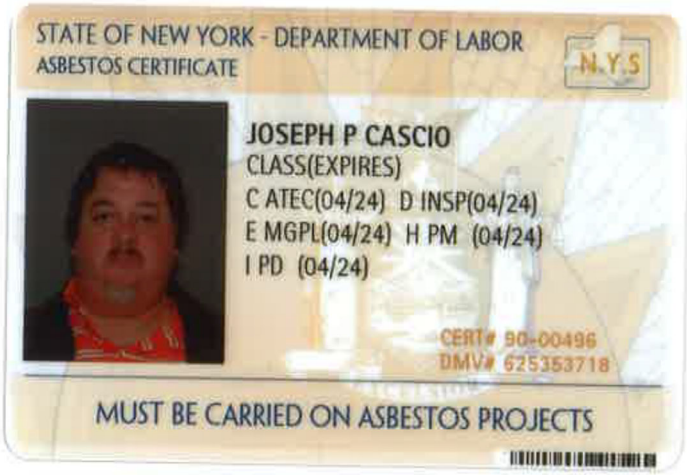
Amy Phillips, Director
For the Commissioner of Labor

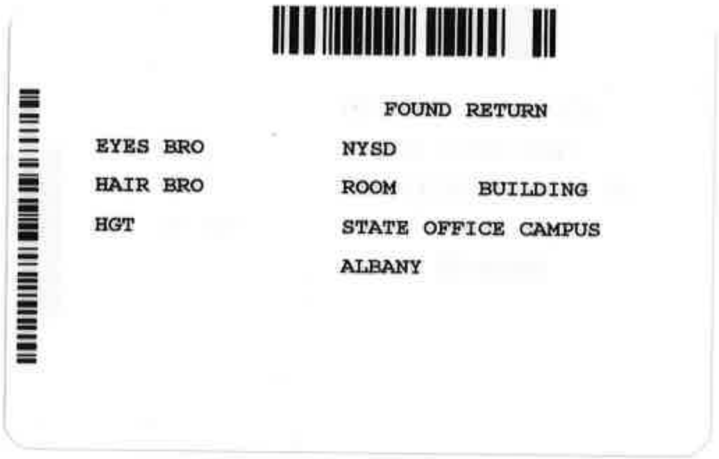
EXCELSIOR

SH 432 (12/21)

Environmental Planning
& Management, Inc.
www.epmco.com

JOSEPH CASCIO





A – Asbestos Handling

B – Restricted Handler – Allied Trades

C – Air Sampling Technician

D – Inspector

E- Management Planner

F – Operations and Maintenance

G – Supervisor

H – Project Monitor

I – Project Designer

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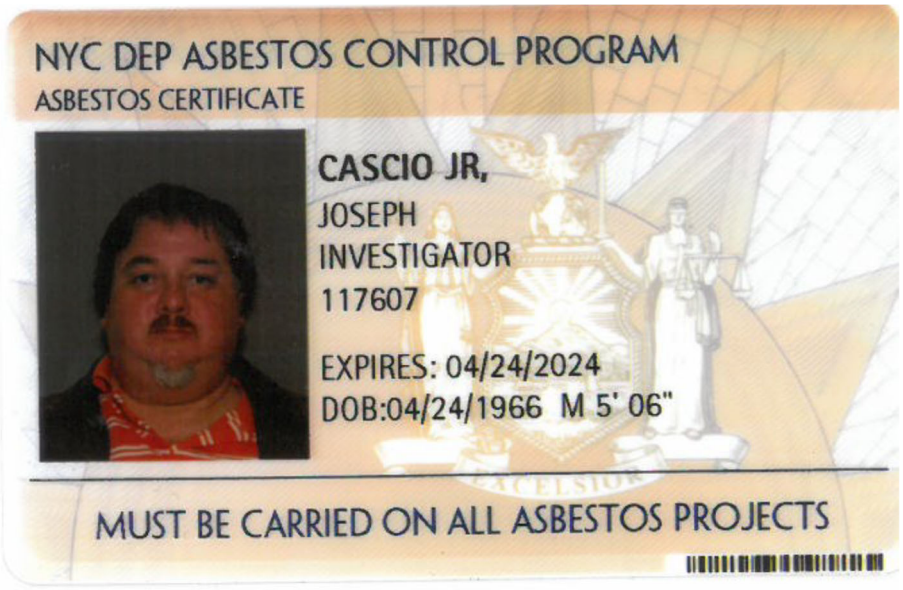
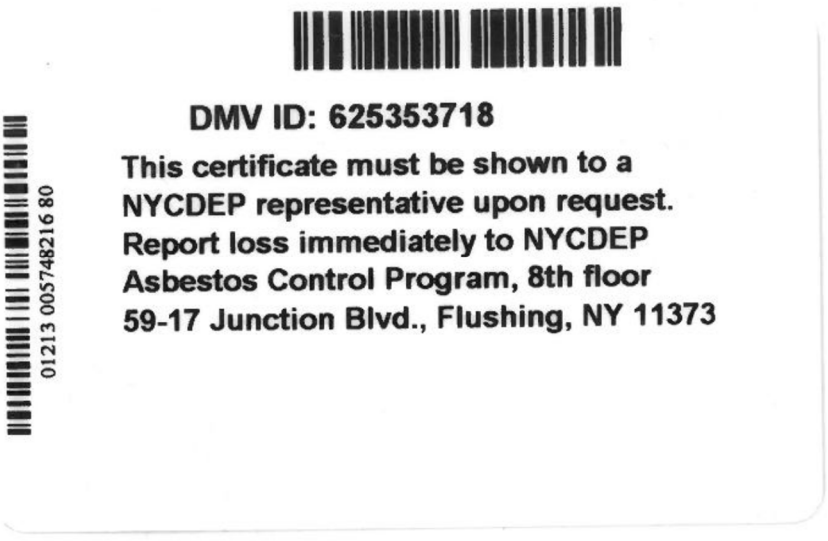
JOSEPH CASCIO





APPENDIX C
Asbestos Soil Analysis Lab Report

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
First Response – 32 2nd Ave., Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: FR-01A – Location: OH SB-50; 1 feet depth

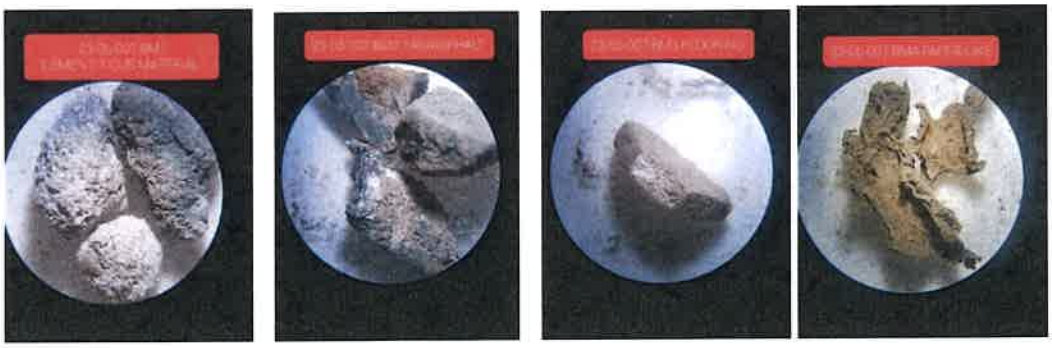
Sample Collected: 5/1/23
Sample received by the lab: 5/3/23 in wet condition – 455.66 gr
Sample dried on 5/3-4/23 in an oven at 110^{0}C until the weight is stable – 432.91 gr
Moisture content determined at 4.99%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation.

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	29.33	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =185.11	0.50% CH
M (Medium Fraction) < 2mm to > 106 µm	W_M =207.86	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =10.61	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ **= 0.23% CH**

Analyzing the coarse fraction using stereomicroscopy four building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. All four building materials were determined as Non-ACM.



14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/5/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.217
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3017
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/10/23)

Soil Sample: FR-02A – Location: OH SB-52; 1 feet depth

Sample Collected: 5/2/23
Sample received by the lab: 5/3/23 in wet condition – 398.32 gr
Sample dried on 5/3-4/23 in an oven at 110^{0}C until the weight is stable – 383.60 gr
Moisture content determined at 3.70%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation.

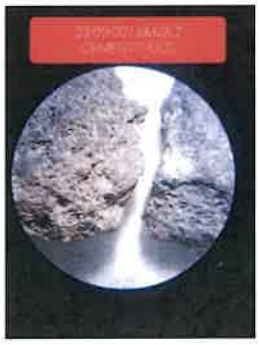
14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	19.60	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =127.76	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =221.67	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =14.57	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. All two building materials were determined as Non-ACM.





TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/5/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.209
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3132
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/10/23)

Date of Report: 5/11/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – First Response – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
FR-01A-FF-BM1 23-05-007-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-50 1 feet depth	Beige Homogeneous Friable	Not Applicable			0%	100%	NAD	
FR-01A-FF-BM2 23-05-007-02	Soil sample – Coarse fraction – Building material 2 – Tar / Asphalt	OH-SB-50 1 feet depth	Black Homogeneous NOB	24.8	2.9	72.3	0%	100%	NAD inconclusive	NAD
FR-01A-FF-BM3 23-05-007-03	Soil sample – Coarse fraction – Building material 3 – Flooring material	OH-SB-50 1 feet depth	Beige Homogeneous NOB	10.9	77.9	11.2	0%	100%	NAD inconclusive	NAD
FR-01A-FF-BM4 23-05-007-04	Soil sample – Coarse fraction – Building material 4 – Paper like material	OH-SB-50 1 feet depth	Brown Homogeneous NOB	62.7	9.9	27.4	0%	100%	NAD inconclusive	NAD
FR-02A-FF-BM1 23-05-007-05	Soil sample – Coarse fraction – Building material 1 – Tar / Asphalt	OH-SB-52 1 feet depth	Blank Homogeneous NOB	30.3	6.5	63.2	0%	100%	NAD inconclusive	NAD
FR-02A-FF-BM2 23-05-007-06	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-52 1 feet depth	Beige Homogeneous Friable	Not Applicable			0%	100%	NAD	

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – First Response – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/3/23
Date of PLM Analysis: 5/5/23
Date of TEM Analysis: 5/9/23
Date of Report: 5/10/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:
D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-05-007

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2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM, TZABLUSKY@EPMCO.COM & ASOPER@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP GOWANUS OWI'S HESP

LOCATION: First Response - 32 2nd Avenue Brooklyn NY 11215

SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos Analyse Soil / mixed / Aggregate Samples by ASTM D7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
FR-01A	5/1/23	OH SB-50 ; 1 Feet Depth	Soil
FR-01B	5/1/23	OH SB-50 , 3.5 Feet Depth	Soil (Analyze if Sample FR-01A has Asbestos)
FR-02A	5/2/23	OH - SB 52 , 1 Feet Depth	Soil
FR-02B	5/2/23	OH - SB 52 , 4 Feet Depth	Soil (Analyze if Sample FR-02A has Asbestos)

Collected By: JOSEPH P. LASCIO — Collector's Signature:

Relinquished: JOSEPH P. LASCIO — Date/Time: 5/2/23 4:45PM

Received By: G. Gervino — Date/Time: 5/3/23

Relinquished By: — Date/Time:

Received By: — Date/Time:

Method of shipment:

Sample Condition Upon Receipt: Acceptable: — Other (Explain):

Comments:

Notes:

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
First Response – 32 2nd Ave., Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: FR-01B – Location: OH SB-50; 3.5 feet depth

Sample Collected: 5/1/23
Sample received by the lab: 5/3/23 in wet condition – 398.32 gr
Sample dried on 5/3-4/23 in an oven at 110°C until the weight is stable – 383.60 gr
Moisture content determined at 3.70%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 7/11/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	19.60	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =127.76	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =221.67	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =14.57	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy three building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Two building materials were tested as ACM.





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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 7/12/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.241
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2717
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 7/13/23)

Date of Report: 7/14/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – First Response – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
FR-01B-FF-BM1 23-05-007-07	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-50 3.5 feet depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
FR-01B-FF-BM2 23-05-007-08	Soil sample – Coarse fraction – Building material 2 – Tar like material	OH-SB-50 3.5 feet depth	Red Homogeneous NOB	24.8	13.0	62.2	0%	97.9%	**2.1% CH**	
FR-01B-FF-BM3 23-05-007-09	Soil sample – Coarse fraction – Building material 3 – linoleum like material	OH-SB-50 3.5 feet depth	Red Homogeneous NOB	19.1	18.3	62.5	0%	100%	**NAD** inconclusive	**16% CH**

Date Received: 5/3/23
Date of PLM Analysis: 7/11/23
Date of TEM Analysis: 7/13/23
Date of Report: 7/14/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-05-007

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P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM TZABRUSKY@EPMCO.COM & ASCERATUS@EPMCO.COM		TURNAROUND TIME: 1 Week	
PROJECT NUMBER: 202145	CLIENT: NYC DEP Gowanus Owl's Head	SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos Analysis Soil (Mixed / Aggregate Samples by ASTM D7521	ANALYSIS REQUESTED: Asbestos
LOCATION: First Response - 32 2nd Avenue Brooklyn NY 11215			

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
FR-01A	5/1/23	OH SB-50 ; 1 Foot Depth	Soil
FR-01B	5/1/23	OH SB-50 ; 3.5 Foot Depth	Soil (ANALYZE IF SAMPLE FR-01A HAS ASBESTOS
FR-02A	5/2/23	OH-SB52, 1 Foot Depth	Soil
FR-02B	5/2/23	OH-SB52, 4 Feet Depth	Soil (ANALYZE IF SAMPLE FR-02A HAS ASBESTOS

Collected By: JOSEPH P. LASCIO	Collector's Signature:	Notes:	
Relinquished: JOSEPH P LASCIO	Date/Time: 5/2/23 4:45PM	Received By: G Gervino	Date/Time: 5/3/23
Relinquished By:	Date/Time:	Received By:	Date/Time:
Method of shipment:		Sample Condition Upon Receipt:	
Comments:		Acceptable	Other (Explain):

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
First Response – 32 2nd Ave., Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: FR-03A – Location: OH SB-51; 1 foot depth

Sample Collected: 5/3/23
Sample received by the lab: 5/4/23 in wet condition – 400.82 gr
Sample dried on 5/4-5/23 in an oven at 110°C until the weight is stable – 374.82 gr
Moisture content determined at 6.49%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/8/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =158.84	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =198.99	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =16.99	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC} * W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy three building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. All three building materials were determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/10/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.218
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3003
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/12/23)

Soil Sample: FR-04A – Location: OH SB-60; 1-2 foot depth

Sample Collected: 5/3/23
Sample received by the lab: 5/4/23 in wet condition – 336.84 gr
Sample dried on 5/4-5/23 in an oven at 110^{0}C until the weight is stable – 283.74 gr
Moisture content determined at 15.76%

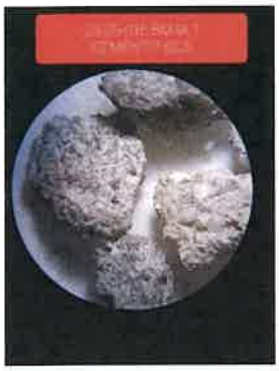
PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/8/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =114.86	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =152.38	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =16.50	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/10/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.211
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3103
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/12/23)

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Soil Sample: FR-05A – Location: OH SB-58; 1 foot depth

Sample Collected: 5/4/23
Sample received by the lab: 5/4/23 in wet condition – 465.77 gr
Sample dried on 5/4-5/23 in an oven at 110°C until the weight is stable – 419.19 gr
Moisture content determined at 10.00%

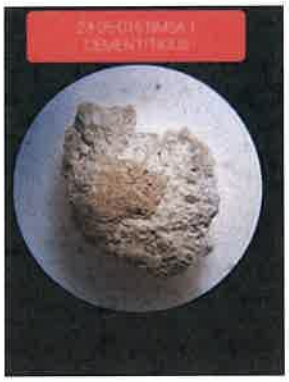
PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/8/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =152.55	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =251.45	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =15.19	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC} * W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray

spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.
No Asbestos structures were found. (Date of analysis 5/10/23)

TEM gravimetric reduction and filter preparation
Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.206
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3178
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/12/23)

Soil Sample: FR-06A – Location: OH SB-53; 1 foot depth

Sample Collected: 5/4/23
Sample received by the lab: 5/4/23 in wet condition – 379.18 gr
Sample dried on 5/4-5/23 in an oven at 110^{0}C until the weight is stable – 343.18 gr
Moisture content determined at 9.49%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/8/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	27.28	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =121.39	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =174.61	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =19.90	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC} * W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/10/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.195

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.3358

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/12/23)

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

Soil Sample: FR-07A – Location: OH SB-56; 1.5 foot depth

Sample Collected: 5/4/23
Sample received by the lab: 5/4/23 in wet condition – 348.64 gr
Sample dried on 5/4-5/23 in an oven at 110^{0}C until the weight is stable – 297.82 gr
Moisture content determined at 14.58%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/8/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =83.31	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =187.88	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =26.63	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.
No Asbestos structures were found. (Date of analysis 5/10/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.210
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3118
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/12/23)

Date of Report: 5/15/23

QC Review: _____
D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – First Response – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
FR-03A-CF-BM1 23-05-016-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-51 1 foot depth	Gray Homogeneous Friable	Not Applicable			0%	100%	NAD	
FR-03A-CF-BM2 23-05-016-02	Soil sample – Coarse fraction – Building material 2 – Asphalt	OH-SB-51 1 foot depth	Black Homogeneous NOB	1.4	7.2	91.4	0%	100%	NAD inconclusive	NAD
FR-03A-CF-BM3 23-05-016-03	Soil sample – Coarse fraction – Building material 3 – Tar / Mastic	OH-SB-51 1 foot depth	Black Homogeneous NOB	11.3	22.2	66.4	0%	100%	NAD inconclusive	NAD
FR-4A-CF-BM1 23-05-016-04	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-60 1-2 foot depth	Gray Homogeneous Friable	Not Applicable			0%	100%	NAD	
FR-5A-CF-BM1 23-05-016-05	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-58 1 foot depth	Gray Homogeneous Friable	Not Applicable			0%	100%	NAD	
FR-6A-CF-BM1 23-05-016-06	Soil sample – Coarse fraction – Building material 1 – Asphalt / bituminous material	OH-SB-53 1 foot depth	White/Black Homogeneous Friable	5.6	6.9	87.6	0%	100%	NAD inconclusive	NAD

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – First Response – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/4/23
Date of PLM Analysis: 5/11/23
Date of TEM Analysis: 5/12/23
Date of Report: 5/12/23

PLM Analyst: D. Molohides
TEM Analyst: A. Ansari

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

Environmental Planning & Management, Inc.
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2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

23-05-16

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM FZABLANSKY@EPMCO.COM & ASSOCIATES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP (1st Resp) - Gowanus CANAL

LOCATION: First Response - 32 2nd Avenue, Brooklyn, NY 11215

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS Soil/mixed Aggregate Samples by ASTM D7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
FR-03A	5/3/23	OH SB-51, 1 Foot Depth	Soil
FR-03B	5/3/23	OH SB-51, 4.5 Foot Depth	Soil (ANALYZE IF SAMPLE FR-03A IS HAS ASBESTOS.
FR-04A	5/3/23	OH SB-60, 1-2 Foot Depth	Soil
FR-05A	5/4/23	OH SB-59, 1 Foot Depth	Soil, Below 2' of Concrete
FR-05B	5/4/23	OH SB-58, 4 Foot Depth	Soil (ANALYZE IF SAMPLE FR-05A IS ASBESTOS)
FR-06A	5/4/23	OH SB-53, 1 Foot Depth	Soil
FR-06B	5/4/23	OH SB-53, 3.5 Foot Depth	Soil (ANALYZE IF SAMPLE FR-06A IS ASBESTOS)
FR-07A	5/4/23	OH SB-56, 1.5 Foot Depth	Soil
FR-07B	5/4/23	OH SB-56, 4 Foot Depth	Soil (ANALYZE IF SAMPLE FR-07A IS ASBESTOS)

Collected By: Joseph Pascio — Collector's Signature:

Relinquished: — Date/Time: 5/4/23 4:23 PM

Relinquished By — Date/Time

Method of shipment

Comments

Notes:

Received By: — Date/Time: 5/4/23 4:23 PM

Received By — Date/Time

Sample Condition Upon Receipt

Acceptable — Other (Explain)

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
IC Industrial – 134A 5th Street, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: IC-01A – Location: OH SB-40; 1 foot depth

Sample Collected: 5/9/23
Sample received by the lab: 5/10/23 in wet condition – 485.02 gr
Sample dried on 5/10-11/23 in an oven at 110^{0}C until the weight is stable – 419.31 gr
Moisture content determined at 13.55%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/15/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =23.59	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =308.05	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =87.67	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/16/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.204
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3210
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/17/23)

Soil Sample: IC-02A – Location: OH SB-41; 1 foot depth

Sample Collected: 5/9/23
Sample received by the lab: 5/10/23 in wet condition – 488.22 gr
Sample dried on 5/10-11/23 in an oven at 110^{0}C until the weight is stable – 447.23 gr
Moisture content determined at 8.40%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/15/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =92.46	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =317.04	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =37.73	NAD (No Asbestos Detected)

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TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/16/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.200
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3274
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/17/23)

Date of Report: 5/18/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – IC Industrial – 134A 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
IC-01A-CF-BM1 23-05-035-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-40 1 feet depth	Off White Homogeneous Friable	Not Applicable			0%	100%	NAD	

Date Received: 5/10/23
Date of PLM Analysis: 5/15/23
Date of Report: 5/16/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

EPM
Environmental Planning & Management, Inc.
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P. 201.363.1983 | F. 201.363.0800

23 05.35

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCo.Com, TZABITNSKY@EPMCo.Com & ASOCIATES@EPMCo.Com		TURNAROUND TIME: 1 week	
PROJECT NUMBER: 202145	CLIENT: NYC DEP Owl's Head Gowanus Cso	SPECIAL INSTRUCTIONS TO LABORATORY: Soil/mineral ASBESTOS ANALYSIS Aggregate Sample Analysis By ASTM D7521	ANALYSIS REQUESTED: Asbestos
LOCATION: IC Industrial - 134A 5th Street Brooklyn			

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
IC-01A	5/8/23	OH-SB-40 - 1 Foot Depth	Soil - 1 Foot Depth
IC-01B	5/9/23	OH-SB-40 3 Foot Depth	Soil (ANALYZE SAMPLE IF Sample IC-01A WAS ASBESTOS
IC-02A	5/9/23	OH-SB-41 - 1 Foot Depth	Soil
IC-02B	5/9/23	OH-SB-41 - 4 Foot Depth	Soil (Analyze Sample IF SAMPLE IC-02A WAS ASBESTOS

Collected By: Joseph P Lascio	Collector's Signature:	Notes:	
Relinquished:	Date/Time: 5/9/23 4:45 PM	Received By: N. Molohides	Date/Time: 5/10/23
Relinquished By:	Date/Time:	Received By:	Date/Time:
Method of shipment:		Sample Condition Upon Receipt: Acceptable	Other (Explain)
Comments:			

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Ferro Fabricators – 134B 5th Street, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: FF-01A – Location: OH SB-42; 1 foot depth

Sample Collected: 5/8/23
Sample received by the lab: 5/11/23 in wet condition – 448.26 gr
Sample dried on 5/11-12/23 in an oven at 110^{0}C until the weight is stable – 405.66 gr
Moisture content determined at 9.50%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/16/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =74.04	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =296.89	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =34.73	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



14-26 28th Avenue Long Island City, NY 11102
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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/16/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.222
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2949
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/17/23)

Soil Sample: FF-02A – Location: OH SB-39; 1 foot depth

Sample Collected: 5/10/23
Sample received by the lab: 5/11/23 in wet condition – 406.88 gr
Sample dried on 5/11-12/23 in an oven at 110^{0}C until the weight is stable – 361.88 gr
Moisture content determined at 11.06%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/16/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =112.92	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =223.24	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 25.72	NAD (No Asbestos Detected)

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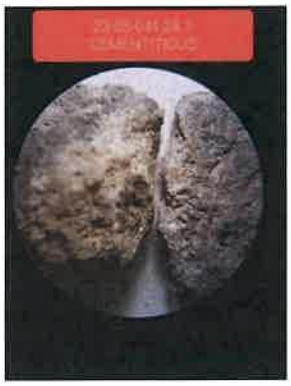
TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/16/23)

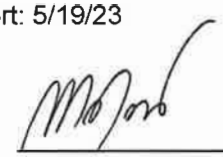
TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.207
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3163
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/17/23)

Date of Report: 5/19/23

QC Review: 

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Ferro Fabricators – 134B 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
FF-01A-CF-BM1 23-05-041-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-42 1 feet depth	Beige Homogeneous Friable	Not Applicable			0%	100%	NAD	
FF-02A-CF-BM1 23-05-041-02	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-39 1 feet depth	Beige Homogeneous Friable	Not Applicable			0%	100%	NAD	

Date Received: 5/11/23
Date of PLM Analysis: 5/16/23
Date of Report: 5/17/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

Environmental Planning & Management, Inc.
www.epmco.com

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P. 516.328.1194 | F. 516.328.1381

2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

23-05-041

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCo.Com TZABLANSKY@EPMCo.Com & ASCOSTES@EPMCo.Com

TURNAROUND TIME: 1 week

PROJECT NUMBER: 202145

CLIENT: NYCDEP Owl's Head Gowanus Cso

SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos Analysis Soil / mixed Aggregate Samples by ASTM D7521

ANALYSIS REQUESTED: Asbestos

LOCATION: Ferro Fabricators 134 S 5th Street

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
FF-01A	5/8/23	OH-SB-42 - 1 Foot DEPTH	Soil
FF-01B	5/8/23	OH-SB-42 - 5 Foot DEPTH	Soil (Analyze Sample if Sample FF-01A is Asbestos)
FF-02A	5/10/23	OH-SB-39 - 1 Foot Depth	Soil
FF-02B	5/10/23	OH-SB-39 - 3 Foot Depth	Soil (Analyze Sample if Sample FF-02A is Asbestos)

Collected By: Joseph P. Cascio Collector's Signature

Relinquished: 5/10/23 Date/Time: 2:40 PM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: BW Date/Time: 5/11/23

Received By: Date/Time:

Sample Condition Upon Receipt: A

Acceptable Other (Explain):

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Plumbing Works, 142 5th Street, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: PW-01A – Location: OH SB-45; 1 foot depth

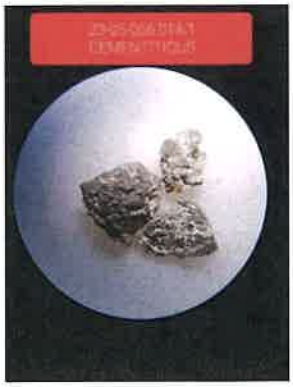
Sample Collected: 5/11/23
Sample received by the lab: 5/15/23 in wet condition – 383.50 gr
Sample dried on 5/16/23 in an oven at 110^{0}C until the weight is stable – 343.77 gr
Moisture content determined at 10.36%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =142.53	**0.50% CH**
M (Medium Fraction) < 2mm to > 106 µm	W_M =187.68	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =13.56	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ **= 0.21% CH**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/17/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.224
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2923
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/18/23)

Soil Sample: PW-02A – Location: OH SB-46; 1 foot depth

Sample Collected: 5/12/23
Sample received by the lab: 5/15/23 in wet condition – 356.28 gr
Sample dried on 5/16/23 in an oven at 110^{0}C until the weight is stable – 299.84 gr
Moisture content determined at 15.84%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =153.60	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =136.59	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 9.65	NAD (No Asbestos Detected)

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TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy four building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Two building materials were determined as - ACM, this will trigger the analysis of sample PW-2B which is collected from the same location OH-SB-46 but at 4-foot depth.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/17/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.198
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3307
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/18/23)

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Soil Sample: PW-02B – Location: OH SB-46; 4 foot depth

Sample Collected: 5/12/23
Sample received by the lab: 5/15/23 in wet condition – 328.93 gr
Sample dried on 5/16/23 in an oven at 110^{0}C until the weight is stable – 248.00 gr
Moisture content determined at 24.60%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/22/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =78.58	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =147.76	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 21.66	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC} * W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/22/23)

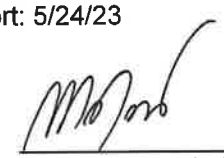
TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.227
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2884
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/23/23)

Date of Report: 5/24/23

QC Review: 
D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Plumbing Works – 142 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
PW-01A-CF-BM1 23-05-056-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-45 1 feet depth	Beige Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
PW-02A-CF-BM1 23-05-056-02	Soil sample – Coarse fraction – Building material 1 – Flooring material	OH-SB-46 1 feet depth	Black Homogeneous NOB	28.4	20.6	50.9	0%	96.3%	**3.7% CH**	
PW-02A-CF-BM2 23-05-056-03	Soil sample – Coarse fraction – Building material 2 – Sealant material	OH-SB-46 1 feet depth	Black Homogeneous NOB	91.6	6.4	2.1	0%	100%	**NAD** inconclusive	**NAD**
PW-02A-CF-BM3 23-05-056-04	Soil sample – Coarse fraction – Building material 3 – Cementitious material	OH-SB-46 1 feet depth	Gray Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
PW-02A-CF-BM4 23-05-056-05	Soil sample – Coarse fraction – Building material 4 – Firestop	OH-SB-46 1 feet depth	Gray/Red Homogeneous NOB	22.3	31.2	46.4	0%	93.8%	**6.2% CH**	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Plumbing Works – 142 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/15/23
Date of PLM Analysis: 5/19/23
Date of TEM Analysis: 5/19/23
Date of Report: 5/22/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

23.05.56

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JLASCIO@EPMCO.COM; TZABOTINSKY@EPMCO.COM + ASSOCIATES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP OWI'S HESD GOWANUS Canal

LOCATION: Plumbing Works 142 5th Street, Brooklyn, N.Y.

SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos Analysis Soil / Mineral Aggregate samples by ASTM D7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
PW-01A	5/12/23	OH-SB-45 - 1 Foot Depth	Soil
PW-01B	5/12/23	OH-SB-45 - 6 Foot Depth	Soil (Analyze Sample IF Sample PW-01A) HAS ASBESTOS
PW-02A	5/12/23	OH-SB-46 - 1 Foot Depth	Soil
PW-02B	5/12/23	OH-SB-46 - 4 Foot Depth	Soil (Analyze Sample if Sample PW-02A) HAS ASBESTOS

Collected By: Joseph D. Cosci Collector's Signature

Relinquished: Joseph D Cosci Date/Time: 5/12/23 4:50pm

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: Date/Time:

Received By: Date/Time: 5/15/23

Sample Condition Upon Receipt:

Acceptable:

Other (Explain):

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Plumbing Works, 142 5th Street, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: PW-01B – Location: OH SB-45; 6 foot depth

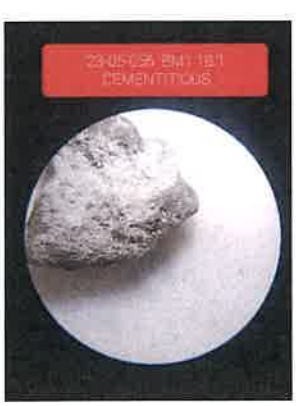
Sample Collected: 5/11/23
Sample received by the lab: 5/15/23 in wet condition – 395.86 gr
Sample dried on 5/16/23 in an oven at 110^{0}C until the weight is stable – 364.70 gr
Moisture content determined at 7.87%

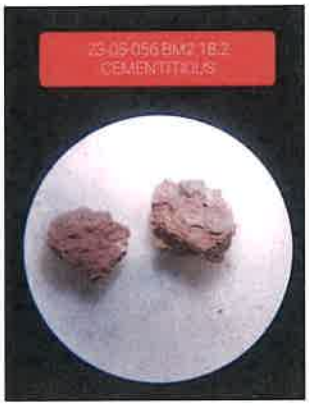
PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 7/11/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =173.36	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =180.03	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =11.31	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building material founds in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were determined as Non-ACM.





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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 7/12/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.236
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2774
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 7/13/23)

Date of Report: 7/14/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Plumbing Works – 142 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
PW-01B-CF-BM1 23-05-056-06	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-45 6 feet depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
PW-01B-CF-BM2 23-05-056-07	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-45 6 feet depth	Red Homogeneous Friable	Not Applicable			0%	100%	NAD	

Date Received: 5/15/23
Date of PLM Analysis: 7/11/23
Date of Report: 7/13/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

Environmental Planning & Management, Inc.
www.epmco.com

1983 Marcus Avenue, Suite 109 | Lake Success | New York 11040
P. 516.328.1194 | F. 516.328.1381

2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

23.05.56

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JLASCIO@EPMCO.COM; TZABRINSKY@EPMCO.COM + ASSOCIATES@EPMCO.COM		TURNAROUND TIME: 1 Week	
PROJECT NUMBER: 202145	CLIENT: NYC DEP OWI'S HEAD GOWANUS, CSO#1	SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS SOIL / MINERAL AGGREGATE SAMPLES BY ASTM D7521	ANALYSIS REQUESTED: Asbestos
LOCATION: PLUMBING WORKS 142 5th Street, Brooklyn, N.Y.			

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
PW-01A	5/10/23	OH-SB-45 - 1 Foot Depth	Soil
PW-01B	5/10/23	OH-SB-45 - 6 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE PW-01A HAS ASBESTOS)
PW-02A	5/12/23	OH-SB-46 - 1 Foot Depth	Soil
PW-02B	5/12/23	OH-SB-46 - 4 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE PW-02A HAS ASBESTOS)

Collected By: JOSEPH D. LOSCIO Collector's Signature:		Notes:	
Relinquished: JOSEPH D LOSCIO	Date/Time: 5/12/23 4:50 PM	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time: 5/15/23
Method of shipment:		Sample Condition Upon Receipt:	
Comments:		Acceptable:	Other (Explain):

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Workspace II - 110 5th Street, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: WII-01A – Location: OH SB-33; 1 foot depth

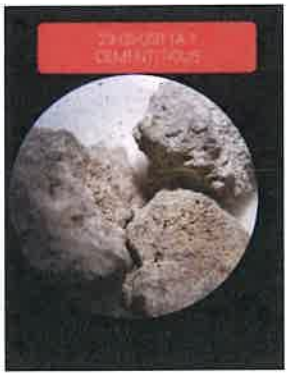
Sample Collected: 5/13/23
Sample received by the lab: 5/16/23 in wet condition – 294.28 gr
Sample dried on 5/16-17/23 in an oven at 110°C until the weight is stable – 256.00 gr
Moisture content determined at 13.01%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =139.12	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =108.28	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =8.60	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/19/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.242
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2706
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/19/23)

Soil Sample: WII-02A – Location: OH SB-34; 1 foot depth

Sample Collected: 5/13/23
Sample received by the lab: 5/16/23 in wet condition – 455.00 gr
Sample dried on 5/16-17/23 in an oven at 110^{0}C until the weight is stable – 397.45 gr
Moisture content determined at 12.65%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =137.72	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =245.02	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 14.71	NAD (No Asbestos Detected)

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TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/19/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.186
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3520
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/19/23)

Date of Report: 5/22/23

QC Review:

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Workspace II – 110 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
WII-02A-CF-BM1 23-05-058-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-34 1 feet depth	Beige Homogeneous Friable	Not Applicable			0%	100%	NAD	

Date Received: 5/16/23
Date of PLM Analysis: 5/17/23
Date of Report: 5/18/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-05-058

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P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM; TZABORSKY@EPMCO.COM & ASSOCIATES@EPMCO.COM

TURNAROUND TIME: 1 week

PROJECT NUMBER: 202145

CLIENT: NYC DEP Owl's Head Gowanus Canal

LOCATION: Workspace 11 - 110 5th Street, Brooklyn, NY 11215

SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos analysis of Soil/mineral aggregate samples by ASTM D7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
W11-01A	5/13/23	OH-SB-33 - 1 Foot Depth	Soil
W11-01B	5/15/23	OH-SB-33 - 4 Foot Depth	Soil (Analyze sample if sample W11-01A has asbestos)
W11-02A	5/13/23	OH-SB-34 - 1 Foot Depth	Soil
W11-02B	5/15/23	OH-SB-34 - 3 Foot Depth	Soil (Analyze sample if sample W11-02A has asbestos)

Collected By: Joseph P. Cascio Collector's Signature: [signature]

Relinquished: [signature] Date/Time: 5/15/23 4:30 PM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: DL Date/Time: 5/16/23

Received By: Date/Time:

Sample Condition Upon Receipt:

Acceptable: Other (Explain):

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot – 2 2nd Ave., Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-01A – Location: OH SB-20; 1 foot depth

Sample Collected: 5/15/23
Sample received by the lab: 5/16/23 in wet condition – 544.29 gr
Sample dried on 5/16-17/23 in an oven at 110°C until the weight is stable – 515.43 gr
Moisture content determined at 5.30%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =323.37	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =156.42	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =35.64	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C] = \textbf{NAD}$
$W_F + W_M + W_C)$

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/19/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.203
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3225
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/22/23)

Soil Sample: BPL-02A – Location: OH SB-15; 3.5 foot depth

Sample Collected: 5/15/23
Sample received by the lab: 5/16/23 in wet condition – 412.57 gr
Sample dried on 5/16-17/23 in an oven at 110^{0}C until the weight is stable – 357.20 gr
Moisture content determined at 13.42%

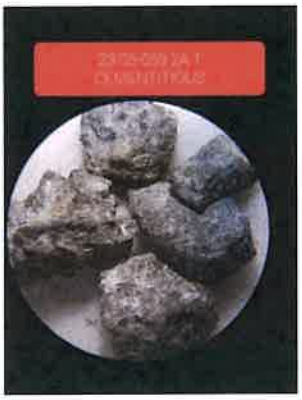
PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =172.40	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =171.27	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =13.53	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/19/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.215
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3045
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/22/23)

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Soil Sample: BPL-03A – Location: OH SB-66; 1.5 foot depth

Sample Collected: 5/15/23
Sample received by the lab: 5/16/23 in wet condition – 583.63 gr
Sample dried on 5/16-17/23 in an oven at 110^{0}C until the weight is stable – 558.41 gr
Moisture content determined at 4.32%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/17/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =324.02	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =200.99	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =33.40	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{W_F + W_M + W_C}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by

Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/19/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.220

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.2976

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/22/23)

Date of Report: 5/23/23

QC Review: _____

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus parking Lot – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-01A-CF-BM1 23-05-059-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-20 1 feet depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-02A-CF-BM1 23-05-059-02	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-15 3.5 feet depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-03A-CF-BM1 23-05-059-03	Soil sample – Coarse fraction – Building material 1 – Tar / Mastict	OH-SB-66 1.5 feet depth	Black Homogeneous NOB	4.9	11.2	84.0	0%	100%	NAD inconclusive	NAD

Date Received: 5/16/23
Date of PLM Analysis: 5/17/23
Date of TEM Analysis: 5/19/23
Date of Report: 5/22/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-05-059

Environmental Planning & Management, Inc.
www.epmco.com

1983 Marcus Avenue, Suite 109 | Lake Success | New York 11040
P. 516.328.1194 | F. 516.328.1381

2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: ~~JCrSCio @ EPMCo.Com's~~ JZABLOWSKY @ EPMCO.COM & ASCRITES @ EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP OWL'S HEAD GOWANUS CANAL

LOCATION: Bus Parking Lot 2 Second Avenue, Brooklyn, N.Y.

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF ~~Soil~~ Mineral Aggregate Samples by ASTM D-7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-01A	5/15/23	OH-SB-2C - 1 Depth	Soil
BPL-01B	5/15/23	OH-SB-2C - 4' Depth	Soil (Analyze Sample if Sample BPL-01A has Asbestos)
BPL-02A	5/15/23	OH-SB-15 - 3½ Depth	Soil
BPL-03A	5/15/23	OH-SB-66 - 1½ Depth	Soil
BPL-03B	5/15/23	OH-SB-66 - 3½ Depth	Soil (Analyze Sample if Sample BPL-03A has Asbestos)

Collected By: Joseph P. Ciasca Collector's Signature: JPC

Relinquished: JPC Date/Time: 5/15/23 4:20 PM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: DL Date/Time: 5/16/23

Received By: Date/Time:

Sample Condition Upon Receipt:

Acceptable: Other (Explain):

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-04A – Location: OH SB-30; 1 foot depth

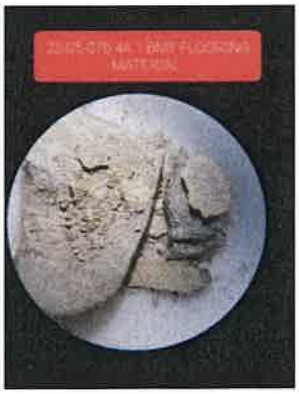
Sample Collected: 5/16/23
Sample received by the lab: 5/18/23 in wet condition – 453.18 gr
Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 401.64 gr
Moisture content determined at 11.37%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/22/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =214.13	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =169.87	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =17.64	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/22/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.215
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3045
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/23/23)

Soil Sample: BPL-05A – Location: OH SB-13; 1.5 foot depth

Sample Collected: 5/16/23
Sample received by the lab: 5/18/23 in wet condition – 574.05 gr
Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 539.17 gr
Moisture content determined at 6.08%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/22/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =295.66	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =212.26	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 31.25	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. One building material was determined as - ACM, this will trigger the analysis of sample BPL-5B which is collected from the same location OH-SB-13 but at 4-foot depth.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/22/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.209
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3133
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/23/23)

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Soil Sample: BPL-05B – Location: OH SB-13; 4 foot depth

Sample Collected: 5/16/23
Sample received by the lab: 5/18/23 in wet condition – 555.59 gr
Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 519.05 gr
Moisture content determined at 6.58%

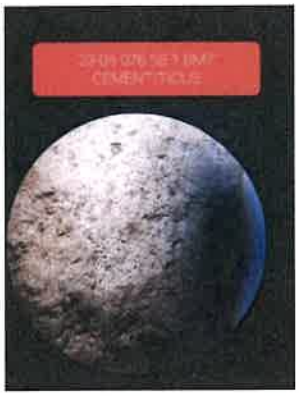
PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/25/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =255.06	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =231.14	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 32.85	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ **= NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/25/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.216

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.3031

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/26/23)

Soil Sample: BPL-6A – Location: OH SB-14; 1-2 foot depth

Sample Collected: 5/17/23

Sample received by the lab: 5/18/23 in wet condition – 538.95 gr

Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 500.24 gr

Moisture content determined at 7.18%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/22/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =304.62	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =169.91	**0.50% CH**
F (Fine Fraction) < 106 µm	W_F = 25.71	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **0.17% CH**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.

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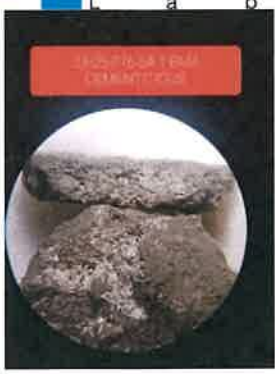

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/22/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.225
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2910
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/23/23)

Soil Sample: BPL-7A – Location: OH SB-19; 2.5 foot depth

Sample Collected: 5/17/23
Sample received by the lab: 5/18/23 in wet condition – 576.35 gr
Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 542.78 gr
Moisture content determined at 5.82%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/22/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =356.61	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =155.49	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 30.68	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/22/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1

length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.217
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3017
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/23/23)

Soil Sample: BPL-8A – Location: OH SB-18; 1.5 foot depth

Sample Collected: 5/17/23
Sample received by the lab: 5/18/23 in wet condition – 553.11 gr
Sample dried on 5/19/23 in an oven at 110^0C until the weight is stable – 521.86 gr
Moisture content determined at 5.65%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/22/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =327.82	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =168.16	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 25.88	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as - ACM, this will trigger the analysis of sample BPL-8B which is collected from the same location OH-SB-18 but at 6-foot depth.

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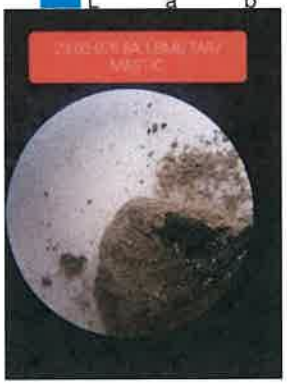


TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/22/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.204
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3210
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/23/23)

Soil Sample: BPL-8B – Location: OH SB-18; 6 foot depth

Sample Collected: 5/17/23
Sample received by the lab: 5/18/23 in wet condition – 294.88 gr
Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 215.72 gr
Moisture content determined at 26.84%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/25/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	4.83	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =103.44	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =97.46	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 9.81	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/25/23)

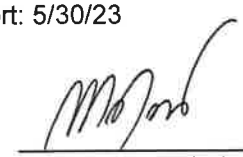
TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.228
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2872
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/26/23)

Date of Report: 5/30/23

QC Review: 

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-04A-CF-BM1 23-05-076-01	Soil sample – Coarse fraction – Building material 1 – Flooring material	OH-SB-30 1 foot depth	Gray Homogeneous NOB	1.2	0.8	97.9	0%	100%	**NAD** inconclusive	**NAD**
BPL-05A-CF-BM1 23-05-076-02	Soil sample – Coarse fraction – Building material 1 – Tar / Mastic	OH-SB-13 1.5 foot depth	Black Homogeneous NOB	57.5	13.8	28.7	0%	98.5%	**1.5% CH**	
BPL-5A-CF-BM2 23-05-076-03	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-13 1.5 foot depth	Beige Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-6A-CF-BM1 23-05-076-04	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-14 1-2 foot depth	Beige Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-7A-CF-BM1 23-05-076-05	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-19 2.5 foot depth	Beige Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-8A-CF-BM1 23-05-076-06	Soil sample – Coarse fraction – Building material 1 – Tar/ mastic	OH-SB-18 1.5 foot depth	Black Homogeneous NOB	69.3	5.4	25.3	0%	95.2%	**4.8% CH**	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/18/23
Date of PLM Analysis: 5/23/23
Date of TEM Analysis: 5/23/23
Date of Report: 5/24/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-5B-CF-BM2 23-05-076-07	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-13 4 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	

Date Received: 5/18/23
Date of PLM Analysis: 5/25/23
Date of Report: 5/26/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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SAMPLE CHAIN-OF-CUSTODY

23.05.76

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM; TZABRANSKI@EPMCO.COM; ASOOSTER@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP OWI'S HEAD GOWANUS CANAL

LOCATION: BUS PARKING Lot 2 Second AVENUE, BROOKLYN, NY

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF Soil / mineral Aggregate Samples by ASTM 7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-04A	5/16/23	OH-SB-30 - 1 Foot Depth	Soil
BPL-04B	5/16/23	OH-SB-30 - 4½ Foot Depth	Soil (Analyze Sample if Sample BPL-04A is Asbestos)
BPL-05A	5/16/23	OH-SB-13 - 1½ Foot Depth	Soil
BPL-05B	5/16/23	OH-SB-13 - 4 Foot Depth	Soil (Analyze Sample if Sample BPL-05A is Asbestos)
BPL-06A	5/17/23	OH-SB-14 - 1-2 Depth	Soil
BPL-06B	5/17/23	OH-SB-14 - 6 Foot Depth	Soil (Analyze Sample if Sample BPL-06A is Asbestos)
BPL-07A	5/17/23	OH SB-19 - 2½ Foot Depth	Soil
BPL-07B	5/17/23	OH-SB-19 - 4 Foot Depth	Soil (Analyze Sample if Sample BPL-07A is Asbestos)
BPL-08A	5/17/23	OH-SB-18 - 1½	Soil
BPL-08B	5/17/23	OH-SB-18 - 6 Foot Depth	Soil (Analyze Sample if Sample BPL-08A is Asbestos)

Collected By: Joseph P. Cascio Collector's Signature: [signature]

Relinquished: [signature] Date/Time: 5/17/23 4:20 PM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: Date/Time:

Received By: [signature] Date/Time: 5/18/23

Sample Condition Upon Receipt:

Acceptable: (circled)

Other (Explain):

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P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

23.05.76

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JOSEPH@EPMCO.COM; TZABRANSKY@EPMCO.COM & ASOARES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP OWTS Flood Gowanus Canal

SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos Analysis of Soil/mixed Aggregate Samples by ASTM 7521

LOCATION: Bus Parking Lot 2 Second Avenue, Brooklyn, NY

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-04A	5/16/23	OH-SB-30 - 1 Foot Depth	Soil
BPL-04B	5/16/23	OH-SB-30 - 4½ Foot Depth	Soil (Analyze Sample if Sample BPL-04A is Asbestos)
BPL-05A	5/16/23	OH-SB-13 - 1½ Foot Depth	Soil
BPL-05B	5/16/23	OH-SB-13 - 4 Foot Depth	Soil (Analyze Sample if Sample BPL-05A is Asbestos)
BPL-06A	5/17/23	OH-SB-14 - 1-2 Depth	Soil
BPL-06B	5/17/23	OH-SB-14 - 6 Foot Depth	Soil (Analyze Sample if Sample BPL-06A is Asbestos)
BPL-07A	5/17/23	OH SB-19 - 2½ Foot Depth	Soil
BPL-07B	5/17/23	OH-SB-19 - 4 Foot Depth	Soil (Analyze Sample if Sample BPL-07A is Asbestos)
BPL-08A	5/17/23	OH-SB-18 - 1½	Soil
BPL-08B	5/17/23	OH-SB-18 - 6 Foot Depth	Soil (Analyze Sample if Sample BPL-08A is Asbestos)

Collected By: Joseph R. Cascio Collector's Signature:

Relinquished: Date/Time: 5/17/23 4:20 PM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: Date/Time:

Received By: Date/Time: 5/18/23

Sample Condition Upon Receipt:

Acceptable

Other (Explain):

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-6B – Location: OH SB-14; 6 foot depth

Sample Collected: 5/17/23
Sample received by the lab: 5/18/23 in wet condition – 384.11 gr
Sample dried on 5/19/23 in an oven at 110^{0}C until the weight is stable – 337.07 gr
Moisture content determined at 12.25%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 7/11/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =161.49	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =165.28	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 10.30	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were determined as Non-ACM.



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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 7/12/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.205
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3194
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 7/13/23)

Date of Report: 7/14/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-6B-CF-BM1 23-05-076-08	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-14 6 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-6B-CF-BM2 23-05-076-09	Soil sample – Coarse fraction – Building material 2 – Tar	OH-SB-14 6 foot depth	Black Homogeneous NOB	83.0	5.7	11.3	0%	100%	NAD inconclusive	NAD

Date Received: 5/18/23
Date of PLM Analysis: 7/11/23
Date of TEM Analysis: 7/13/23
Date of Report: 7/14/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:
D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

23.05.76

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM; TZABRANSKI@EPMCO.COM & ASOARES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP OWI'S THRD GOWANUS CANAL

LOCATION: BOS PARKING Lot 2 Second AVENUE, BROOKLYN, NY

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF Soil / MINERAL Aggregate Samples By ASTM 7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-04A	5/16/23	OH-SB-30 - 1 Foot Depth	Soil
BPL-04B	5/16/23	OH-SB-30 - 4½ Foot Depth	Soil (ANALYZE Sample IF Sample BPL-04A IS ASBESTOS)
BPL-05A	5/16/23	OH-SB-13 - 1½ Foot Depth	Soil
BPL-05B	5/16/23	OH-SB-13 - 4 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-05A IS ASBESTOS)
BPL-06A	5/17/23	OH-SB-14 - 1-2 Depth	Soil
BPL-06B	5/17/23	OH-SB-14 - 6 Foot Depth	Soil (ANALYZE Sample IF Sample BPL-06A IS ASBESTOS)
BPL-07A	5/17/23	OH SB-19 - 2½ Foot Depth	Soil
BPL-07B	5/17/23	OH-SB-19 - 4 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-07A IS ASBESTOS)
BPL-08A	5/17/23	OH-SB-18 - 1½	Soil
BPL-08B	5/17/23	OH-SB-18 - 6 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-08A IS ASBESTOS)

Collected By: Joseph P. Cascio Collector's Signature:

Relinquished: Date/Time: 5/17/23 4:20 PM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: Date/Time:

Received By: Date/Time: 5/18/23

Sample Condition Upon Receipt:

Acceptable

Other (Explain):

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-09A – Location: OH SB-17; 1.5 foot depth

Sample Collected: 5/18/23
Sample received by the lab: 5/19/23 in wet condition – 552.19 gr
Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 517.42 gr
Moisture content determined at 6.30%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/24/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =265.44	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =226.95	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =25.03	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC} * W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/24/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the

preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.215
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3045
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/25/23)

Soil Sample: BPL-10A – Location: OH SB-23; 1.5 foot depth

Sample Collected: 5/18/23
Sample received by the lab: 5/19/23 in wet condition – 546.49 gr
Sample dried on 5/20/23 in an oven at 110^0C until the weight is stable – 512.67 gr
Moisture content determined at 6.19%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/24/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	24.60	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =231.11	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =237.98	**0.50% AMO**
F (Fine Fraction) < 106 µm	W_F = 18.98	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ **= 0.23% AMO**

Analyzing the coarse fraction using stereomicroscopy three building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. One building material was determined as - ACM, this will trigger the analysis of sample BPL-10B which is collected from the same location OH-SB-23 but at 4.5 -foot depth.

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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/24/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.209
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3133
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/25/23)

Soil Sample: BPL-010B – Location: OH SB-23; 4.5 foot depth

Sample Collected: 5/18/23
Sample received by the lab: 5/19/23 in wet condition – 568.23 gr
Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 521.52 gr
Moisture content determined at 8.22%

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PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/30/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	16.32	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =278.33	**3.0% CH**
M (Medium Fraction) < 2mm to > 106 µm	W_M =208.68	**2.0% CH**
F (Fine Fraction) < 106 µm	W_F = 18.19	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ **= 2.4% CH**

Analyzing the coarse fraction using stereomicroscopy three building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. One building material was determined as ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction as quality control to the PLM analyses findings. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Chrysotile structures were found. (Date of analysis 5/30/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the

preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.216
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3031
Total Asbestos Structures= 12 chrysotile structures
Asbestos concentration = 3.6372 structures / µg
(Date of Analysis: 5/31/23)

Soil Sample: BPL-11A – Location: OH SB-29; 2 foot depth

Sample Collected: 5/18/23
Sample received by the lab: 5/19/23 in wet condition – 587.05 gr
Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 560.89 gr
Moisture content determined at 4.46%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/24/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	37.07	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 301.56	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 209.29	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 12.97	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = NAD

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building materials were determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/24/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.225
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2910
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/25/23)

Soil Sample: BPL-12A – Location: OH SB-27; 2 foot depth

Sample Collected: 5/19/23
Sample received by the lab: 5/19/23 in wet condition – 657.51 gr
Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 622.61 gr
Moisture content determined at 5.31%

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PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/24/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =369.12	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =234.30	**0.70% CH**
F (Fine Fraction) < 106 µm	W_F = 19.19	**0.40% CH**

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **0.28% CH**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as - ACM, this will trigger the analysis of sample BPL-12B which is collected from the same location OH-SB-27 but at 6 -foot depth.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/24/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the

preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.217
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3017
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/25/23)

Soil Sample: BPL-12B – Location: OH SB-27; 6 foot depth

Sample Collected: 5/19/23
Sample received by the lab: 5/19/23 in wet condition – 462.36 gr
Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 422.36 gr
Moisture content determined at 8.65%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/30/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 178.71	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 230.91	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 12.74	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was determined as Non-ACM.

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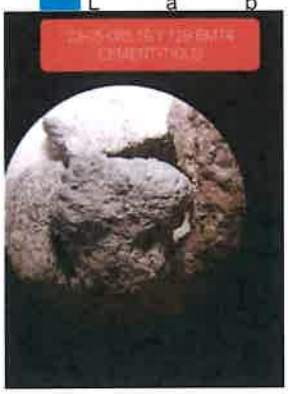

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/30/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.228
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2872
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/31/23)

Soil Sample: BPL-13A – Location: OH SB-28; 2 foot depth

Sample Collected: 5/19/23
Sample received by the lab: 5/19/23 in wet condition – 526.64 gr

Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 488.67 gr
Moisture content determined at 7.21%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/24/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	35.41	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C =258.69	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =179.35	**0.30% CH**
F (Fine Fraction) < 106 µm	W_F = 15.22	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **0.11% CH**

Analyzing the coarse fraction using stereomicroscopy four building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Two building materials were determined as - ACM, this will trigger the analysis of sample BPL-13B which is collected from the same location OH-SB-28 but at 6-foot depth.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Chrysotile Asbestos structures were detected. (Date of analysis 5/24/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a

47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.204
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3210
Total Asbestos Structures= 8 chrysotile structures
Asbestos concentration = 2.568 structures / µg
(Date of Analysis: 5/31/23)

Soil Sample: BPL-13B – Location: OH SB-28; 6 foot depth

Sample Collected: 5/19/23
Sample received by the lab: 5/19/23 in wet condition – 461.93 gr
Sample dried on 5/20/23 in an oven at 110^{0}C until the weight is stable – 412.19 gr
Moisture content determined at 10.77%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/30/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	23.11	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 153.87	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 223.48	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 11.73	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening
TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by

Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/30/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 μm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.228

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / μg) =0.2872

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/31/23)

Date of Report: 6/2/23

QC Review: _____

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-10A-CF-BM1 23-05-085-01	Soil sample – Coarse fraction – Building material 1 – Tar / Asphalt	OH-SB-23 1.5 foot depth	Black Homogeneous NOB	8.7	10.6	80.7	0%	100%	**NAD** inconclusive	**NAD**
BPL-10A-CF-BM2 23-05-085-02	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-23 1.5 foot depth	Red Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-10A-CF-BM3 23-05-085-03	Soil sample – Coarse fraction – Building material 3 – Cementitious material	OH-SB-23 1.5 foot depth	Brown Homogeneous Friable	Not Applicable			0%	93.8%	**6.2% AMO**	
BPL-11A-CF-BM1 23-05-085-04	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-29 2 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-11A-CF-BM2 23-05-085-05	Soil sample – Coarse fraction – Building material 2 – Stucco like	OH-SB-29 2 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-12A-CF-BM1 23-05-085-06	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-19 2.5 foot depth	Brown Homogeneous Friable	Not Applicable			0%	94%	**6.0% CH**	
BPL-13A-CF-BM1 23-05-085-07	Soil sample – Coarse fraction – Building material 1 – Felt paper	OH-SB-28 2 foot depth	Brown Homogeneous NOB	31.4	64.9	3.7	0%	95.2%	**NAD** inconclusive	**NAD**
BPL-13A-CF-BM2 23-05-085-08	Soil sample – Coarse fraction – Building material 1 – Vinyl tile	OH-SB-28 2 foot depth	Green Homogeneous NOB	24.8	41.1	34.1	4% CELL	100%	**NAD** inconclusive	**8.5% CH**
BPL-13A-CF-BM3 23-05-085-09	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-28 2 foot depth	Brown Homogeneous Friable	Not Applicable			0%	92.9%	**7.1% CH**	
BPL-13A-CF-BM4 23-05-085-10	Soil sample – Coarse fraction – Building material 3 – Cementitious material	OH-SB-28 2 foot depth	Pink Homogeneous Friable	Not Applicable			0%	100%	**NAD**	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/19/23
Date of PLM Analysis: 5/24/23
Date of TEM Analysis: 5/24/23
Date of Report: 5/25/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS Type	ASBESTOS % & Type
BPL-10B-CF-BM1 23-05-085-11	Soil sample – Coarse fraction – Building material 1 – Tar / Mastict	OH-SB-23 4.5 foot depth	Black Homogeneous NOB	6.9	11.1	82.0	0%	98.5%	**1.5% CH**	
BPL-10B-CF-BM2 23-05-085-12	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-23 4.5 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-10B-CF-BM3 23-05-085-13	Soil sample – Coarse fraction – Building material 3 – Cementitious material	OH-SB-23 4.5 foot depth	Pink Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-12B-CF-BM1 23-05-085-14	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-27 6 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/19/23
Date of PLM Analysis: 5/30/23
Date of Report: 5/31/23

PLM Analyst: K. Diomis

QC Review:
D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

EPM
Environmental Planning & Management, Inc.
www.epmco.com

1983 Marcus Avenue, Suite 109 | Lake Success | New York 11040
P. 516.328.1194 | F. 516.328.1381

2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

23.05.85

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JSASCIOE@EPMCO.COM; TZABOROWSKY@EPMCO.COM & ASSOCIATES@EPMCO.COM		TURNAROUND TIME: 1 WEEK	
PROJECT NUMBER: 202145	CLIENT: NYC DEP OWL'S HEAD GOWANUS CANAL	SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF SOIL/MINERAL AGGREGATE SAMPLES BY ASTM D7521	ANALYSIS REQUESTED: Asbestos
LOCATION: BUS PARKING LOT 2 SECOND AVENUE, BROOKLYN N.Y			

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-09A	5/18/23	OH-SB-17 - 1½ Foot Depth	Soil
BPL-09B	5/18/23	OH-SB-17 - 5' Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-09A IS ASBESTOS)
BPL-10A	5/18/23	OH-SB-23 - 1½ Foot Depth	Soil
BPL-10B	5/18/23	OH-SB-23 - 4½ Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-10A IS ASBESTOS)
BPL-11A	5/18/23	OH-SB-29 - 2' Depth	Soil
BPL-11B	5/18/23	OH-SB-29 - 6' Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-11A IS ASBESTOS)
BPL-12A	5/19/23	OH-SB-27 - 2' Depth	Soil
BPL-12B	5/19/23	OH-SB-27 - 6 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-12A IS ASBESTOS)
BPL-13A	5/19/23	OH-SB-28 - 2 Foot Depth	Soil
BPL-13B	5/19/23	OH-SB-28 - 6 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-13A IS ASBESTOS)

Collected By: JOSEPH PESCH Collector's Signature:	Notes:
Relinquished: JOSEPH PESCH. Date/Time: 5/19/23 1500	Received By: JM Date/Time: 5/19/23
Relinquished By: Date/Time:	Received By: Date/Time:
Method of shipment:	Sample Condition Upon Receipt: Acceptable Other (Explain):
Comments:	

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-14A – Location: OH SB-25; 1-2 foot depth

Sample Collected: 5/22/23
Sample received by the lab: 5/23/23 in wet condition – 545.90 gr
Sample dried on 5/24/23 in an oven at 110^{0}C until the weight is stable – 497.22 gr
Moisture content determined at 8.92%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/25/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =226.34	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =252.77	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F =18.11	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. This building material was tested as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/25/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.207

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.3163

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/26/23)

Soil Sample: BPL-15A – Location: OH SB-31; 1-2 foot depth

Sample Collected: 5/22/23

Sample received by the lab: 5/23/23 in wet condition – 540.47 gr

Sample dried on 5/24/23 in an oven at 110^{0}C until the weight is stable – 499.84 gr

Moisture content determined at 7.52%

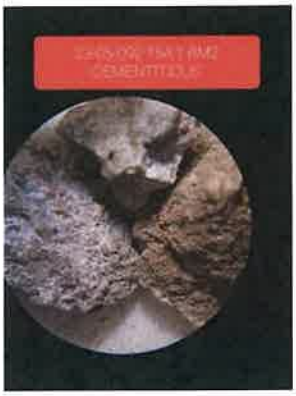
PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/25/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =285.26	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =195.74	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 18.84	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. This building material was tested as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/25/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.211
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3106
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/26/23)

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Soil Sample: BPL-16A – Location: OH SB-21; 1-2 foot depth

Sample Collected: 5/22/23
Sample received by the lab: 5/23/23 in wet condition – 515.88 gr
Sample dried on 5/24/23 in an oven at 110^{0}C until the weight is stable – 476.77 gr
Moisture content determined at 7.58%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/25/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 258.26	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 208.38	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 10.13	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = NAD

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building materials were determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray

spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.
No Asbestos structures were found. (Date of analysis 5/25/23)

TEM gravimetric reduction and filter preparation
Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)
Starting weight (gr): 0.194
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3375
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 5/26/23)

Soil Sample: BPL-17A – Location: OH SB-22; 1-2 foot depth

Sample Collected: 5/23/23
Sample received by the lab: 5/23/23 in wet condition – 473.04 gr
Sample dried on 5/24/23 in an oven at 110^{0}C until the weight is stable – 431.28 gr
Moisture content determined at 8.83%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/25/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C =258.26	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =162.89	**0.30% AMO**
F (Fine Fraction) < 106 µm	W_F = 10.13	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ **= 0.11% AMO**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. One building material was determined as -

ACM, this will trigger the analysis of sample BPL-17B which is collected from the same location OH-SB-22 but at 4 -foot depth.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Chrysotile and amosite asbestos structures were found. (Date of analysis 5/24/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.219
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2990
Total Asbestos Structures = 9 chrysotile structures and 1 amosite structures
Asbestos concentration = 2.990 structures / µg
(Date of Analysis: 5/26/23)

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Soil Sample: BPL-17B – Location: OH SB-22; 4 foot depth

Sample Collected: 5/23/23
Sample received by the lab: 5/23/23 in wet condition – 457.23 gr
Sample dried on 5/24/23 in an oven at 110^{0}C until the weight is stable – 429.00 gr
Moisture content determined at 6.17%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/2/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 137.88	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 279.03	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 12.09	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building materials were determined as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/2/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.220

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

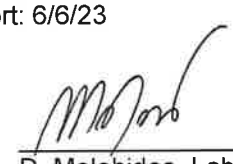
Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.2976

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 6/5/23)

Date of Report: 6/6/23

QC Review: 

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-14A-CF-BM1 23-05-092-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-25 1-2 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-15A-CF-BM1 23-05-092-02	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-31 1-2 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-16A-CF-BM1 23-05-092-03	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-21 1-2 foot depth	Gray Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-16A-CF-BM2 23-05-092-04	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-21 1-2 foot depth	Red Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-17A-CF-BM1 23-05-092-05	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-22 1-2 foot depth	Gray Homogeneous Friable	Not Applicable			0%	92%	8.0% AMO	
BPL-17A-CF-BM2 23-05-092-06	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-22 1-2 foot depth	Red Homogeneous Friable	Not Applicable			0%	100%	NAD	

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/23/23
Date of PLM Analysis: 5/26/23
Date of Report: 5/30/23

PLM Analyst: K. Diomis

QC Review:
D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-17B-CF-BM1 23-05-092-07	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-22 4 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-17B-CF-BM2 23-05-092-08	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-22 4 foot depth	Red Homogeneous Friable	Not Applicable			0%	100%	NAD	

Date Received: 5/23/23
Date of PLM Analysis: 6/2/23
Date of Report: 6/5/23

PLM Analyst: K. Diomis

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

Environmental Planning & Management, Inc.
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2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
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SAMPLE CHAIN-OF-CUSTODY

23.05.92

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM; TZABRANSKY@EPMCO.COM & ASSOCIATES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 30214.5

CLIENT: NYC DEP OWTS Head Gowanus Canal

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF Soil/mineral Aggregate Samples BY ASTM D7521

ANALYSIS REQUESTED: Asbestos

LOCATION: Bus Parking Lot 2 Second Avenue, Brooklyn, N.Y

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION		DESCRIPTION
BPL-14A	5/22/23	OH-SB-25	1-2 Depth	Soil
BPL-14B	5/22/23	OH-SB-25	4' Depth	Soil (Analyze if Sample BPL-14A is Asbestos)
BPL-15A	5/22/23	OH-SB-31	1-2' Foot Depth	Soil
BPL-15B	5/22/23	OH-SB-31	4' Foot Depth	Soil (Analyze if Sample BPL-15A is Asbestos)
BPL-16A	5/22/23	OH-SB-21	1-2' Foot Depth	Soil
BPL-16B	5/23/23	OH-SB-21	4-6' Foot Depth	Soil (Analyze if Sample BPL-16A is Asbestos)
BPL-17A	5/23/23	OH-SB-22	1-2' Foot Depth	Soil
BPL-17B	5/23/23	OH-SB-22	4 Foot Depth	Soil (Analyze if Sample BPL-17A is Asbestos)

Collected By: Jose Pulgarin — Collector's Signature:

Relinquished: — Date/Time: 5/23/23 1:45 PM

Relinquished By: — Date/Time:

Method of shipment:

Comments:

Notes:

Received By: — Date/Time: 05/23/23

Received By: — Date/Time:

Sample Condition Upon Receipt:

Acceptable:

Other (Explain):

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-18A – Location: OH SB-16; 1-2 foot depth

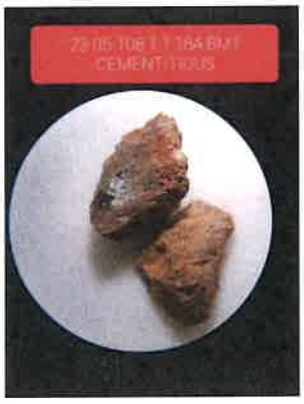
Sample Collected: 5/24/23
Sample received by the lab: 5/25/23 in wet condition – 584.47 gr
Sample dried on 5/26/23 in an oven at 110^{0}C until the weight is stable – 558.42 gr
Moisture content determined at 4.46%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/30/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 348.91	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 202.93	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 6.58	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were tested as Non-ACM.





TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 5/30/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.196

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.3341

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 5/31/23)

Soil Sample: BPL-19A – Location: OH SB-16A; 1-2 foot depth

Sample Collected: 5/25/23

Sample received by the lab: 5/25/23 in wet condition – 554.69 gr

Sample dried on 5/26/23 in an oven at 110^{0}C until the weight is stable – 524.61 gr

Moisture content determined at 5.42%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 5/30/23**

FRACTIONS	**WEIGHTS AFTER SIEVING (gr)**	**PLM Analysis**
C (Coarse Fraction) < 19 to > 2mm	W_C = 301.07	**0.75% CH**
M (Medium Fraction) < 2mm to > 106 µm	W_M = 213.00	**0.40% CH**
F (Fine Fraction) < 106 µm	W_F = 10.54	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ **= 0.59% CH**

Analyzing the coarse fraction using stereomicroscopy two building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were tested as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Asbestos Chrysotile structures were found. (Date of analysis 5/30/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.211
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3106
Total Asbestos Structures = 15 chrysotile structures
Asbestos concentration = 4.659 structures / µg
(Date of Analysis: 5/31/23)

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Soil Sample: BPL-19B – Location: OH SB-16A; 3-4 foot depth

Sample Collected: 5/25/23
Sample received by the lab: 5/25/23 in wet condition – 483.72 gr
Sample dried on 5/26/23 in an oven at 110^{0}C until the weight is stable – 439.05 gr
Moisture content determined at 9.23%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/2/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 226.59	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 203.54	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 8.92	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = NAD

Analyzing the coarse fraction using stereomicroscopy no building materials found in soil.

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/2/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.199
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084

Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3290
Total Asbestos Structures=0
No asbestos structures were found (Date of Analysis: 6/5/23)

Date of Report: 6/6/23

QC Review: _____
D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-18A-CF-BM1 23-05-108-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-16 1-2 foot depth	Red Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-18A-CF-BM2 23-05-108-02	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-16 1-2 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-19A-CF-BM1 23-05-108-03	Soil sample – Coarse fraction – Building material 1 – Tar/ mastic	OH-SB-16A 1-2 foot depth	Black Homogeneous NOB	8.8	6.7	84.5	0%	100%	**NAD** Inconclusive	**NAD**
BPL-19A-CF-BM2 23-05-108-04	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-16A 1-2 foot depth	Red Homogeneous Friable	Not Applicable			0%	100%	**NAD**	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 5/25/23
Date of PLM Analysis: 5/30/23
Date of TEM Analysis: 5/30/23
Date of Report: 5/31/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-05-108

Page 1 of ____

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SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JSASCIO@EPMCO.COM, TZAJONSKY@EPMCO.COM & ASOCIATES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202145

CLIENT: NYC DEP OWTS HESP GOWANUS CANAL

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF Soil / Mixed Aggregate Samples By ASTM 756

ANALYSIS REQUESTED: Asbestos

LOCATION: Bus Parking Lot 2 Second Avenue, Brooklyn NY

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-18A	5/24/23	~~SB~~ OH-SB-16, 1-2 Foot Depth	Soil (Analyze Sample IF Sample BPL-18B IS Asbestos)
BPL-18B	5/24/23	OH-SB-16, 4 Foot Depth	Soil
BPL-19A	5/25/23	OH-SB-16A, 1-2 Foot Depth	Soil (Analyze Sample IF Sample BPL-19A IS Asbestos)
BPL-19B	5/25/23	OH-SB-16A, 3-4 Foot Depth	Soil

Collected By: Jason Pascio Collector's Signature: [signature]

Relinquished: [signature] Date/Time: 5/25/23 2:00 PM

Relinquished By: ~~[signature] 5/25/23 2:00~~

Method of shipment:

Comments:

Notes:

Received By: [signature] Date/Time: 5/25/23 2:00

Received By: G. Gervino Date/Time: 5/25/23

Sample Condition Upon Receipt:

Acceptable: Other (Explain):

alpha Labs

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LAB REPORT
ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-20A – Location: OH SB-24; 2-3 foot depth

Sample Collected: 5/26/23
Sample received by the lab: 5/26/23 in wet condition – 537.19 gr
Sample dried on 5/30/23 in an oven at 110^{0}C until the weight is stable – 493.35 gr
Moisture content determined at 8.16%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/5/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 173.37	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =284.42	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 35.56	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were tested as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/5/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.206

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

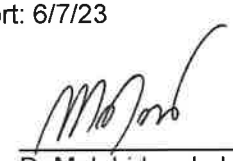
Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.3178

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 6/6/23)

Date of Report: 6/7/23

QC Review: 

D. Molohides, Lab Director

ATTACHMENT A

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 32 2nd Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-20A-CF-BM1 23-05-119-01	Soil sample – Coarse fraction – Building material 1 – Cementitious material	OH-SB-24 2-3 feet depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-20A-CF-BM2 23-05-119-02	Soil sample – Coarse fraction – Building material 2 – Cementitious material	OH-SB-24 2-3 feet depth	Off White Homogeneous Friable	Not Applicable			0%	100%	NAD	

Date Received: 5/26/23
Date of PLM Analysis: 6/5/23
Date of Report: 6/6/23

PLM Analyst: K. Diomis

QC Review: D. Molphides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JASCIOLO EPMCO.COM; TZABRANSKY@EPMCO.COM & ASSOCIATES@EPMCO.COM		TURNAROUND TIME: 1 week	
PROJECT NUMBER: 20145	CLIENT: NYC DEP OWL'S HEAD GOWANUS CANAL	SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF SOIL/MINERAL AGGREGATE SAMPLES BY ASTM-7521	ANALYSIS REQUESTED: Asbestos
LOCATION: BUS PARKING LOT 2 SECOND AVENUE, BROOKLYN, N.Y.			

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-20A	5/26/23	OH-SB-24 2-3 Foot Depth	Soil
BPL-20B	5/26/23	OH-SB-24 4-5 Foot Depth	Soil (ANALYZE SAMPLE IF SAMPLE BPL-20A IS ASBESTOS)

Collected By: JS/PM & RSC - Collector's Signature:	Notes:
Relinquished: Date/Time: 5/26/23 1:35pm	Received By: Melvin Ramirez Date/Time: 5/26/23 12:37pm
Relinquished By: Date/Time:	Received By: Date/Time:
Method of shipment:	Sample Condition Upon Receipt:
Comments:	Acceptable: Other (Explain)

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT

ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: BPL-21A – Location: OH SB-12; 1-2 foot depth

Sample Collected: 5/31/23
Sample received by the lab: 6/1/23 in wet condition – 553.57 gr
Sample dried on 6/2/23 in an oven at 110^{0}C until the weight is stable – 532.38 gr
Moisture content determined at 3.83%

PLM Analysis

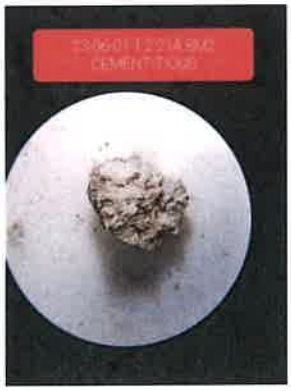
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/6/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 328.07	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =192.69	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 11.62	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were tested as Non-ACM.





TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/7/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.210
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3118
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 6/8/23)

Soil Sample: BPL-22A – Location: OH SB-12A; 2 foot depth

Sample Collected: 5/31/23
Sample received by the lab: 6/1/23 in wet condition – 611.56 gr
Sample dried on 6/2/23 in an oven at 110^{0}C until the weight is stable – 589.22 gr
Moisture content determined at 3.65%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/6/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	25.63	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 310.92	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =236.66	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 16.01	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were tested as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Chrysotile asbestos structures were found. (Date of analysis 6/7/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.193
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3393
Total Asbestos Structures = 12 chrysotile structures
Asbestos concentration = 4.0716 structures / µg
(Date of Analysis: 6/8/23)

Soil Sample: BPL-22B – Location: OH SB-12A; 3.5 foot depth

Sample Collected: 5/31/23
Sample received by the lab: 6/1/23 in wet condition – 435.53 gr
Sample dried on 6/2/23 in an oven at 110^{0}C until the weight is stable – 406.07 gr
Moisture content determined at 6.76%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/9/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	19.70	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 167.18	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M =207.59	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 11.60	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy six building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. All six building materials were tested as Non-ACM.



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TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/13/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.214
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3060
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 6/14/23)

Date of Report: 6/15/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-21A-CF-BM1 23-06-001-01	Soil sample - Building material 1 – Tar/ mastic	OH-SB-12 1-2 foot depth	Black Homogeneous NOB	6.7	17.5	75.8	0%	100%	NAD Inconclusive	NAD
BPL-21A-CF-BM2 23-06-001-02	Soil sample – Building material 2 – Cementitious material	OH-SB-12 1-2 foot depth	White Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-22A-CF-BM1 23-06-001-03	Soil sample – Building material 1 – Cementitious material	OH-SB-12A 2 foot depth	Beige Homogeneous Friable	Not Applicable			0%	100%	NAD	
BPL-22A-CF-BM2 23-06-001-04	Soil sample – Building material 2 – Cementitious material	OH-SB-12A 2 foot depth	Red Homogeneous Friable	Not Applicable			1% CELL	99%	NAD	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 6/1/23
Date of PLM Analysis: 6/6/23
Date of TEM Analysis: 6/7/23
Date of Report: 6/8/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:
D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
BPL-22B-CF-BM1 23-06-001-05	Soil sample - Building material 1 – Elastic material	OH-SB-12A 3.5 foot depth	Gray Homogeneous NOB	70.6	12.0	17.4	0%	100%	**NAD** Inconclusive	**NAD**
BPL-22B-CF-BM2 23-06-001-06	Soil sample - Building material 2 – Tar/ mastic	OH-SB-12A 3.5 foot depth	Black Homogeneous NOB	54.9	18.8	26.3	0%	100%	**NAD** Inconclusive	**0.53% CH**
BPL-22B-CF-BM3 23-06-001-07	Soil sample – Building material 3 – Cementitious material	OH-SB-12A 3.5 foot depth	Off White Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-22B-CF-BM4 23-06-001-08	Soil sample – Building material 4 – Cementitious material	OH-SB-12A 3.5 foot depth	Beige Homogeneous Friable	Not Applicable			0%	100%	**NAD**	
BPL-22B-CF-BM5 23-06-001-09	Soil sample - Building material 5 – paper like	OH-SB-12A 3.5 foot depth	White Homogeneous NOB	27.5	18.5	54.0	0%	100%	**NAD** Inconclusive	**NAD**
BPL-22B-CF-BM6 23-06-001-10	Soil sample – Building material 6 – cloth type	OH-SB-12A 3.5 foot depth	Gray Homogeneous Friable	Not Applicable			80% SYNTH	20%	**NAD**	

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BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Date Received: 6/1/23
Date of PLM Analysis: 6/12/23
Date of TEM Analysis: 6/13/23
Date of Report: 6/14/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

Environmental Planning & Management, Inc.
www.epmco.com

1983 Marcus Avenue, Suite 109 | Lake Success | New York 11040
P. 516.328.1194 | F. 516.328.1381

2125 Center Avenue, Suite 404 | Fort Lee | New Jersey 07024
P. 201.363.1983 | F. 201.363.0800

230.001

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM, TZABLOWSKY@EPMCO.COM & ASOCRATES@EPMCO.COM

TURNAROUND TIME: 1 Week

PROJECT NUMBER: 202115

CLIENT: NYC DEP OWTS Head Gowanus Land

LOCATION: Bus Parking Lot 2 Second Avenue, Brooklyn N.Y.

SPECIAL INSTRUCTIONS TO LABORATORY: Asbestos Analysis of Soil/Mucks/ Aggregate Samples By ASTM-7521

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
BPL-21A	5/31/23	OH-SB-12 - 1-2 Foot Depth	Soil
BPL-21B	5/31/23	OH-SB-12 - 4-5 Foot Depth	Soil (Analyze Sample if Sample BPL-21A is Asbestos)
BPL-22A	5/31/23	OH-SB-12A - 2 Foot Depth	Soil
BPL-22B	5/31/23	OH-SB-12A - 3½ Foot Depth	Soil (Analyze Sample if Sample BPL-22A is Asbestos)

Collected By: Joseph D. Cascio Collector's Signature:

Relinquished: Date/Time: 6/1/23 1030AM

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: Date/Time:

Received By: V. Molokides Date/Time: 6/1/23

Sample Condition Upon Receipt:

Acceptable: Other (Explain):

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT

ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: MW-07A – Location: Monitoring Well 07; 1 foot depth

Sample Collected: 6/2/23
Sample received by the lab: 6/2/23 in wet condition – 450.82 gr
Sample dried on 6/5/23 in an oven at 110^{0}C until the weight is stable – 413.36 gr
Moisture content determined at 8.31%

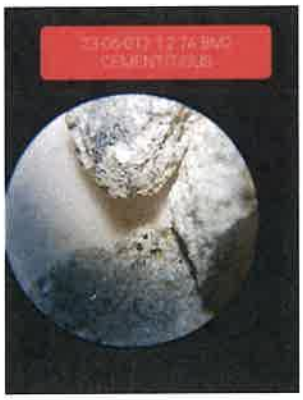
PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/6/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	20.53	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 174.94	**3.0% CH**
M (Medium Fraction) < 2mm to > 106 µm	W_M =210.06	**0.50% CH**
F (Fine Fraction) < 106 µm	W_F = 7.83	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **1.6%**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. One material tested as ACM.





TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Chrysotile asbestos structures were found. (Date of analysis 6/7/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.223
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.2936
Total Asbestos Structures = 36 chrysotile structures
Asbestos concentration = 10.5696 structures / µg
(Date of Analysis: 6/8/23)

Soil Sample: MW07B – Location: Monitoring Well-07; 4 foot depth

Sample Collected: 6/2/23
Sample received by the lab: 6/2/23 in wet condition – 380.48 gr
Sample dried on 6/5/23 in an oven at 110^{0}C until the weight is stable – 346.43 gr
Moisture content determined at 8.95%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/12/23**

FRACTIONS	**WEIGHTS AFTER SIEVING (gr)**	**PLM Analysis**
>19mm	4.56	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 174.94	**0.50% CH**
M (Medium Fraction) < 2mm to > 106 µm	W_M =159.10	**0.20% CH and 0.70% ANTH**
F (Fine Fraction) < 106 µm	W_F = 7.83	NAD (No Asbestos Detected)

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TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC}^* W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **0.67%**

Analyzing the coarse fraction using stereomicroscopy three building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Two building materials were tested as ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

Chrysotile asbestos structures were found. (Date of analysis 6/13/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.212
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3088
Total Asbestos Structures = 15 chrysotile structures
Asbestos concentration = 4.6320 structures / µg
(Date of Analysis: 6/15/23)

Date of Report: 6/19/23

QC Review: _____

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
MW-07A-CF-BM1 23-06-012-01	Soil sample – Coarse fraction -Building material 1 – like transite	Monitoring wall 07 – 1 foot depth	Gray Homogeneous Friable	Not Applicable			0%	76.5%	**23.5% CH**	
MW-07A-CF-BM2 23-06-012-02	Soil sample – Coarse fraction - Building material 2 – Cementitious material	Monitoring wall 07 – 1 foot depth	Gray Homogeneous Friable	Not Applicable			0%	100%	**NAD**	

Date Received: 6/2/23
Date of PLM Analysis: 6/6/23
Date of Report: 6/8/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
MW-07B-CF-BM1 23-06-012-03	Soil sample – Coarse fraction -Building material 1 – like carpet with mastic	Monitoring wall 07 – 4 foot depth	Black Homogeneous NOB	36.2	40.1	23.7	1% CELL	99.7%	**0.26% CH** Inconclusive	**1.2% CH**
MW-07B-CF-BM2 23-06-012-04	Soil sample – Coarse fraction - Building material 2 – like cloth material	Monitoring wall 07 – 4 foot depth	Beige Homogeneous Friable	Not Applicable			85% SYNTH	15%	**NAD**	
MW-07B-CF-BM3 23-06-012-05	Soil sample – Coarse fraction - Building material 3 – like tar / mastic	Monitoring wall 07 – 4 foot depth	Black Homogeneous NOB	42.2	15.5	42.3	0%	98.6%	**1.4% CH**	

Date Received: 6/2/23
Date of PLM Analysis: 6/12/23
Date of TEM Analysis: 6/13/23
Date of Report: 6/14/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-06-12

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P. 201.363.1983 I F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM; TZABORNSKY@EPMCO.COM + ASBCRAIS@EPMCO.COM		TURNAROUND TIME: 1 week	
PROJECT NUMBER: 22145	CLIENT: NYC DEP OWI'S Head Gowanus Canal	SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF Soil (Multi) agg Regate Samples By ASTM-7521	ANALYSIS REQUESTED
LOCATION: BUS PARKING Lot 2 Second AVENUE Brooklyn			Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
MW-07A	6/2/23	Monitoring Well-07 - 1 Foot Depth	Soil
MW-07B	6/2/23	Monitoring Well-07 - 4 Foot Depth	(Analyze Sample if Sample MW-07A is Asbestos) Soil

Collected By: Jon Lascio Collector's Signature	Notes:
Relinquished By: Date/Time: 6/2/23 1:60 PM	Received By: G. Gervino Date/Time: 6/2/23
Relinquished By: Date/Time:	Received By: Date/Time:
Method of shipment:	Sample Condition Upon Receipt:
Comments:	Acceptable: Other (Explain):

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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

LAB REPORT

ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Bus Parking Lot, 2 2nd Avenue, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: MW-05A – Location: Monitoring Well 05; 1.5 foot depth

Sample Collected: 6/5/23
Sample received by the lab: 6/6/23 in wet condition – 619.31 gr
Sample dried on 6/7/23 in an oven at 110^{0}C until the weight is stable – 596.07 gr
Moisture content determined at 3.75%

PLM Analysis

The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/12/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
C (Coarse Fraction) < 19 to > 2mm	W_C = 406.68	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 181.42	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 7.97	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC*} W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy two building materials found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. Both building materials were tested as Non-ACM.



TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/14/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.204

Effective filter area of 47-mm filter = 1320 mm^2

Grid Openings analyzed: 24

Average grid opening area (mm^2): 0.0084

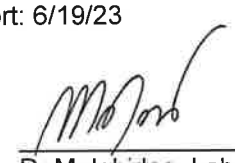
Area Analyzed (mm^2): 0.2016

Analytical Sensitivity (structures / µg) =0.3210

Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 6/15/23)

Date of Report: 6/19/23

QC Review: 

D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Bus Parking Lot – 2 Second Avenue, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
MW-05A-CF-BM1 23-06-027-01	Soil sample – Coarse fraction -Building material 1 – Cementitious material	Monitoring wall 05 – 1.5 foot depth	White Homogeneous Friable	Not Applicable			1% CELL	99%	NAD	
MW-05A-CF-BM2 23-06-027-02	Soil sample – Coarse fraction - Building material 2 – Tar / Mastic	Monitoring wall 05 – 1.5 foot depth	Black Homogeneous NOB	6.8	7.8	85.4	0%	100%	NAD Inconclusive	NAD

Date Received: 6/6/23
Date of PLM Analysis: 6/12/23
Date of TEM Analysis: 6/12/23
Date of Report: 6/14/23

PLM Analyst: K. Diomis
TEM Analyst: A. Ansari

QC Review: D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-06-27

Page 1 of _____

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P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JCASCIO@EPMCO.COM; TZABLOWSKI@EPMCO.COM & ASSOCIATES@EPMCO.COM

TURNAROUND TIME: 1 WEEK

PROJECT NUMBER: 202145

CLIENT: NYC DEP OCWS HSD GOWANUS CSO

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF SOIL MIXED AGGREGATE SAMPLES BY ASTM-7521

LOCATION: BUS PARKING LOT 2 SECOND AVENUE, BROOKLYN NY

ANALYSIS REQUESTED: Asbestos

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
MW-05A	6/5/23	MONITORING WELL-05 1½ FOOT DEPTH	SOIL
MW-05B	6/5/23	MONITORING WELL-05 4 FOOT DEPTH	SOIL (ANALYTICAL SAMPLE IF SAMPLE MW-05A IS ASBESTOS)

Collected By: JOSEPH D'ASCIO Collector's Signature

Relinquished: Date/Time: 6/6/23

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: C. McGrann Date/Time: 06/06/2023

Received By: G. GERVINO Date/Time: 06/06/23

Sample Condition Upon Receipt:

Acceptable

Other (Explain):

14-26 28th Avenue Long Island City, NY 11102
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LAB REPORT

ASBESTOS IN SOIL – ANALYSIS BY METHOD ASTM D7521

CLIENT: **Environmental Planning & Management Inc.**
1983 Marcus Ave., Suite 109, Lake Success NY 11042

BUILDING ADDRESS: **NYC DEP Gowanus Owl's Head**
Plumbing Works, 142 5th Street, Brooklyn, NY 11215

PROJECT: **202145**

Soil Sample: MW-04A – Location: Monitoring Well 04; 2 foot depth

Sample Collected: 6/7/23
Sample received by the lab: 6/7/23 in wet condition – 521.13 gr
Sample dried on 6/8/23 in an oven at 110^{0}C until the weight is stable – 466.26 gr
Moisture content determined at 10.53%

PLM Analysis
The sample is passed through a series of sieves (19mm, 2mm and 106 µm) into a collection pan using a mechanical sieving system (Gilson tapping shaker SS-8R). The weights of each fraction have been determined. All fractions are analyzed using stereomicroscopy and polarized light microscopy (PLM), along with visual area estimation. **Date of PLM Analysis 6/14/23**

FRACTIONS	WEIGHTS AFTER SIEVING (gr)	PLM Analysis
>19mm	14.15	NAD (No Asbestos Detected)
C (Coarse Fraction) < 19 to > 2mm	W_C = 249.78	NAD (No Asbestos Detected)
M (Medium Fraction) < 2mm to > 106 µm	W_M = 180.63	NAD (No Asbestos Detected)
F (Fine Fraction) < 106 µm	W_F = 21.70	NAD (No Asbestos Detected)

TOTAL ASBESTOS % = $\frac{[\%_F \text{ PLM PC} * W_F] + [\%_M \text{ PLM} * W_M] + [\%_C \text{ PLM} * W_C]}{(W_F + W_M + W_C)}$ = **NAD**

Analyzing the coarse fraction using stereomicroscopy one building material found in soil which analyzed and reported separately in accordance with NYS-DOH ELAP Methods198.1, 198.4 and 198.6 and reported in attachment A. The building material was tested as Non-ACM.



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Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

TEM Drop Mount Screening

TEM Drop Mount screening performed of fine fraction. Approximately 20-100mg of material is suspended in ethanol. The suspension is ultrasonicated and then a 3 µl aliquot is extracted and drop mount onto a carbon coated grid. The sample grid is examined by Transmission electron microscope (TEM) using the JEOL 100CX, with an Evex X ray spectral analyzer at approx. 20,000 X screen magnification. At least five openings over two grids are examined.

No Asbestos structures were found. (Date of analysis 6/15/23)

TEM gravimetric reduction and filter preparation

Approximately 200 mg of the material from the fine fraction is weighted and gravimetrically reduced, using a muffle furnace at 480^{0}C and after cooling the material is filtrated using a 47-mm filtration assembly using a 47-mm MCE filter porous size 0.22 µm. Analysis follows using test method D6281 initially at low magnification (about 500-1,000 X) to determine the preparation showing optimal particulate loading. Ten grid openings are examined at 20,000 X screen magnification. We record the structures that contain asbestos fibers meeting 5:1 length / width aspect ratio greater than 0.5 m in length. Structures are identified using morphology, selected area electron diffraction (SAED) and energy dispersive X-ray analysis (EDXA)

Starting weight (gr): 0.217
Effective filter area of 47-mm filter = 1320 mm^2
Grid Openings analyzed: 24
Average grid opening area (mm^2): 0.0084
Area Analyzed (mm^2): 0.2016
Analytical Sensitivity (structures / µg) =0.3017
Total Asbestos Structures=0

No asbestos structures were found (Date of Analysis: 6/16/23)

Date of Report: 6/20/23

QC Review: D. Molohides, Lab Director

ATTACHMENT A

14-26 28th Avenue Long Island City, NY 11102
Tel.: (718) 482-7525 Fax: (718) 482-7524 www.alphalabsllc.com

BULK SAMPLE ANALYSIS REPORT

CLIENT: Environmental Planning & Management Inc., 1983 Marcus Avenue, Suite 109, Lake Success NY 11042
BUILDING ADDRESS: NYC DEP Gowanus Owl's Head – Plumbing Works – 142 5th Street, Brooklyn, NY 11215
PROJECT: 202145

Client Sample ID# Lab Sample ID#	Sample Description	Sample Location	Appearance	GRAVIMETRIC PREPARATION			PLM			TEM
				% Ashed Organic Component	% Acid Soluble Inorganic Component	% Acid Insoluble Inorganic Component	% Estimated Non-Asbestos Fibrous Material	% Non-Fibrous Matrix Material	ASBESTOS % & Type	ASBESTOS % & Type
MW-04A-CF-BM1 23-06-030-01	Soil sample – Coarse fraction -Building material 1 – Cementitious material	Monitoring wall 04 – 2 foot depth	White Homogeneous Friable	Not Applicable			4% CELL	96%	NAD	

Date Received: 6/7/23
Date of PLM Analysis: 6/14/23
Date of Report: 6/15/23

PLM Analyst: K. Diomis

QC Review:

D. Molohides, Lab Director

NAD= No Asbestos Detected; NA/PS = Not Analyzed / Positive Stop; Trace = < 0.25%, CH = Chrysotile, AMO = Amosite, CRO = Crocidolite, ANTH = Anthophyllite, TRE = Tremolite, ACT = Actinolite, FBGL = Fiberglass, CELL = Cellulose, SYNTH = Synthetic fibers, VERM = Vermiculite, WOLL = Wollastonite. Polarized Light Microscopy (PLM) analysis of samples is performed by Method EPA 600/M4-82-020 and ELAP PLM Analysis Protocol 198.1 (friable samples) and protocol 198.6 (NOB samples). Transmission Electron Microscopy (TEM) analysis of samples is performed by Method ELAP TEM Analysis Protocol 198.4. This report includes the identification and quantitation of vermiculite as required by current NYS-DOH ELAP protocols & interim guidance letters. **Analytical equipment**: Stereo Binocular Microscopes: Motic SMZ140-N2LED (SN#: 03210037461 / 03210037462 / 03210023903 / 03210023905); Polarized Light Microscopes: Motic Panthera TEC-POL (SN#: 19017119 / 19021954 / 21006248), Olympus BH-2 (Ser #: 207130). PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. Samples will be stored for sixty (60) days and then returned to the client upon request. The results relate only to the items calibrated or tested. This report may not be reproduced, except in full, without the written approval of Alpha Labs LLC. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government. This report contains data (bulk asbestos TEM results) that are not covered by the NVLAP accreditation. The liability of Alpha Labs LLC with respect to the services charged shall in no event exceed the amount of the invoice. **(June 28, 2022)**

NYS-DOH ELAP # 11833 **NVLAP Lab Code: 200691-0**

23-06-30

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P. 201.363.1983 | F. 201.363.0800

SAMPLE CHAIN-OF-CUSTODY

PHONE/FAX/MAIL/OVERNIGHT RESULTS TO: JRSCIO@EPMCO.COM, TZABLOTSKY@EPMCO.COM & ASORRENTINO@EPMCO.COM

TURNAROUND TIME: 1 WEEK

PROJECT NUMBER: 202115

CLIENT: NYC DEP ON BEHALF OF GOVINUS CORP

SPECIAL INSTRUCTIONS TO LABORATORY: ASBESTOS ANALYSIS OF SOIL/MINERAL AGGREGATE SAMPLES BY ASTM 7521

ANALYSIS REQUESTED: Asbestos

LOCATION: PLUMBING WORKS 142 5TH STREET, BROOKLYN, N.Y.

SAMPLE NUMBER	DATE SAMPLED	SAMPLE LOCATION	DESCRIPTION
MW-04A	6/7/23	MONITORING WELL-04-2 FOOT DEPTH	SOIL
MW-04B	6/7/23	MONITORING WELL-04-4½ FOOT DEPTH	SOIL (ANALYZE SAMPLE IF SAMPLE MW-04A IS ASBESTOS)

Collected By: JOSEPH D'ASCIO Collector's Signature: [signature]

Relinquished: [signature] Date/Time: 6/7/23

Relinquished By: Date/Time:

Method of shipment:

Comments:

Notes:

Received By: Gianna Gervino [signature] Date/Time: 6/7/23

Received By: Date/Time:

Sample Condition Upon Receipt:

Acceptable:

Other (Explain):

APPENDIX D
Laboratory Accreditations

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2024
Issued April 01, 2022
Revised March 30, 2023

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DIMITRIOS MOLOHIDES
ALPHA LABS LLC
14-26 28TH AVENUE
LONG ISLAND CITY, NY 11102

NY Lab Id No: 11833

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Mate	Item 198.8 of Manual
Lead in Dust Wipes	EPA 7000B
Lead in Paint	EPA 7000B
	ASTM D3335-85A

Sample Preparation Methods

	EPA 3051A
	ASTM D3335-85A
	ASTM E-1644-17

Serial No.: 66567

Property of the New York State Department of Health. Certificates are valid only at the address shown and must be conspicuously posted by the laboratory. Continued accreditation depends on the laboratory's successful ongoing participation in the Program. Consumers may verify a laboratory's accreditation status online at https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/, by phone (518) 485-5570 or by email to elap@health.ny.gov.

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200691-0

Alpha Labs LLC
Long Island City, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

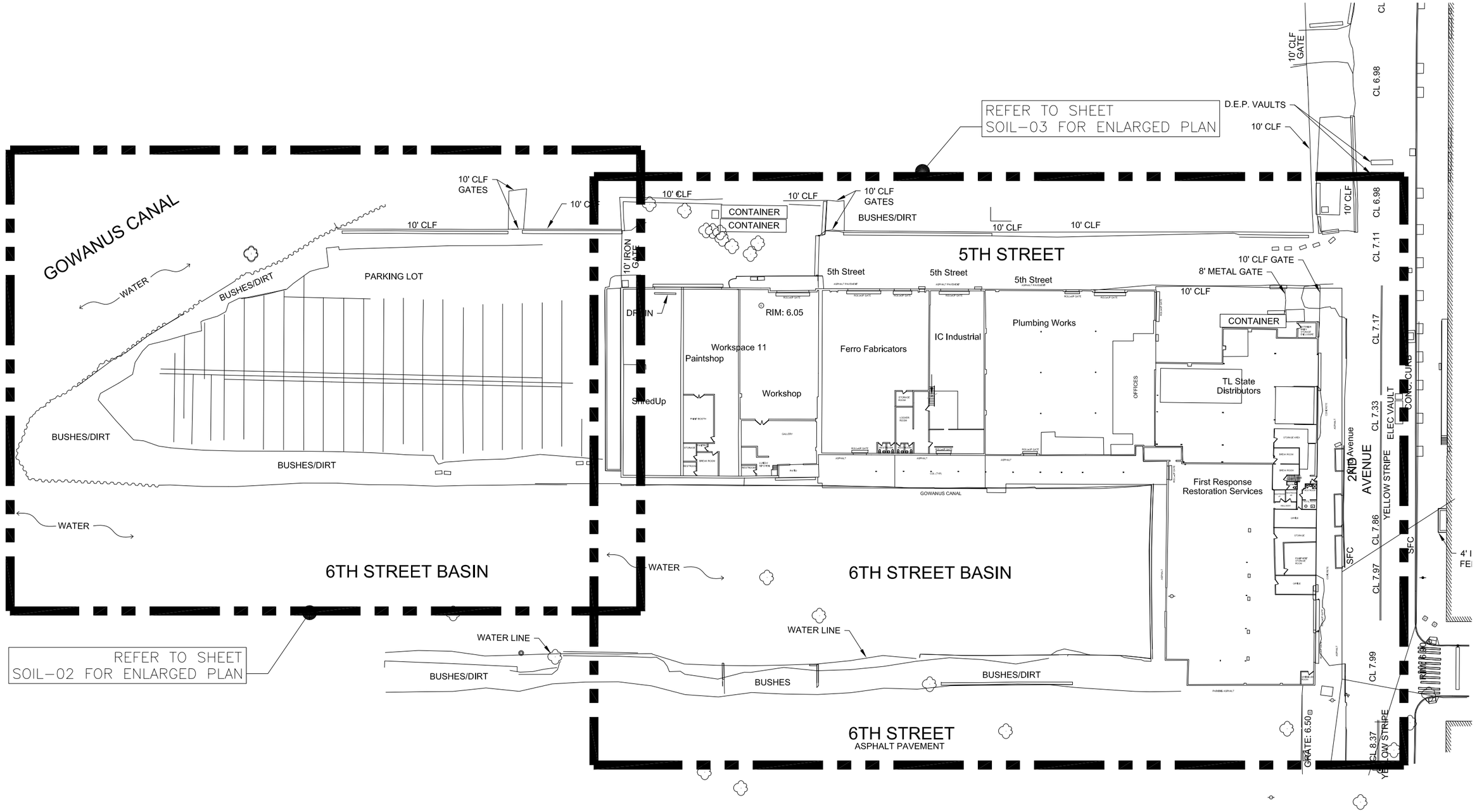
Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2023-01-01 through 2023-12-31
Effective Dates

For the National Voluntary Laboratory Accreditation Program

APPENDIX E
Asbestos Contaminated Soil Location Schematics



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EPM Environmental Planning & Management, Inc. www.epmco.com	DRAWN BY: MH/AR	DATE: JULY, 2023	AGENCY: NYC Environmental Protection
	CHECKED BY: JC	FILENAME: 202145	
	APPR'VD BY: AS	SCALE: NOT TO SCALE	
	PATH: NYC DEP\202145 – ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)		

PROJECT NAME:
NYC DEP CSO FACILITY BUILDING DEMOLITION GOWANUS CANAL 'OWLS HEAD' FACILITY SITE

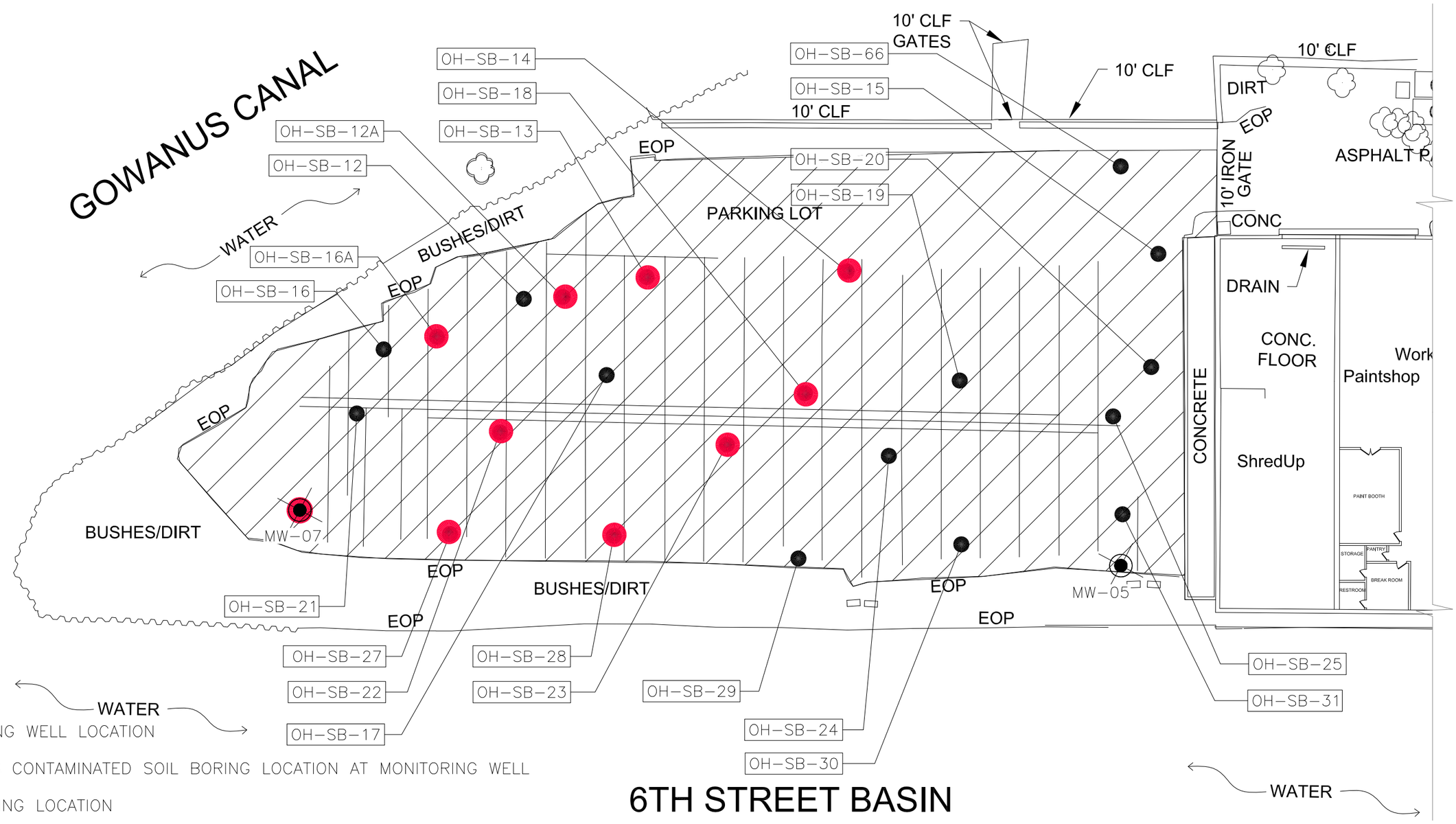
FIGURE NAME: OVERALL SITE PLAN

TITLE: ASBESTOS SOIL BORING SURVEY
ASBESTOS CONTAMINATED SOIL LOCATION SCHEMATIC

FIGURE: **SOIL-01**

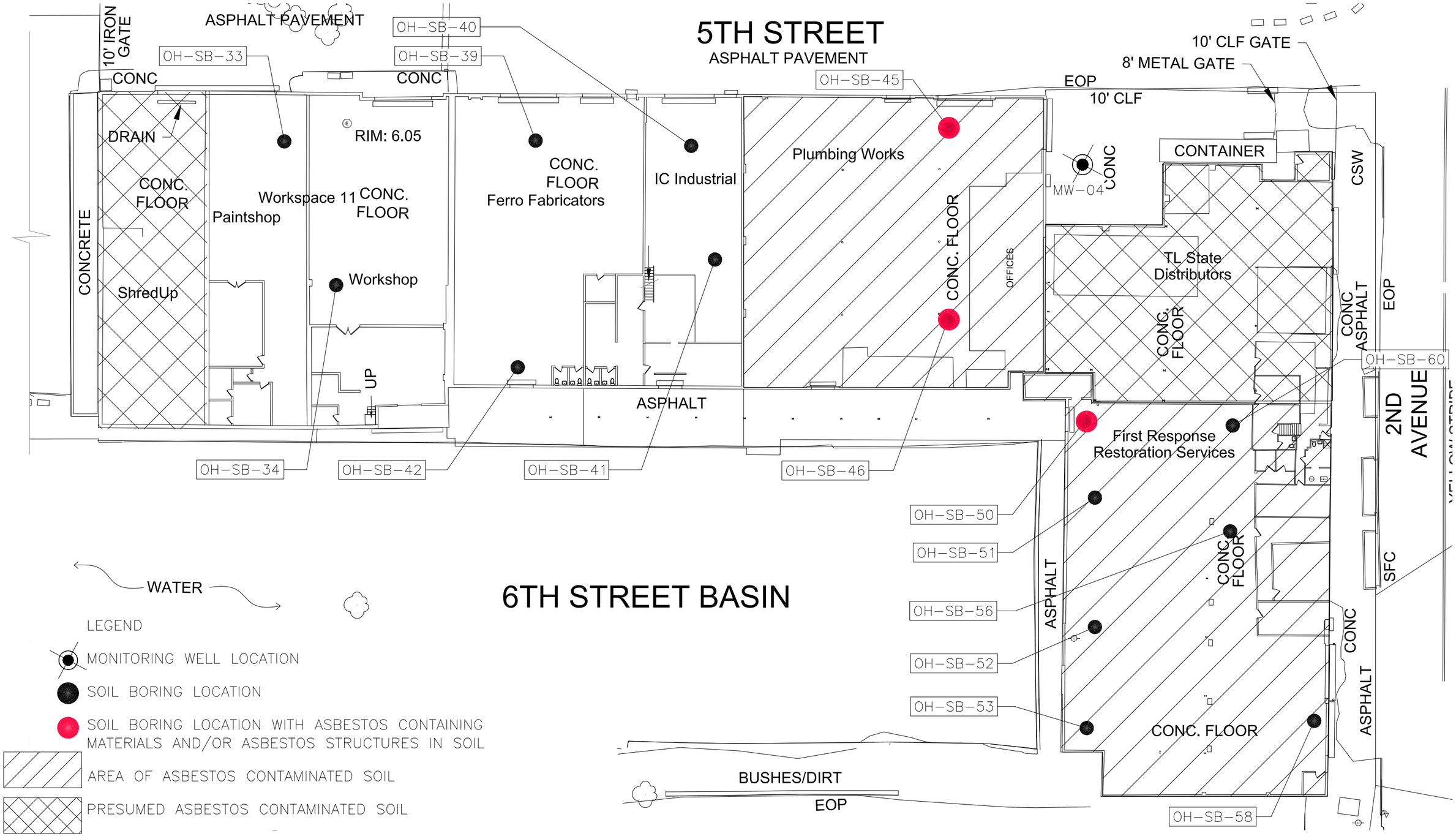
SHEET # 1 OF 3

X:\NYC DEP\202145_EPM Drawings\202145_SOILS ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)\202145_SOILS ACM Loc Schem\202145_SOILS ACM Loc Schem.dwg, 8/16/202



EPM Environmental Planning & Management, Inc. www.epmco.com	DRAWN BY: MH/AR	DATE: JULY, 2023	AGENCY: NYC Environmental Protection
	CHECKED BY: JC	FILENAME: 202145	PROJECT NAME: NYC DEP CSO FACILITY BUILDING DEMOLITION GOWANUS CANAL 'OWLS HEAD' FACILITY SITE
	APPR'VD BY: AS	SCALE: NOT TO SCALE	FIGURE NAME: ASBESTOS CONTAMINATED SOIL LOCATION SCHEMATIC IN BUS PARKING AREA
	PATH: NYC DEP\202145 – ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)		TITLE: ASBESTOS SOIL BORING SURVEY ASBESTOS CONTAMINATED SOIL LOCATION SCHEMATIC

FIGURE: **SOIL-02**



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DRAWN BY: MH/AR	DATE: JULY, 2023
CHECKED BY: JC	FILENAME: 202145
APPR'VD BY: AS	SCALE: NOT TO SCALE
PATH: NYC DEP\202145 – ACM Investigation Facilty Gowanus Canal CSO Owls Head (H&S Brown Caldwell JV)	

AGENCY: NYC Environmental Protection

PROJECT NAME:
NYC DEP CSO FACILITY BUILDING DEMOLITION GOWANUS CANAL 'OWLS HEAD' FACILITY SITE

FIGURE NAME: ASBESTOS CONTAMINATED SOIL LOCATION SCHEMATIC IN BUILDINGS

TITLE: ASBESTOS SOIL BORING SURVEY
ASBESTOS CONTAMINATED SOIL LOCATION SCHEMATIC

FIGURE: **SOIL-03**

SHEET # 3 OF 3

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End of Report